A QUANTITATIVE, CAUSAL-COMPARATIVE DESIGN STUDY OF TEACHER SELF-

EFFICACY BASED ON CLASSROOM ENVIRONMENT AND PROFESSIONAL

DEVELOPMENT

by

Tiffany Cain Woodward

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Philosophy

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ABSTRACT

The purpose of this quantitative, causal-comparative design study is to determine if there is a difference in teacher self-efficacy scores between teachers who participate in professional development on inclusion and teachers who do not participate in professional development on inclusion and to determine if there is a difference in teacher self-efficacy scores based on the classroom environment. Identifying teacher self-efficacy is important as it will help determine what teachers need professional development in to better serve students with disabilities. The researcher used the Teacher Sense of Efficacy (TSES) scale to identify teacher self-efficacy scores. A convenience sampling procedure was used to identify schoolteachers with at least one year of experience and the sample size consisted of 144 teachers. The statistical analysis procedure was a two-way analysis of variance (ANOVA) to reveal if there was any statistical differences in teacher self-efficacy scores between teachers who participated in professional development on inclusion and to determine if there was any statistical differences in teacher self-efficacy scores based on the classroom environment. The results from the data analysis confirmed that the null hypothesis could be rejected as there was a statistically significant difference in teachers self-efficacy scores between teachers who participated in professional development on inclusion and teachers who did not participate in professional development on inclusion. The results from the data analysis also confirmed that the null hypothesis could be rejected as there was a statistically significant difference in teachers self-efficacy scores based on classroom environment. Future research is recommended to include a larger sample size, examination of other demographic factors, and a qualitative research type to explore teachers' thoughts and feelings at a deeper level.

Keywords: self-efficacy, disabilities, inclusion, professional development

Dedication

To my family, whose unwavering support and endless encouragement have been my foundation. Your love and belief in me have been my greatest source of strength.

To my mentors and advisors, whose guidance and wisdom have shaped not only this work but also my academic journey. Your insights and dedication to my success have been invaluable.

To my friends, who have stood by me through every challenge and celebrated every milestone. Your companionship and understanding have made this journey not only possible but also unforgettable.

To those who have inspired and motivated me along the way, your impact on my life and work is immeasurable. This dissertation is a testament to the collective effort, support, and inspiration from each of you.

Thank you all for being an integral part of this journey.

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List of Abbreviations

Adaptive Curriculum (AC)

Americans with Disabilities Act (ADA)

Free and Appropriate Education (FAPE)

General Curriculum (GC)

Individuals with Disabilities Education Act (IDEA)

Individual Education Program (IEP)

Least Restrictive Environment (LRE)

No Child Left Behind (NCLB)

Professional Development (PD)

Self-Contained (SC)

Social Learning Theory (SLT)

Teacher Self-Efficacy Scale (TSES)

CHAPTER ONE: INTRODUCTION

Overview

The purpose of this quantitative, causal-comparative design study is to determine if there is a difference in teacher self-efficacy scores between teachers who participate in professional development on inclusion and teachers who do not participate in professional development on inclusion and to determine if there is a difference in teacher self-efficacy scores based on the classroom environment. Chapter One provides background information on inclusion for students with disabilities and teacher self-efficacy. The background includes historical and theoretical overviews relevant to this study. The problem statement examines the most recent literature on the topic and determines that more information is needed to identify if there is a difference between teacher self-efficacy scores based on the teacher's classroom environment and participation in professional development. The study's purpose and significance of the study are explained. Lastly, the research question for the study is introduced, followed by the definitions pertinent to this research.

Background

The educational field has witnessed a growing emphasis on teaching students with disabilities in the inclusive classroom environment with their same-age peers, and placing students in the correct placement based on their educational needs. Students with disabilities have the right to a free and appropriate public education (FAPE) and the opportunity to learn alongside their non-disabled peers if deemed possible based on a federal mandate in the Individuals with Disabilities Education Act (IDEA) (Lim, 2020). Prior to the 1970s, students with disabilities were not afforded the opportunity to receive a free and appropriate public education (Couvillon et al., 2018). Over the years, their rights have expanded, and they now have

the opportunity to be educated in inclusive environments with their non-disabled peers as much as possible. Research has consistently shown that an inclusive environment positively impacts students with disabilities in various ways (Kim, H. et al., 2018). However, teachers have faced challenges in coping with this new paradigm of the inclusive setting (Saloviita, 2019). Studies have demonstrated that teachers with higher self-efficacy toward inclusive environments achieve better outcomes in meeting the needs of all students (Woodcock & Jones, 2020).

Additionally, research has highlighted the positive benefits of professional development for teachers (Griffin et al., 2018). The implications of this research extend to all students and teachers, as they all have the opportunity to learn or be educated in inclusive environments. The theories underpinning this topic are the theory of planned behavior, the social cognitive theory, and the self-efficacy theory.

Historical Overview

Before the 1950s and 1960s, students with disabilities were not considered to receive an education. The civil rights movement championed the concept that all individuals should be treated equally, regardless of race, gender, or disability (Stone, 2019). Statistics demonstrate significant growth in the enrollment of students with disabilities in schools. In 1960, less than one million students with disabilities attended school, while the number rose to 5.5 million in 1996 (Marsh, 2019). This increase can be attributed to the Americans with Disabilities Act (ADA) of 1990 and the Individuals with Disabilities Education Act (IDEA) of 1975. These legal mandates provided students with disabilities the opportunity to receive a Free and Appropriate Education (FAPE) (Audette & Algozzine, 1992). In 2004, the IDEA was further amended to ensure that students with disabilities are served in the Least Restrictive Environment (LRE), promoting inclusive education (Lim, 2020). Professional development for teachers gained

momentum after the development of the No Child Left Behind (NCLB) Act in 2001 (Trachtman, 2007). The NCLB Act emphasized formative testing for students, which significantly impacted teachers' self-efficacy.

Teacher self-efficacy is a concept that emerged in the 1970s when Albert Bandura introduced the concept of the self-efficacy theory (Bandura, 1989). Bandura's self-efficacy theory has been applied to many fields and researchers began looking at teacher self-efficacy in the 1980s and 1990s (Klassen et al., 2009). Research on teacher self-efficacy has shown that teacher self-efficacy is linked to high levels of student achievement, student motivation, and teacher ability (Wolters & Daugherty, 2007). The RAND organization first conducted educational research on teacher self-efficacy and they used the RAND measure that measured personal teaching efficacy (PTE) and general teaching efficacy (GTE) (Tschannen-Moran et al., 1998). Concerns with this measure led to the creation of the Teachers' Sense of Efficacy Scale (TSES) by Tschannen-Moran et al. (1998), which is still used by researchers today. The TSES is used to measure a teacher's self-efficacy by examining a teacher's efficacy in student engagement, efficacy in instructional strategies, and efficacy in classroom management. Teacher self-efficacy has been researched worldwide and is still being researched today.

Society-at-Large

All students with disabilities should be served in the Least Restrictive Environment (LRE), which may include the inclusive classroom if deemed appropriate by the Individualized Education Program (IEP) team (Underwood, 2018). Research has consistently shown that an inclusive environment has positive outcomes for students with disabilities and their non-disabled peers (Murray, 2018). As a result of the LRE mandate, all schools are required to establish inclusive environments for students with disabilities. Therefore, all general education teachers

must be prepared to teach in inclusive settings, accommodating students with and without disabilities (Stavroussi et al., 2021).

Additionally, teachers should willingly engage in professional development courses to enhance their knowledge and ability to effectively serve students with disabilities (Collinson et al., 2009). Teachers could benefit if they received professional development in many areas, especially the following: understanding disabilities, differentiated instruction, universal design for learning (UDL), assistive technologies, collaboration and Individualized Education Plans (IEPs), and creating inclusive classroom environments. The profession of teaching is constantly developing and it is imperative for teachers to continually update and expand their skills and knowledge, particularly when it comes to incorporating evidence-based practices for effective instruction (Yenen & Yöntem, 2020).

Theoretical Background

The theory of planned behavior, developed by Icek Ajzen in 1991, extends the theory of reasoned action (Ajzen, 1991). It aims to explain and predict human behavior based on attitudes and beliefs. According to this theory, behavioral intentions are influenced by three factors: attitude toward the behavior, expectations of others, and perceived control over one's behavior (Ajzen, 1991). Moreover, a person's ability to cope with difficult situations is determined by their attitude towards those situations (Hellmich et al., 2019). The theory of planned behavior plays a crucial role in understanding teachers' self-efficacy in an inclusive environment. It suggests that teachers' attitudes and beliefs may be influenced by their past experiences of teaching students with disabilities in inclusive settings.

The social cognitive theory, originally known as the social learning theory (SLT), was developed by psychologist Albert Bandura in the 1960s (Wei-Tsong & Ying-Lien, 2021).

According to this theory, learning occurs when individuals interact with people, environments, or behaviors. It strongly emphasizes social influences and reinforcements, which help explain why individuals engage in specific behaviors (Wei-Tsong & Ying-Lien, 2021). The social cognitive theory holds particular importance in professional development, as it helps explain why teachers should attend training to enhance their abilities to teach in inclusive settings for students with disabilities.

The self-efficacy theory, developed by psychologist Albert Bandura in 1977, posits that all individuals are capable of mastering their goals, and those who have not achieved their goals often lack the necessary opportunities, experience, or modeling (Bandura, 1989). This theory emphasizes the importance of professional development for teachers to enhance their self-efficacy in teaching in the inclusive classroom. It supports the idea that teachers participating in professional development programs will experience increased self-efficacy, regardless of their classroom environment.

In the 1960s, there was a significant push to increase government and federal support for special education services for students with disabilities, which has gradually evolved into the diverse educational opportunities we witness today for all students (Francisco et al., 2020). Over time, students with disabilities have gained more rights to receive an appropriate education similar to their non-disabled peers within the educational setting. Before the 1960s, students with disabilities were often excluded from schools, denied the chance to obtain an education, and frequently institutionalized (Francisco et al., 2020). However, today's society recognizes the importance of giving all students the opportunities they deserve. Nonetheless, a current challenge arises as teachers often report low self-efficacy scores when working in inclusive classrooms.

Therefore, teachers require professional development opportunities to enhance their self-efficacy and effectively manage successful, inclusive classrooms.

Problem Statement

The problem is that there is a lack of literature that addresses the impact that professional development on inclusion has on teacher self-efficacy and a lack of research that examines teacher self-efficacy scores based on the teacher's classroom environment. Further research is required to determine if there is a difference in teacher self-efficacy scores between those who participate in professional development on inclusion and those who do not, based on their classroom setting (Peck & Neeper, 2022). While many teachers support the inclusive environment, they may hesitate to teach in such settings due to its additional challenges (Avramidis et al., 2019). Kiel et al. (2020) found that teachers with higher self-efficacy scores were more successful in teaching in inclusive environments with students with disabilities. However, their research also highlighted the need for more knowledge and understanding of teacher self-efficacy concerning professional development. Teachers working with students with exceptional needs face professional challenges that necessitate ongoing professional development and in-service training of educational professionals (Van Der Steen et al., 2020).

To address the challenges related to the inclusive environment, educational systems must focus on various aspects, such as the curriculum's flexibility, laws and regulations on inclusive education and disabilities, and promoting peaceful coexistence and conflict resolution in the classroom (San Martin et al., 2021). Although the inclusive environment offers numerous positive benefits for students with disabilities (Kim, H. et al., 2018), some teachers still have confusion and negative beliefs regarding its implementation. San Martin et al. (2021) found that teacher's self-efficacy levels varied based on the teacher's classroom environment, with teachers

working with younger children exhibiting higher self-efficacy than teachers working with older students. The problem is that more research is needed to determine the potential effects of teachers' self-efficacy based on classroom environment and professional development on inclusion (Kiel et al., 2020; San Martin et al., 2021).

Purpose Statement

The purpose of this quantitative, causal-comparative design study is to determine if there is a difference in teacher self-efficacy scores between teachers who participate in professional development on inclusion and teachers who do not participate in professional development on inclusion and to determine if there is a difference in teacher self-efficacy scores based on the classroom environment. The research aims to examine the relationship between teacher self-efficacy scores and their engagement in professional development opportunities, and assess the need for additional professional development for teachers in inclusive classrooms. Additionally, the study will investigate any potential relationship between teacher self-efficacy and the type of classroom environment they teach in.

The independent variables for this study include participation in professional development on inclusion and the classroom environment. Professional development on inclusion is defined as learning opportunities for teachers that positively impact their attitudes, beliefs, classroom practices, and ultimately enhance student learning outcomes in the inclusive classroom environment (Aas, 2020). The study will examine teachers who participate in professional development on inclusion and teachers who do not participate in any professional development on inclusion. Classroom environment is defined as the academic placement where students receive services and instruction (Agran et al., 2020). The study will examine the following groups of classroom environments: the inclusive classroom, the self-contained general

curriculum classroom, and the self-contained adaptive classroom. The inclusive classroom is defined as a learning environment where all students, regardless of abilities and differences, participate, learn, and engage in a shared learning environment (San Martin et al., 2021). The self-contained general curriculum classroom is defined as a separate classroom environment (non-inclusive) where students receive specialized instruction in a smaller group setting with a curriculum that includes grade and age-appropriate content that is aligned to state standards (Olson & Roberts, 2018; Parekh & Brown, 2019). The self-contained adaptive curriculum is defined as a separate classroom environment (non-inclusive) where students receive a separate curriculum that uses alternate standards that focus more on functional skills (Östlund & Hanreddy, 2020; Parekh & Brown, 2019).

The dependent variable for this research is teacher self-efficacy scores. Self-efficacy is defined as the belief in one's capabilities to organize and execute the courses of action required to produce given attainments (Tschannen-Moran & Hoy, 2001). The population for this study will include general education teachers who teach in inclusive classrooms and special education teachers who work in a suburban county near a large metropolitan area in Georgia. The population will include elementary, middle, and high school teachers.

Significance of the Study

This study holds crucial importance as it contributes to the existing literature emphasizing the significance of high self-efficacy among teachers and the positive impact of receiving professional development on effectively serving students with disabilities. It will build upon academic research demonstrating that teachers who are content and successful in the inclusive environment exhibit positive self-efficacy regarding inclusive teaching (Alnahdi, 2020). Additionally, it will extend the current knowledge by confirming that professional development

positively influences teacher effectiveness (Stadler-Heer, 2019). Furthermore, this research will identify teachers in various classroom environments and assess the need for additional support and professional development to enhance their self-efficacy when working with students with disabilities (Bemiller, 2019). This study's findings will significantly benefit teachers in the selected district, as county officials can utilize the information to enhance teacher professional development opportunities. Moreover, other districts can use the data to ensure that their staff members receive appropriate support to serve students with disabilities effectively.

Research on teacher self-efficacy is essential as it helps understand the cognitive, motivational, and behavioral aspects of teaching. Educators and policymakers can improve teachers' effectiveness and enhance the quality of education after understanding the factors that influence teachers' beliefs about their instructional capabilities. Teacher self-efficacy is rooted in Social Cognitive Theory, proposed by Albert Bandura. According to this theory, self-efficacy beliefs influence how individuals approach tasks, persevere in facing challenges, and ultimately affect their performance. Understanding teacher self-efficacy helps researchers apply this theory to educational contexts and comprehend how teachers' beliefs impact their instructional practices and students' learning outcomes.

Research Question

RQ1: Is there a difference in teacher self-efficacy scores among teachers who participate in professional development on inclusion and those who do not based on their classroom environment, inclusive, self-contained general curriculum, or self-contained adaptive curriculum?

Definitions

1. *Adaptive Curriculum* – A separate curriculum for students with intellectual disabilities who use alternate standards focusing more on functional than general academic skills (Östlund & Hanreddy, 2020).

2. *Classroom Environment* - The academic placement where students receive services and instruction (Agran et al., 2020).

3. *Classroom Management* – A teacher's capability to successfully manage their classroom by interacting with students, setting classroom guidelines, expectations and rules, and controlling disruptive behavior (Lazarides et al., 2020).

4. *General Curriculum* – A curriculum that includes grade and age-appropriate content aligned to state standards (Olson & Roberts, 2018).

5. *Inclusion* – The learning environment where all students, regardless of abilities and differences, participate, learn, and engage in a shared learning environment (San Martin et al., 2021).

6. *Instructional Strategies* – Everything teachers use to enhance, motivate, and facilitate teaching and learning for all students (Mosimege & Winnaar, 2021).

7. *Professional Development* – Professional development is learning opportunities for teachers that positively benefit teachers' attitudes, beliefs, classroom practices, and better student learning outcomes (Aas, 2020).

8. *Self-efficacy* – The belief that one can successfully perform a behavior to produce a positive outcome (Avramidis et al., 2019).

9. *Self-contained* – The separate classroom environment (non-inclusive) where students receive specialized instruction through a program (Parekh & Brown, 2019).

10. *Student Engagement* – Positive, fulfilling, study-related state of mind characterized by

vigor, dedication, and absorption (Snijders et al., 2020).

CHAPTER TWO: LITERATURE REVIEW

Overview

The primary objective of this literature review is to examine key aspects of special education placement types, explore the concept of teacher self-efficacy and the factors that influence its development, and investigate the relationship between teacher self-efficacy, professional development, and classroom environment. To lay the foundation for this study, Chapter Two commences with an introduction to the theoretical framework, which draws upon the theory of planned behavior by Icek Ajzen in 1991 and the social cognitive theory by Albert Bandura in 1989. Within this chapter, a comprehensive examination of relevant literature pertaining to special education classroom environments, professional development opportunities for educators, and teacher self-efficacy will be undertaken. The purpose is to gain valuable insights and a deeper understanding of the factors influencing effective teaching practices for students with disabilities.

Theoretical Framework

The theory of planned behavior, proposed by Icek Ajzen in 1991, aims to predict human behavior based on attitudes and beliefs. This theory has been extensively used in various studies exploring teacher self-efficacy (Knauder & Koschmieder, 2019; Li & Cheung, 2021). Li and Cheung (2021) found that school districts can enhance teachers' self-efficacy by reducing barriers and fostering positive attitudes towards the inclusive classroom environment. Similarly, Knauder and Koschmieder (2019) revealed that teachers with higher self-efficacy in teaching students with disabilities also demonstrated more positive attitudes toward providing individualized support for students with disabilities. The social cognitive theory, developed by Albert Bandura in 1989, emphasizes the significance of social influences and reinforcements,

forming the foundation for this research study. This theory has been widely applied in studies investigating teacher self-efficacy and professional development (Granziera & Perera, 2019; Mahler et al., 2018). Mahler et al. (2018) emphasized the importance of professional development in cultivating self-efficacy and enthusiasm, as students with higher performance had teachers with subject-specific enthusiasm. Granziera and Perera (2019) demonstrated that teachers' motivation was higher when they had elevated self-efficacy, increased engagement, and greater job satisfaction.

Theory of Planned Behavior

The theory of planned behavior, developed by Icek Ajzen in 1991, extends the theory of reasoned action and aims to explain and predict human behavior based on attitudes and beliefs (Ajzen, 1991). It posits that behavioral intentions stem from three key factors: behavioral intentions, attitude toward the behavior, and subjective norm (Ajzen, 1991). The first construct of this theory is behavioral intentions, which refers to the motivational factors that influence behavior. It is believed that the more robust the intention to partake in a specific behavior, the higher the likelihood of carrying out that behavior (Asare, 2020). The second construct is the attitude towards the behavior, which gauges the degree to which an individual holds a positive or negative evaluation of a particular behavior. The third construct of this theory is the subjective norm, which is the social pressure to perform or not perform a particular behavior (Asare, 2020). Another vital role in the theory of planned behavior is perceived behavioral control, which refers to people's perception of the easiness or difficulty of performing a particular behavior (Asare, 2020). The theory of planned behavior has been used in research to verify teacher behavior determinants in the inclusive classroom (Hellmich et al., 2019). Research has been used with the

theory of planned behavior to determine how teachers handle and cope with teaching in an inclusive classroom (Hellmich et al., 2019).

In the theory of planned behavior, attitudes are described as an individual's positive or negative evaluation of their own behavior. This study will explore teachers' attitudes toward inclusion and other determinants of their behavior in an inclusive classroom environment (Hellmich et al., 2019). Emmers et al. (2020) found that teachers with prior experience working with students with disabilities exhibited a more positive attitude than those without such experience. Their research highlighted the significant influence of teachers' attitudes and beliefs, which were closely related to their past experiences, ultimately shaping their perception of the inclusive classroom environment (Emmers et al., 2020).

The theory of planned behavior asserts that a person's ability to cope with difficult situations is influenced by their attitude towards those situations (Hellmich et al., 2019). Building on this theory, Sahli Lozano et al. (2021) conducted a study to understand how various variables impact teachers' intentions to teach in different settings. Their findings revealed that teachers who held positive attitudes toward inclusion had fewer concerns about teaching in inclusive settings, possessed higher self-efficacy in teaching in inclusive environments, and displayed a significantly stronger desire to teach in the inclusive environment compared to teachers with more negative attitudes or lower self-efficacy scores (Sahli Lozano et al., 2021). By applying the theory of planned behavior, this study aims to gain a deeper understanding of how teachers' attitudes and beliefs toward teaching students with disabilities in different classroom environments are shaped by their past experiences.

Social Cognitive Theory

Psychologist Albert Bandura developed the social cognitive theory in the 1960s, initially known as the social learning theory (SLT) (Wei-Tsong & Ying-Lien, 2021). According to the social cognitive theory, learning occurs when an individual interacts with a person, environment, or behavior. The theory emphasizes the role of social influences and reinforcements, providing insights into why individuals engage in specific behaviors (Wei-Tsong & Ying-Lien, 2021). Ford et al. (2020) discovered that individuals with poor self-efficacy and a lack of belief in their ability to succeed in a given task are less likely to exert sufficient effort to succeed. Bandura's social cognitive theory highlights the crucial link between a person's self-efficacy and motivation, and how an individual perceives their environment (Ford et al., 2020). Additionally, the theory explains why teachers with higher levels of self-efficacy are more inclined to embrace challenges, better cope with setbacks, and seek more effective cognitive strategies to address the demands of the inclusive setting (Eun, 2019).

Self-efficacy is a foundational component of the Social Cognitive Theory. It affects how individuals learn, make choices, regulate their behavior, and interact with their environment. The theory emphasizes that individuals are more likely to engage in behaviors they believe they can effectively perform, and this belief is shaped by observation, experiences, and cognitive processes (Yin et al., 2022). The social cognitive theory holds significant importance for professional development, as it elucidates teachers' need to attend training to enhance their abilities to teach students with disabilities inclusively. Petersson Bloom (2021) demonstrated that teachers who completed a professional development program increased their awareness and improved the learning context for students with disabilities, fostering a more inclusive mindset. Furthermore, the social cognitive theory underscores the importance of early professional development for teachers to foster self-efficacy and gain knowledge in special education,

establishing a solid foundation for future growth in working with students with disabilities (Peck & Neeper, 2022).

In summary, the theory of planned behavior and social cognitive theory complement each other in understanding and predicting teacher behavior in inclusive classrooms by providing a comprehensive framework that addresses attitudes, beliefs, self-efficacy, social influences, and motivation. These theories offer a great perspective on the cognitive, affective, and social factors influencing a teacher's engagement with inclusive education practices.

Related Literature

The Americans with Disabilities Act (ADA) of 1990 mandated that all students have the opportunity to receive a free and appropriate education, granting individuals with disabilities the right to participate in all aspects of society fully (Stone, 2019, p. 523). Complementing the ADA, the Individuals with Disabilities Education Act (IDEA) ensures that students with disabilities are served in the Least Restrictive Environment (LRE), which implies that students should be taught alongside their non-disabled peers with necessary support and aid to the maximum extent possible (Lim, 2020). It is crucial to note that the least restrictive environment does not necessarily mean placing all students in an inclusive setting; rather, it depends on the unique needs of each student. The inclusive environment represents a classroom where students with disabilities can interact and learn alongside their non-disabled peers.

In this literature review, we will explore various essential aspects, including the process of identifying students with disabilities, the significance of the inclusive classroom and least restrictive environment, the different types of special education classroom environments (such as resource rooms, self-contained classrooms, specialized schools, and day/residential treatment facilities), diverse curriculums tailored for students with disabilities, the impact and importance

of teacher self-efficacy, and the need for comprehensive support and professional development for all teachers to effectively teach students with disabilities in the inclusive classroom setting.

Identifying Students with Disabilities

In order to provide appropriate support for students with exceptional needs, it is crucial to identify and intervene early (Paryente & Barak Levy, 2023). The Child Find program in the United States is designed to identify children needing early interventions due to developmental delays or diagnosed physical or mental conditions (Steed & Stein, 2023). Research indicates that early interventions are particularly beneficial for students with autism spectrum disorder (ASD), as they support their developmental needs (DiGuiseppi et al., 2021) and reduce the need for long-term support throughout their school experience (Young et al., 2019). As a result, various programs and interventions are in place to ensure that students with disabilities receive early support tailored to their specific needs.

Another essential tool used in the United States is the multi-tiered system of support (MTSS), which aims to identify and assist struggling students academically and behaviorally (Braun, G et al., 2020). The MTSS process involves four tiers, with tier one providing instruction and support to all students and tier four offering special education services to students with disabilities. Students who encounter challenges in academics or behavior can access tier two supports, which provide targeted skills development and evidence-based interventions. If necessary, students may progress to tier three, which offers intensified interventions targeting specific areas of difficulty. If a student still faces challenges, a complete psychoeducational evaluation may be conducted to determine appropriate support (Braun, G. et al., 2020). This intervention process aims to assist students and identify their needs, ensuring they receive appropriate support within the classroom or special education services if required.

When a child is identified as needing additional support or if a parent requests an evaluation, special educators and assessment team members take on the responsibility of making significant decisions regarding eligibility for special education services (Connelly, 2021). The school psychologist conducts a comprehensive psychoeducational evaluation involving various assessment measures, classroom observations, record reviews, interviews, and input from teachers and families (Maki & Adams, 2022). Following the evaluation, an eligibility team reviews the data and determines if the child qualifies as a student with a disability needing support to succeed in the classroom. If the child is found eligible for services, the team will convene to make various educational decisions, including determining their least restrictive environment (LRE).

Special Education Placement Decisions

Once a child qualifies for special education services and the parent signs consent, the IEP team convenes to develop an Individualized Education Plan (IEP). The IEP outlines the educational plan tailored to the individual student's needs, including their eligibility, special education and related services, and the skills and support required for their success (Sanderson & Goldman, 2023). Among the critical decisions to be made during this process is determining the appropriate placement for the student, aimed at providing necessary support and aid for academic and behavioral success in the inclusive environment (Merrigan & Senior, 2021). The IEP team convenes annually to review the student's strengths and needs and adjust services or support as needed for the student.

To ensure proper placement decisions, school districts must ensure that the student's IEP team, including the parent, follows the continuum of services to determine the Least Restrictive Environment (LRE) suitable for the student (Yell et al., 2020). This continuum ranges from the

most restrictive, such as home/hospital instruction, to the least restrictive, the general education setting (Bolourian et al., 2020). While students can thrive in various settings, it is essential to avoid placing them in unnecessarily restrictive environments when they can excel in more inclusive classrooms (Hienonen et al., 2021). The IEP team's primary focus should be determining the proper placement based on the unique needs of each student.

Although the Least Restrictive Environment (LRE) is widely accepted as a fundamental principle, concerns persist about some students with disabilities being placed in more restrictive environments (Williamson et al., 2020). A study by Kurth et al. (2019) explored placement decisions for students with disabilities and found that factors such as school demands, curriculum considerations, and student deficits played a more significant role than supplementary aids and services in determining academic placement. Wilson et al. (2020) discovered limited participation of general education teachers in IEP meetings, indicating that placement decisions might be influenced by school or administrative convenience rather than the individual needs and goals of the students with disabilities. In the past, there has been a disproportionate rate of students from low-income families and racial minority backgrounds in special education (Fish, 2019). Therefore, it is crucial for the IEP team to prioritize making LRE decisions based solely on the student's individualized needs and not be influenced by other factors.

Least Restrictive Environment

The Individuals with Disabilities Education Act (IDEA) enshrined the concept of the Least Restrictive Environment (LRE) into law, aiming to grant students with disabilities access to the general curriculum and ensure equitable treatment regardless of their disabilities. The LRE provision is designed to promote inclusion and prevent segregation of students based on their disabilities (Giangreco, 2020). It is crucial to emphasize that determining a child's placement in

the least restrictive environment must be firmly rooted in the student's individual needs. The

student's Individual Education Program (IEP) team is responsible for identifying the appropriate

LRE based on these unique needs (Rizvi, 2018).

Although some students with severe disabilities may benefit from a self-contained

classroom with an adaptive curriculum, there exists confusion and a demand for more

professional development to ensure accurate placement decisions aligning with the principles of

the LRE (Kurth et al., 2019). For students with disabilities to thrive in the least restrictive

environment, it is imperative that administrators, teachers, and paraeducators not only

acknowledge and support them but also genuinely value their contributions and presence (Rowe

et al., 2023). Creating a welcoming and inclusive classroom environment is crucial for the

success of the LRE, where students feel accepted, valued, and encouraged by their teachers and

peers.

Inclusive Environment

The inclusive environment offers numerous benefits for students with disabilities,

encompassing their social, emotional, and academic growth. Placement in special education aims

to provide personalized instruction to enhance students' academic and behavioral outcomes

(King-Sears, 2021). To ensure equitable access to the general curriculum, schools should strive

to provide students with disabilities opportunities to engage in academics within the general

education classroom whenever possible (Williamson et al., 2020). Actively engaging students

with disabilities in the inclusive classroom through innovative strategies has improved their

academic and behavioral achievements (Whitney et al., 2022). Students with exceptional needs

who are taught in inclusive classrooms have been shown to exhibit more consistent academic and

social performance than students with disabilities in non-inclusive classrooms (Mansouri et al.,

2022). It is essential for children with special needs to be placed in an inclusive environment as it positively impacts the overall success of all of the children in the classroom (Rhoad-Drogalis & Justice, 2020).

Studies consistently highlight the positive impact of inclusive classrooms on students with exceptional needs' social development (Koegel et al., 2019; Parekh & Brown, 2019). Collaborative relationships between students with significant disabilities and their peers in the inclusive setting foster meaningful interactions, emphasizing the importance of socializing and interacting with non-disabled peers (Skinner et al., 2022). Researchers have emphasized that an inclusive environment facilitates students' friendships, acceptance, and sense of belonging, promoting a more positive and inclusive school culture for all students (Little et al., 2022). Students placed in more restrictive environments are less likely to be given opportunities to socialize and interact with their peers without disabilities (Parekh & Brown, 2019).

Koegel et al. (2019) conducted research to identify if students with autism could meet their social goals during an inclusive summer camp and found that those in inclusive settings met their social goals faster compared to students with autism in non-inclusive settings. Furthermore, Farmer et al. (2019) found that classroom social integration positively impacted students with and without disabilities in the inclusive classroom setting. Some students with autism spectrum disorder have challenges when it comes to social skills and peer engagement, yet the inclusive environment can be beneficial to their social needs with individualized interventions to support their needs (Kasari et al., 2021).

When provided with social skills training, students with disabilities can experience significant improvement in their social skills and significantly reduce challenging behaviors in an inclusive classroom environment (Robbins et al., 2022). Additionally, students with autism have

shown increased communication and social skills in the inclusive classroom due to play routines and interactions with typically developing peers (Aldabas, 2022). Likewise, students with learning disabilities demonstrated increased prosocial behaviors and teamwork/study behaviors when working in groups in an inclusive classroom (Vernon et al., 2022). Inclusive classrooms provide opportunities for students with disabilities to interact and socialize with their non-disabled peers. This fosters the development of social skills, promotes empathy, and reduces stigmatization (Emmers et al., 2020). Now, let us delve into the emotional impact of the inclusive classroom environment.

Furthermore, an inclusive environment positively impacts a student with disabilities' emotional growth. Students with disabilities placed in more restrictive environments experienced higher rates of bullying, teasing, and social exclusion than their peers in inclusive environments (Mulvey et al., 2020). For instance, students with ADHD faced more victimization in the more restrictive environment, emphasizing the need for more inclusive classrooms to support students with ADHD and other disabilities (Winters et al., 2020). Additionally, students with disabilities in self-contained classrooms encountered more challenges in making friends, understanding their emotions, and defending themselves against bullying (Rose et al., 2015). However, students in inclusive settings had a more positive attitude towards peers with emotional problems and non-compliant behaviors, fostering a supportive and accepting environment (Loeper et al., 2022).

Students with disabilities often experience higher self-esteem when included in regular classrooms, as they feel valued and accepted by their peers and teachers (Hsiao, 2020). Inclusive classrooms tend to have better behavior management strategies, and students with disabilities may exhibit improved behavior when they are fully included in the learning environment (D'Agostino & Douglas, 2021). Thus, the inclusive environment provides emotional benefits for

students with disabilities when included with their non-disabled peers. Research indicates that the inclusive classroom positively impacts the emotional growth of students with disabilities. Now, let us delve into the academic impact of the inclusive classroom environment.

An inclusive environment positively impacts a student with disabilities' academic growth. Teachers who use inclusive pedagogies in their classrooms can improve the academic performance of their students with disabilities and narrow the learning gaps for all students (Dewsbury et al., 2022). Students given the support and services of special education have shown an improvement in academic growth over time, which has had a lasting impact on the child's ability to learn and make academic progress in the inclusive classroom environment (Hurwitz et al., 2020). Parekh and Brown (2019) found that students in an inclusive classroom environment had more opportunities to attend college than students in a more restrictive setting. Based on research, students with learning disabilities who were educated in an inclusive environment with their non-disabled peers had higher rates of on-time graduation, college enrollment, and employment (Theobald et al., 2019). Research suggests that students with disabilities educated in inclusive settings have better long-term outcomes, including higher employment and community engagement (Laranjeira et al., 2023). Students in an inclusive classroom have been shown to have better attitudes and better performance in both math and science when learning alongside their typically developing peers (Yu, 2022).

Kim, H. et al. (2018) found that students in the inclusive classroom had better academic, cognitive, and language skills compared to students with disabilities in the non-inclusive classroom. Wilson et al. (2021) found that students were successful academically in the inclusive setting when given the needed accommodations and support to be successful. Co-teaching has shown to be a beneficial framework for incorporating targeted interventions for students with

disabilities in the inclusive classroom, which has shown many positive outcomes for students with disabilities' learning needs in the academic setting with their non-disabled peers (Cook & McDuffie-Landrum, 2020). The co-teaching segment is when students are in a general education classroom, and a special education teacher is team-teaching with the general education teacher to support all students. Students with disabilities benefit academically in an inclusive environment with their non-disabled peers as they are exposed to higher academic expectations and are given access to the general education curriculum (Bettini et al., 2022). Students with disabilities have been shown to have many positive outcomes when served in an inclusive setting. Next, the literature will examine the impact of the inclusive setting for students without disabilities.

Although the inclusive classroom has been shown to have a positive impact in many ways for students with disabilities, research shows that the inclusive education classroom does not benefit nor harm non-disabled students in any way (Szumski et al., 2022). Furthermore, studies have indicated that students with exceptional behavioral needs do not influence the behavior of their non-disabled peers in the inclusive classroom (Zahid et al., 2023). Research has highlighted four crucial aspects that children believe contribute to the success of an inclusive classroom: a comfortable and safe learning environment, a focus on learning as the main activity, opportunities to form friendships and work together with classmates, and the sharing of values and behaviors among peers (Black-Hawkins et al., 2022). When students with disabilities are included with their non-disabled peers, both groups benefit, as the inclusive setting fosters a more positive and inclusive school culture, making all students feel valued and respected (Rojo-Ramos et al., 2023). It is essential for students without disabilities and teachers to understand disabilities and stigmatization to provide proper support to students with disabilities and enhance their motivation when participating in an inclusive classroom (Crea et al., 2022). The inclusive

classroom does not harm general education students in any way but it tremendously positively impacts students with disabilities.

Resource Room

One type of placement that IEP teams could consider based on the student's needs is the resource room. A resource room is where a student with disabilities is served in the general education setting but is pulled out of the classroom by a special education teacher to receive small group instruction in a different classroom. The resource room is typically a small group room where children can receive support tailored to their individualized needs. This setting serves various purposes, such as providing speech therapy, offering intensive educational support on a particular subject, or creating a smaller group setting for students who exhibit disruptive behaviors in the mainstream classroom (Saloviita, 2019). The resource room benefits students requiring more individualized support in a specific subject area.

Self-Contained Classroom

The self-contained classroom is also known as a more restrictive classroom environment (Wilson et al., 2020). In most cases, the self-contained classroom is the academic setting for students with academic or behavioral needs that require all subjects to be taught in one setting (Gauthier, 2020). This academic environment is for students who need a smaller class size, and they have higher staff density, typically serving students with more severe disabilities (Östlund et al., 2021). The self-contained classroom is also used for students with chronic behavior problems and is designed to provide more individualized and intensive behavioral interventions for students with those needs (Moore et al., 2022). When looking at the continuum of services, the self-contained classroom is the more restrictive environment, yet it benefits students who need

intensive, individualized instruction for academics and behavioral needs (Yell et al., 2020). The self-contained classroom is appropriate for students with severe behavioral or academic needs.

The more restrictive environment, the self-contained classroom, may have positive benefits, such as smaller class sizes, paraprofessional support, and a modified curriculum (Kumm et al., 2020). However, this environment has many barriers for students with disabilities, including lower academic achievement, lack of social interaction and improvement in communication skills, lower self-determination, and negative perceptions of belonging (Wehmeyer et al., 2021). Students placed in a self-contained classroom will likely remain in a more restrictive environment throughout their education (White et al., 2020).

Teachers in self-contained classrooms have been reported to be more stressed due to persistent challenging behaviors, leading to a shortage of teachers and difficulties in retaining qualified educators (Bettini et al., 2019). O'Brien et al. (2019) found that teachers in self-contained units needed better working conditions, including more administrative support, more paraprofessionals, more professional development, more instructional resources, and more planning time. Research has shown that good behavior games positively affect students with severe disabilities' behavior in a self-contained classroom (Conradi et al., 2020). Positive reinforcements, such as verbal praise, have shown significant support for students with disabilities and teachers in the self-contained classroom (Benson-Goldberg et al., 2021). The IEP team must consider the child's needs to determine if they require a self-contained classroom or if they could succeed in a more inclusive classroom environment.

Specialized Schools

Some students with exceptional needs are best served in a specialized school that can focus on the child's social and emotional needs and ensure that the child reaches their true

academic potential. Some specialized schools are in place to support students with conduct disorders that interfere with their learning in mainstream schools (Even & BenDavid-Hadar, 2021). The purpose of specialized schools is to cater to the needs of a specific student population, and there are benefits, challenges, and impacts on the child's academic achievement, social development, and long-term success when placed in a specialized school program.

Some benefits and positive impacts of receiving an education in a specialized school include an individualized and specialized focus for each student in all areas. Students in a specialized school can make more academic gains due to smaller class sizes and specialized focus on students' needs. Stremel et al. (2021) found that students with emotional behavior disorders could improve their engagement, off-task behavior, and disruptive behavior when served in a specialized school. Many specialized schools can provide more specialized services and therapies to improve a student's communication abilities and manage behavioral and emotional challenges. Specialized schools can promote learning outcomes and improve development by utilizing resources, having a smaller student-to-teacher ratio, and using cognitive-behavioral play therapy (Hervie, 2023).

Some of the challenges and negative impacts of receiving an education in a specialized school include a lack of social growth, a restrictive setting, limited access to peers without disabilities, and increased teacher burnout and turnover. Students in a specialized school who received an evidence-supported intervention for social initiatives showed limited growth compared to students who received the same intervention in an inclusive setting (Vivanti et al., 2022). Specialized charter schools have drastically increased over the years, a significant concern for policymakers, as specialized schools are restrictive settings where students with disabilities are not provided access to the general education classroom (Gibson & Robles, 2021). Huk and

Cesario (2020) found that teachers employed in a specialized school had a more likely chance of experiencing burnout due to student maladaptive behavior, lack of workplace support, and irrational beliefs from teachers. The IEP team must look at the child's needs to determine if they require a specialized school or if they could succeed in a more inclusive classroom environment.

Residential or Day Treatment Centers

   Some students or adults with disabilities may benefit from being served in a residential or day treatment facility. A residential treatment program is an out-of-home setting for children with severe emotional and behavioral struggles to receive additional support. These treatment centers provide intensive support to students, including psychological evaluations, therapies, psychiatric care, and individualized treatment plans to support students' emotional, behavioral, and academic growth (Somers et al., 2019).

Some of the benefits and positive impacts of receiving an education in a residential or day treatment center include increasing positivity for school, increasing daily living skills for students with intellectual disabilities, and a structured environment for specialized staff members to support individuals with disabilities with intensive support. Students with emotional disturbances showed a positive increase in school connectedness and a lower risk for dropout when attending a residential treatment center (Garwood & Moore, 2021). Students with intellectual disabilities who attended a residential treatment facility could conduct daily living skills with caregivers' assistance (Kaya & Cavkaytar, 2021).

Some of the challenges and negative impacts of receiving an education in residential or day treatment centers include a lack of trained staff to support aggressive behaviors and the increased use of physical restraint. Many children in residential facilities have experienced trauma and may exhibit explosive behaviors. Matte-Landry and Collin-Vézina (2020) found that

many staff members were undertrained and used restraint, seclusion, and time-outs too often to manage challenging behaviors. Many residential workers use restraint or seclusion when faced with a child exhibiting verbal and physically aggressive behaviors (Geoffrion et al., 2021). Although physical restraints are to be used as a last resort to prevent harm to themselves or others, there are adverse outcomes that come with restraints. Restraints can cause negative consequences to the therapeutic process, an increased risk of injury and even death, and a negative emotional effect on staff members performing the restraint and other children watching the restraint (Braun, M.T. et al., 2020). The IEP team must look at the child's needs to determine if they require a residential or day treatment facility or if they could succeed in a more inclusive classroom environment.

General Curriculum vs Adaptive Curriculum

There are two curriculum types in education for students with disabilities. The general education curriculum is where students access the same grade-level content based on grade-level standards as their same-aged peers (Olson & Roberts, 2018). Students in the general education curriculum are more likely to be served in the inclusive classroom, and the focus is on state-specific academic standards (Anderson et al., 2022).

The adaptive curriculum is data-driven and revolves around feedback from assessments to improve the outcomes of the learners (Carney et al., 2018). It is a separate curriculum designed for students with intellectual disabilities, utilizing alternate standards that focus more on functional skills than general academic ones (Östlund & Hanreddy, 2020). The adaptive curriculum targets functional skills such as money handling and daily living skills needed for independent living (Anderson et al., 2022). Snider and Dymond (2023) found that many students

with an intellectual disability are served on the adaptive curriculum in a special education classroom to work on academic and functional curricular areas.

When making placement decisions, the IEP team needs to follow the LRE mandate to ensure that the child is served in the least restrictive classroom while meeting the needs of the student with disabilities (Bolourian et al., 2020). Being on the general education curriculum is crucial for students with ambitions to go to college. They must have the cognitive ability to access the general education curriculum and have goals in their IEP to assist their successful transition to college (Kim, H. & Baker, 2022). Research has shown that students with disabilities are included in the general education curriculum more often; however, the reading achievement gap has also significantly increased, with many students being far below grade level in reading (Gilmour et al., 2019). Nevertheless, many students with disabilities can achieve in general education when receiving the appropriate support and accommodations (Gin et al., 2020). Hervie (2023) found that many educators believe it is more beneficial for a student with severe intellectual disabilities to be served in a specialized school on an appropriate curriculum to maximize the child's potential. Individualized education teams must consider the student's needs to determine if they can handle the academic demands of the general curriculum or if they should focus on life skills through the adaptive curriculum.

Teacher's Self-Efficacy

Self-efficacy in education refers to teachers' beliefs and perceptions about their ability to successfully teach their students (Hsu et al., 2022). It reflects their judgment on how well they engage students in their learning and their capabilities of providing a desired and successful educational experience for all students (Lauermann & Berger, 2021). Teacher self-efficacy can significantly impact their readiness, motivation, and practical teaching ability in inclusive

classrooms (Subban et al., 2021). Research has shown that teacher self-efficacy increases with professional development opportunities and years of experience, enhancing their confidence in their abilities (Bjerke & Xenofontos, 2023). Understanding self-efficacy is essential to improve the inclusive environment for students with disabilities and enhance educational outcomes across different settings (Yada et al., 2022). Researchers emphasize the need to examine teachers' self-efficacy for inclusion to provide successful inclusive education (Selenius & Ginner Hau, 2023).

Studies have demonstrated that teachers with low self-efficacy are more likely to experience higher job stress, leading to poor job satisfaction and burnout (Hu et al., 2019). On the other hand, teachers with high self-efficacy are more likely to implement inclusive practices in their classrooms successfully (Kiel et al., 2020). Teacher self-efficacy has also been linked to how teacher candidates perceive their preparation, with higher self-efficacy associated with greater participation in professional growth opportunities (Matthews et al., 2023). Teachers with higher self-efficacy in implementing inclusive strategies tend to create more successful inclusive classrooms (Gentile et al., 2023).

Teacher self-efficacy is crucial, as high self-efficacy is linked to more positive attitudes and fewer concerns about teaching in inclusive settings. It has also been associated with providing more support, fostering positive classroom environments, and promoting positive student learning outcomes, such as higher literacy skills, better academic adjustments, and outstanding academic achievement (Lee et al., 2019). Teachers with high self-efficacy tend to plan and organize effective teaching, build strong relationships with their students, set specific, attainable goals, have high expectations, adopt student-centered methods, and provide appropriate feedback and guidance (Kazanopoulos et al., 2022). Conversely, teachers with low

self-efficacy may exhibit pessimism, higher stress, lower self-esteem, less organization, and stricter classroom control (Kazanopoulos et al., 2022).

Although educating diverse learners in inclusive settings is becoming more common today, many teachers still have low self-efficacy and reservations about teaching in inclusive settings (Keppens et al., 2021). To successfully teach in inclusive classrooms with students with disabilities, teachers must be able to differentiate instruction to meet all students' needs. Porta et al. (2022) found that teachers' knowledge of differentiated instruction, attitudes toward inclusive settings, and self-efficacy are interconnected with the successful provision of differentiated instruction in inclusive classrooms. Teachers with high self-efficacy are more focused on the success of all students, promoting accessibility, and building confidence in their students. They believe in their abilities to effectively engage and support all learners, regardless of their diverse needs. On the other hand, teachers with low self-efficacy tend to be more preoccupied with managing classroom behavior and regularly noticing differences among their students. They may lack the confidence to address the diverse needs of their students and may feel overwhelmed by challenging behaviors or individual differences (Woodcock et al., 2022).

Teachers generally show reasonable confidence in teaching in inclusive settings but may be concerned about specific aspects of teaching students with disabilities in inclusive classrooms (Alnahdi, 2020). Research has shown that teachers with high self-efficacy are more likely to provide encouraging feedback to their students and believe in their ability to promote learning and improve student results (Woodcock et al., 2019). However, there are inconsistencies among teachers regarding their confidence in successfully teaching in inclusive classrooms (Roberts & Callaghan, 2021). Special education teachers and resource room teachers tend to favor the inclusive classroom environment more than general education teachers (Desombre et al., 2019).

General education teachers may struggle to provide inclusive practices and specialized services to students with disabilities without the support of a co-teacher (McKenna et al., 2023).

Many teachers demonstrated high self-efficacy regarding their confidence in classroom management, building and fostering parental relationships, and providing accommodations and modifications for their students' needs. These aspects of their teaching practice seemed to be areas where they felt competent. However, teachers reported a lower level of self-efficacy regarding engaging families in the educational process, understanding special education laws and policies related to the inclusive environment for students with disabilities, and dealing with students with a history of physically aggressive behaviors (Alnahdi, 2020).

Interestingly, Sawyer et al. (2022) found that teachers' self-efficacy grew positively throughout the school year when working in an inclusive classroom. This positive change was attributed to several factors, including successful experiences in teaching in an inclusive environment, better understanding of their students with disabilities, receiving positive feedback and support throughout the school year, and experiencing many positive and enjoyable teaching moments. It is essential to recognize that teachers' self-efficacy can vary across different aspects of their profession, and identifying areas of strength and areas that need improvement can help inform targeted professional development and support to enhance overall teaching effectiveness in the inclusive setting. As teachers gain more experience and support, their confidence and self-efficacy in various areas of inclusive education may continue to improve (Sawyer et al., 2022).

The importance of an inclusive environment for students with disabilities is often not fully understood by many school systems. Bemiller (2019) highlights educators' challenges, citing the uncertainty surrounding inclusion and the lack of knowledge on creating a thriving, inclusive classroom environment. Among general education teachers, there are various

definitions and understandings of what inclusion entails (Nilholm, 2021). Saloviita (2019) discovered that some teachers were reluctant to teach in an inclusive environment because they perceived it as requiring extra work. They believed that having students with disabilities in their classrooms would necessitate additional support, causing apprehension about their ability to manage the diverse needs of their students.

However, when teachers are provided with support and interventions to accommodate students with autism in the inclusive classroom, it positively impacts their self-efficacy in working in such an environment (Catalano et al., 2022). This highlights the importance of providing teachers with the necessary resources and training to support students with disabilities in inclusive settings effectively. While many teachers may support the idea of inclusion, some remain hesitant to teach in inclusive classrooms. Gilmour (2018) found that general education teachers were reluctant due to the fear that students with disabilities might exhibit low academic growth. The pressure to perform well on state tests and concerns about evaluations further contributed to their hesitancy in having students with disabilities in their classrooms.

Another obstacle to inclusive education is the belief held by some teachers that certain types of disabilities should not be taught in inclusive settings (Khan et al., 2017). This reveals a lack of understanding of the benefits of inclusion and the Least Restrictive Environment (LRE) concept, which emphasizes providing education to students with disabilities alongside their non-disabled peers to the maximum extent appropriate.

Kiel et al. (2020) discovered that teachers with more positive self-efficacy toward inclusion were more willing to instruct students with disabilities in inclusive settings. Similarly, Saloviita (2019) found that teachers with more positive attitudes toward inclusion also scored

higher in self-efficacy. Special education and resource room teachers exhibited a more positive

attitude toward the inclusive classroom environment (Saloviita, 2019).

A teacher's self-efficacy can be influenced by their knowledge of different types of

disabilities, their attitudes toward students with disabilities, and their classroom management

skills (Kazanopoulos et al., 2022). Teachers who possess a more positive self-efficacy towards

students with disabilities are less likely to exclude problematic students from their classrooms

and are more tolerant towards students with disabilities and challenging behaviors (Selenius &

Ginner Hau, 2023).

The self-efficacy of teachers has been linked to a student's potential outcome and

academic success (Ruppar et al., 2020). Research has also shown that female educators and

elementary school teachers are more likely to exhibit higher self-efficacy towards teaching in

inclusive classrooms than male teachers in secondary education (Ismailos et al., 2022).

Moreover, a teacher's self-efficacy can impact various aspects of their job, as teachers with

higher self-efficacy ratings and those who feel professionally supported also demonstrate a

greater level of work engagement (Lipscomb et al., 2022).

Teachers' perceptions of the inclusive setting can be influenced by their belief systems,

perceived resources, prior knowledge, available time, and the support system in their school

(Dignath et al., 2022). As a result, some teachers may find the inclusive environment challenging

or threatening, leading to reluctance to teach in such settings.

In conclusion, research suggests that teachers' self-efficacy plays a crucial role in their

willingness and success in instructing students with disabilities in inclusive classrooms. Positive

attitudes towards inclusion and a deeper understanding of disabilities are associated with higher

self-efficacy. Creating a supportive and inclusive environment within schools is vital to address teachers' concerns and promote successful inclusive education for all students.

Need for Professional Development and Support

The need for professional development and support in inclusive education is evident from the challenges educators face when teaching students with disabilities. Early childhood educators, in particular, often lack the necessary understanding and knowledge of the inclusive classroom environment, and the training they receive varies significantly based on their educational program. McKee et al. (2023) found that teachers who participated in pre-service training on inclusion were able to improve their perceptions, understandings, and practical skills in working with students with disabilities in the inclusive classroom. To improve the quality of learning for students with disabilities, general and special education teachers should undergo pre-service programs offering high-quality inclusive practices and evidence-based intervention strategies (Stites et al., 2021).

Pre-service teachers have been found to exhibit higher self-efficacy compared to in-service teachers, likely due to their preference for student-centered classrooms promoting differentiated instruction and student choice (Ismailos et al., 2022). Pre-service teachers have also exhibited a greater understanding and confidence in providing appropriate accommodations and modifications for students with disabilities in the inclusive classroom (Ismailos et al., 2022). With a social shift towards inclusive education, general education teachers need to gain a deeper understanding of students with disabilities and learn how to collaborate with special education teachers to meet the diverse needs of all learners (Drescher & Chang, 2022). The social shift toward the inclusive classroom is not something to blame; instead, it is a positive development driven by research highlighting numerous benefits for students with disabilities in inclusive

settings. Inclusive education aims to provide all students, including those with disabilities, the opportunity to learn together in the same classroom, promoting diversity, collaboration, and acceptance.

There is a shortage of teachers who show competency in teaching special education, and there is a need for professional development on policy implications for educating students with disabilities (Cooc, 2019). Classen and Westbrook (2022) found that teachers require comprehensive professional development programs in order to impact a change in an educator's mindset effectively. Pre-service professional development can positively impact teachers' self-efficacy, improving their readiness to teach in inclusive settings (Alhumaid et al., 2021). Furthermore, in-service teachers have been found to have lower self-efficacy toward teaching in inclusive settings compared to their pre-service counterparts who received training in inclusive classrooms (Savolinen et al., 2022). Teachers with modest efficacy in teaching students with disabilities may benefit from additional support and training to boost their confidence in inclusive settings (Dignath et al., 2022).

General education teachers often feel unprepared to educate students with disabilities (Bemiller, 2019; Gurney, 2018). General education teachers who lack training in handling behaviors and teaching students with disabilities experience more frustration and have a higher teacher turnover rate (Bemiller, 2019). They require training on behavior management and teaching strategies for students with disabilities to improve their efficacy in inclusive classrooms (Stadler-Heer, 2019). The training should also include knowledge of differentiated instruction and how to provide the appropriate accommodation for students with disabilities in the inclusive classroom. Most teachers agree that they need additional training on how to best support their students with disabilities in the inclusive classroom, and this is best done by creating a space for

teachers to dialogue about what has been successful and what has failed in their classrooms (Rodríguez-Oramas et al., 2021).

General education teachers require physical resources, human resources, and time to successfully teach in the inclusive classroom (Bettini et al., 2022). The needed physical resources include tangible items that general education teachers can use in the inclusive setting to assist with academic and behavioral needs. The needed human resources are trained paraprofessionals and special education teachers who know the students and support the general education teacher. Lastly, time is needed for general and special education teachers to get together to collaborate on the needs of each student (Bettini et al., 2022).

When teachers have long-term opportunities for professional development, they are more likely to experience a positive increase in self-efficacy while working in inclusive classroom settings with students both with and without disabilities (Boeve-de Pauw et al., 2022). Research indicates that professional development programs that facilitate the successful adoption of inclusive teaching practices can boost teachers' confidence in their abilities to create inclusive classrooms and recognize the value of inclusive education for all students (Woodcock et al., 2023). Moreover, increased participation in professional development opportunities has been linked to teachers' higher self-efficacy and job satisfaction (Yoon & Kim, 2022). For future educators, pre-service training on inclusion yields substantial benefits, such as learning how to avoid labeling students, challenging preconceived limits about students' abilities, fostering a mindset that enables all students to access learning opportunities alongside their general education peers, and shifting the focus to individual student needs rather than considering them solely as special education students who may be unable to learn the curriculum (Mintz et al., 2020).

Teachers need to undergo training in inclusion and cultivate a positive attitude about teaching in inclusive environments to succeed (Leonard & Smyth, 2022). Vandervieren and Struyf (2021) discovered that teachers benefited from completing a special education program before becoming educators. Educators who receive education on special education topics better understand inclusion and feel more prepared and comfortable teaching in inclusive classroom environments (Cameron et al., 2018). Lastly, research has shown that teachers' attitudes towards the inclusive environment improve after they complete training on inclusion (Goddard & Evans, 2018).

Laranjeira et al. (2023) emphasized the need to embed a philosophy of inclusion into the curriculum for future teachers, while in-service teachers require ongoing training on inclusion to ensure its success. Additionally, teachers would greatly benefit from classroom management training to help them differentiate and adopt strategies that cater to each student's learning styles and behavioral characteristics in the inclusive setting. Providing practice opportunities, such as school-based practices with students, feedback, role-playing, simulation use, coaching, and mentoring, would further support teachers in their journey toward effective inclusive education (Güner Yildiz et al., 2022).

Teachers' experiences working with children with disabilities play a crucial role in shaping their attitudes towards the inclusive classroom environment. Research by Emmers et al. (2020) highlights that increased exposure and social interactions between teachers and students with disabilities lead to more positive attitudes toward inclusion. Additionally, Hsiao (2020) found that teachers who interacted socially with individuals with disabilities reported improved relationships with their students and increased positive attitudes toward teaching in the inclusive setting. Moreover, general education teachers demonstrate higher self-efficacy when provided

with adequate support. Van Mieghem et al. (2022) emphasized the importance of support systems, such as team teaching with a special education teacher, regular observations and feedback, classroom supervision during challenging situations, and additional assistance for students with exceptional needs. These supportive measures contribute to teachers' confidence and effectiveness in facilitating inclusive education.

In addition to training, teachers emphasize the significance of support in creating a thriving, inclusive classroom environment. Administrators play a crucial role in this regard, as highlighted by Çoban et al. (2023), who found that principals' instructional leadership can positively impact an educator's self-efficacy in the classroom. When teachers feel supported by their school leaders, they are more likely to feel empowered and capable of effectively implementing inclusive practices.

Furthermore, teachers note the importance of having access to necessary resources and therapeutic tools to cater to the diverse needs of students with disabilities in the inclusive classroom (Malki & Einat, 2018). Adequate resources can significantly enhance the learning experience for both students and teachers, ensuring that educators can provide appropriate accommodations and support to foster an inclusive learning environment.

Manrique et al. (2019) further emphasize the need for ongoing professional development and continuous support materials for teachers working with students with educational needs. A comprehensive and consistent support system is crucial to equip teachers with the knowledge and tools needed to effectively teach students with disabilities in an inclusive setting, promoting a positive and inclusive learning environment for all students.

Teachers' concerns about implementing an inclusive environment are often linked to the lack of support they receive from administrators, as highlighted by Teixeira et al. (2018). The

support needed from administrators encompasses various aspects, including emotional support, informational support, instrumental support, and appraisal support (Aldosiry, 2020). Administrators can provide emotional support by showing appreciation to teachers, maintaining open communication, and being attentive to their work. Inclusive classrooms benefit from instrumental support, which provides teachers with adequate time, materials, space, and resources to meet deadlines and effectively teach students with disabilities. Administrators can offer informational support through organizing in-service training, workshops, and opportunities to attend conferences, which help educators stay updated with the latest practices and research. Additionally, administrators can demonstrate appraisal support by showing trust and confidence in the teacher's work.

Furthermore, administrators can effectively support their educators by assisting in dealing with discipline problems and addressing confrontations with parents. These measures can significantly enhance the teachers' ability to create a thriving, inclusive environment for students with disabilities (Aldosiry, 2020). By offering a comprehensive range of support, administrators can foster a positive and inclusive school culture that benefits teachers and students. Adequate support from school leaders is essential for creating a prosperous, inclusive classroom that meets the needs of all students. D'Agostino and Douglas (2021) emphasize the importance of teachers' knowledge and positive attitudes towards inclusion, especially for students with autism who are more likely to be in an inclusive environment. Understanding the specific needs of students with autism and employing effective classroom practices are crucial for fostering a supportive and successful inclusive classroom for these students.

For inclusive classrooms to thrive in all schools, Laranjeira et al. (2023) suggest that teachers must develop positive attitudes and beliefs about including students with disabilities,

acquire the necessary skills and knowledge to effectively educate exceptional learners, and gain practical experience and feedback in the inclusive setting. This comprehensive approach ensures that teachers are well-prepared and confident in creating an inclusive learning environment that benefits all students.

Although teachers recognize the necessity and benefits of inclusive environments, they often feel they lack the materials, tools, and support needed to make the inclusive classroom successful (Sirem & Çatal, 2023). Adequate resources and support systems are essential to enable teachers to meet the diverse needs of their students and effectively implement inclusive practices. By addressing these concerns, schools can create a more inclusive and supportive learning environment for all learners.

Summary

The current literature highlights various academic settings for students with educational needs, emphasizing the importance of following a continuum of services to ensure that students with disabilities receive appropriate support in the least restrictive environment. When students are identified with a disability, the IEP team must consider all their needs to determine the most suitable placement. It is the right of children with disabilities to learn in inclusive classrooms alongside their typically developing peers, as long as it aligns with the least restrictive environment principle. Placement options include the self-contained classroom, resource classroom, specialized school, or a day or residential treatment center. Despite recognizing the benefits of the inclusive setting, research shows that teachers often have low self-efficacy when teaching in inclusive environments, indicating a need for more significant support and professional development.

While the literature highlights the advantages of inclusive education, it also underscores

that many teachers may not feel adequately prepared to succeed in such academic settings. This literature review identifies a critical research gap: examining the impact of professional development on teachers' self-efficacy in inclusive settings and exploring potential variations in self-efficacy based on different classroom settings. In the following chapter, we will describe the research design, analysis, and data collection methods to address these crucial issues in the study of inclusive education and teacher self-efficacy.

CHAPTER THREE: METHODS

Overview

The purpose of this quantitative, causal-comparative design study is to determine if there is a difference in teacher self-efficacy scores between teachers who participate in professional development on inclusion and teachers who do not participate in professional development on inclusion and to determine if there is a difference in teacher self-efficacy scores based on the classroom environment. This chapter outlines the study's design, provides definitions of variables, presents research questions, null hypotheses, describes the participants and setting, instrumentation, procedures, and data analysis plans.

Design

This research utilizes a quantitative causal-comparative design to investigate the difference between teacher self-efficacy scores based on participation in professional development on inclusion and based on teachers' classroom environments in a North Central Georgia school district. This approach uses statistical procedures to analyze the collected numerical data (Gall et al., 2007). A causal-comparative design is chosen as it is suitable for exploring relationships between independent and dependent variables. By comparing two or more groups, the study seeks to determine if one variable impacts the outcome of another variable (Salkind, 2010). The researcher adopts this design to investigate whether independent variables directly influence the dependent variable (Lenell & Boissoneau, 1996). The independent variables are predefined and must be categorical. The groups will be compared to determine if the dependent variable influences the independent variables (Gall et al., 2007).

The independent variables for this study include participation in professional development on inclusion and the classroom environment. Professional development on

inclusion is defined as learning opportunities for teachers that positively impact their attitudes, beliefs, classroom practices, and ultimately enhance student learning outcomes in the inclusive classroom environment (Aas, 2020). The study will examine teachers who participate in professional development on inclusion and teachers who do not participate in any professional development on inclusion. The classroom environment is the academic placement where students receive services and instruction (Agran et al., 2020). The study will examine the following groups of classroom environments: the inclusive classroom, the self-contained general curriculum classroom, and the self-contained adaptive classroom. The inclusive classroom is defined as a learning environment where all students, regardless of abilities and differences, participate, learn, and engage in a shared learning environment (San Martin et al., 2021). The self-contained general curriculum classroom is defined as a separate classroom environment (non-inclusive) where students receive specialized instruction in a smaller group setting with a curriculum that includes grade and age-appropriate content that is aligned with state standards (Parekh & Brown, 2019; Olson & Roberts, 2018). The self-contained adaptive curriculum is defined as a separate classroom environment (non-inclusive) where students receive a separate curriculum that uses alternate standards that focus more on functional skills (Parekh & Brown, 2019; Östlund & Hanreddy, 2020).

The dependent variable for this research is teacher self-efficacy scores. Self-efficacy is defined as the belief in one's capabilities to organize and execute the courses of action required to produce given attainments (Tschannen-Moran & Hoy, 2001). A quantitative causal-comparative design is appropriate for this research as it allows for quantitative comparisons among the variables (Babbie, 2013). A significant limitation of this research design is the need for more

randomization, as the classroom environment cannot be manipulated or changed, reducing researcher control among the groups.

Research Question

RQ1: Is there a difference in teacher self-efficacy scores among teachers who participate in professional development and those who do not, based on their classroom environment, inclusive, self-contained general curriculum, or self-contained adaptive curriculum?

Hypotheses

H$_0$1: There is no significant difference in *teacher self-efficacy scores* between teachers who participate in professional development on inclusion and those who do not, as measured by the Teacher Sense of Efficacy Scale.

H$_0$2: There is no significant difference in *teacher self-efficacy scores* between teachers whose classroom environment is inclusive, self-contained general curriculum, or self-contained adaptive curriculum, as measured by the Teacher Sense of Efficacy Scale.

H$_0$3: There is no significant interaction between teachers' participation in professional development on inclusion and classroom environment as measured by the Teacher Sense of Efficacy Scale.

Participants and Setting

The study recruited participants from a North Central Georgia school district with twenty-nine elementary schools, eleven middle schools, and ten high schools. Convenience sampling was used to select teachers meeting the study's criteria. The sample comprised 144 teachers, evenly divided across three groups: inclusive classroom, self-contained general curriculum, and self-contained adaptive curriculum.

Table 1

Frequency of Responses by Classroom Environment and Professional Development (PD) Participation

		Inclusive Classroom	Self-Contained General Curriculum	Self-Contained Adaptive Curriculum	Total
PD	Yes	24	24	24	72
	No	24	24	24	72
Total		48	48	48	144

Population

The participants were drawn from a convenience sample of teachers within a suburban, north-central Georgia school district. The district serves over 48,000 students across its 50 public schools, including 29 elementary schools, 11 middle schools, and 10 high schools. This district has a minority enrollment of 80%, and 55.4% of students are economically disadvantaged. The school student body is 16.9% white, 62.9% black, 2.6% Asian, 11.9% Hispanic, 0.2% American Indian, and 0.1% Native Hawaiian or other Pacific Islander. Within this district, 92.5% of teachers are licensed, and 90.4% have three or more years of experience. The teacher-to-student ratio is 16:1.

Participants

The total participants for this study included 144 teachers who were evenly divided between the groups. When conducting a two-way ANOVA, the minimum number of participants is 144, evenly distributed across all groups, assuming a medium effect size with a statistical power of .7 at the .05 alpha level (Gall et al., 2007). The sample consisted of 48 general education teachers, 48 self-contained general curriculum teachers, and 48 self-contained adaptive curriculum teachers. All of the teachers have at least one year of teaching experience. The

demographics of the teachers included 86 white, 45 black or African America, 3 Asian, 5

Hispanic, 2 American Indian, and 3 biracial participants.

      The participants from the study came from a convenience sample of schoolteachers

located in the district. This sampling method was used as it was easily accessible to the

researcher geographically to recruit participants (Fey, 2018). All schoolteachers with at least one

year of experience were contacted via their school email address. Among the sample,

demographic information was collected through a survey. The sample consisted of 19 male

teachers and 125 female teachers. For teaching experience, the sample consisted of 46 teachers

with 1-4 years of experience, 31 teachers with 5-9 years of experience, 22 teachers with 10-14

years of experience, 17 teachers with 15-19 years of experience, and 28 teachers with 20+ years

of experience. The sample consisted of 96 kindergarten through fifth-grade teachers, 27 sixth

through eighth-grade teachers, and 21 ninth through twelfth-grade teachers.

Table 2

Frequency of Responses by Years of Experience, School Type, Gender, and Race

Variable	Category	*n*	*%*
Years of Experience	1-4 years	46	31.9%
	5-9 years	31	21.5%
	10-14 years	22	15.3%
	15-19 years	17	11.8%
	20 + years	28	19.4%
School Type	Elementary (K-5)	96	66.7%
	Middle (6-8)	27	18.8%
	High (9-12)	21	14.6%
Gender	Male	19	13.2%
	Female	125	86.8%
Race	White	86	59.7%
	Black	45	31.3%
	Asian	3	2.1%
	American Indian	2	1.4%
	Biracial	3	2.1%

The sample of teachers who participated in professional development on inclusion consisted of 41 White or Caucasian, 5 Hispanic or Latino, 21 Black or African American, 3 Asian, 1 American Indian, and 1 biracial participants. The sample of teachers who participated in professional development on inclusion consisted of 20 teachers with 1-4 years of experience, 19 teachers with 5-9 years of experience, 11 teachers with 10-14 years of experience, 10 teachers with 15-19 years of experience, and 12 teachers with 20+ years of experience. The sample of teachers who participated in professional development on inclusion consisted of 50 kindergarten through fifth-grade teachers, 15 sixth through eighth-grade teachers, and 7 ninth through twelfth-grade teachers.

The sample of teachers who did not participate in professional development on inclusion consisted of 45 White or Caucasian, 0 Hispanic or Latino, 24 Black or African American, 0 Asian, 1 American Indian, and 2 biracial participants. The sample of teachers who did not participate in professional development on inclusion consisted of 26 teachers with 1-4 years of experience, 12 teachers with 5-9 years of experience, 11 teachers with 10-14 years of experience, 7 teachers with 15-19 years of experience, and 16 teachers with 20+ years of experience. The sample of teachers who did not participate in professional development on inclusion consisted of 46 kindergarten through fifth-grade teachers, 12 sixth through eighth-grade teachers, and 14 ninth through twelfth-grade teachers.

The sample of teachers who worked in the inclusive classroom environment consisted of 29 White or Caucasian, 1 Hispanic or Latino, 16 Black or African American, 1 Asian, 0 American Indian, and 1 biracial participants. The sample of teachers who worked in the inclusive classroom environment consisted of 12 teachers with 1-4 years of experience, 8 teachers with 5-9 years of experience, 9 teachers with 10-14 years of experience, 7 teachers with 15-19 years of

experience, and 12 teachers with 20+ years of experience. The sample of teachers who worked in the inclusive classroom environment consisted of 32 kindergarten through fifth-grade teachers, 11 sixth through eighth-grade teachers, and 5 ninth through twelfth-grade teachers.

The sample of teachers who worked in the self-contained general curriculum environment consisted of 29 White or Caucasian, 2 Hispanic or Latino, 13 Black or African American, 0 Asian, 2 American Indian, and 2 biracial participants. The sample of teachers who worked in the self-contained general curriculum environment consisted of 18 teachers with 1-4 years of experience, 13 teachers with 5-9 years of experience, 5 teachers with 10-14 years of experience, 6 teachers with 15-19 years of experience, and 6 teachers with 20+ years of experience. The sample of teachers who worked in the self-contained general curriculum environment consisted of 36 kindergarten through fifth-grade teachers, 7 sixth through eighth-grade teachers, and 5 ninth through twelfth-grade teachers.

Lastly, the sample of teachers who worked in the self-contained adaptive curriculum environment consisted of 28 White or Caucasian, 2 Hispanic or Latino, 16 Black or African American, 2 Asian, 0 American Indian, and 0 biracial participants. The sample of teachers who worked in the self-contained adaptive curriculum environment consisted of 16 teachers with 1-4 years of experience, 10 teachers with 5-9 years of experience, 8 teachers with 10-14 years of experience, 4 teachers with 15-19 years of experience, and 10 teachers with 20+ years of experience. The sample of teachers who worked in the self-contained adaptive curriculum environment consisted of 28 kindergarten through fifth-grade teachers, 9 sixth through eighth-grade teachers, and 11 ninth through twelfth-grade teachers.

Setting

The setting for this study was a North Central Georgia school district during the 23-24 academic school year. The teacher's classroom environment was a naturally occurring group, meaning it cannot be manipulated. Among the sample, there were 48 teachers in the inclusive setting, 48 teachers in the self-contained general curriculum setting, and 48 teachers in the self-contained adaptive curriculum setting.

Regarding the other independent variable, the participants were divided into two groups: the control group, which consisted of teachers who did not participate in professional development, and the treatment group, which included teachers who participated in professional development. The control group consisted of 72 participants, including 9 male and 63 female teachers. The treatment group consisted of 72 participants, with 10 male and 62 female teachers.

Instrumentation

This study used the Teacher Sense of Efficacy Scale (TSES) to identify teacher self-efficacy. See Appendix A for permission to use the instrument and Appendix B for the instrument. The TSES measures a teacher's sense of self-efficacy concerning different items in the classroom. The TSES was originated in 2001 by Tschannen-Moran and Hoy.

Teacher Sense of Efficacy Scale

The Teacher Sense of Efficacy Scale (TSES) aims to measure a teacher's sense of self-efficacy concerning instructional strategies, student engagement, and classroom management (Tschannen-Moran & Hoy, 2001). The TSES originated in 2001 when Tschannen-Moran and Hoy were exploring issues related to measuring teacher self-efficacy, and they proposed a new instrument to measure self-efficacy (Tschannen-Moran & Hoy, 2001). The TSES has been used in numerous studies (e.g., Dibapile, 2012; Pressley & Ha, 2021; Ross, 2013). Dibapile (2012) found that teachers with more intensive training had higher self-efficacy scores. Pressley and Ha

(2021) found that teacher self-efficacy ratings were lower than before the COVID-19 pandemic. Ross (2013) found that teachers require additional training to teach English language learners to increase their teacher self-efficacy.

Tschannen-Moran and Hoy (2001) conducted analyses to assess the construct validity of both the long and short versions of the TSES. Their findings suggested that these forms could be reasonably deemed valid and reliable (Tschannen-Moran & Hoy, 2001). They asserted that the dimensions encompassing instructional strategy, student engagement, and classroom management efficacy capture the intricate nature of teachers' professional experiences and the essential attributes of effective teaching (Tschannen-Moran & Hoy, 2001). Instructional strategies are the tools used to enhance all students' well-being and learning motivation. Student engagement is defined as on-task behavior, invested effort, and student motivational beliefs. Lastly, Classroom management demonstrates effective student behavior management, ensuring enough time for learning activities (Tschannen-Moran & Hoy, 2001). The reliability of the TSES was found at .90 alpha, and it was found to have construct validity (Tschannen-Moran & Hoy, 2001). The reliability of the subscales was also found to have construct validity, with engagement having a .81 alpha, instruction having a .86 alpha, and management having a .86 alpha.

The TSES short form consists of 12 questions about the teacher's beliefs and concludes with eight additional questions that check for demographics or details about the participant. The instrument asks questions such as: "How much can you do to control disruptive behaviors," "How much can you do to motivate students who show low interest in schoolwork?", "How do you calm a student who is disruptive?" "How do you get children to follow classroom rules?" and "How well can you establish a classroom management system with each group of students"

(Tschannen-Moran & Hoy, 2001). The TSES uses a nine-point Likert scale ranging from None to A Great Deal. Responses were as follows: None at All = 1, Very Little = 3, Some Degree = 5, Quite a Bit = 7, and A Great Deal = 9. The combined possible score on the TSES range from 9 to 108 points. A score of 9 is the lowest possible score, meaning that teachers have a low self-efficacy, and a score of 108 points is the highest, meaning that the teachers have a high self-efficacy. The short form consists of four questions (Items 2, 3, 4, & 11) that look at efficacy in student engagement, four questions (Items 5, 9, 10, & 12) that look at efficacy in instructional strategies, and four questions (Items 1, 6, 7, & 8) that look at efficacy in classroom management. Permission to use the instrument was granted; refer to appendix A.

Table 3

TSES Question Correspondence

Category Title:	Item
Efficacy in Student Engagement	2, 3, 4, 11
Efficacy in Instructional Strategies	5, 9, 10, 12
Efficacy in Classroom Management	1, 6, 7, 8

Administering the Teacher Sense of Efficacy Scale (TSES) involves a systematic and standardized process to ensure accurate data collection. Participants receive clear instructions outlining the scale's purpose and response guidelines. Confidentiality is maintained, and informed consent is obtained before proceeding. The TSES is administered electronically, and biases are minimized through neutral language. Adequate time is allocated for completion, with participants encouraged to provide thoughtful responses.

Procedures

First, the researcher obtained permission to conduct this research through Liberty University's Institutional Review Board (IRB). Appendix C contains the IRB approval

documentation. Next, the researcher sought approval from the school district to distribute the survey to all elementary school teachers. See Appendix D for the district's approval.

The school district provided a list of emails for all self-contained teachers with at least one year of teaching experience. Principals and Student Support Facilitators emailed all teachers that met the criteria a brief summary of the study's purpose and a hyperlink to the survey (refer to appendix E). The survey included the TSES instrument and also included several demographic questions. All data collected was done anonymously, and strict measures were taken to ensure data security, including storing it in a password-protected computer, which was kept in a locked drawer when not in use.

After collecting the data, the researcher transferred it to an Excel file for analysis. The information was coded for gender (1 male, 2 female), race (1- white, 2- black or African American, 3- Asian, 4- Hispanic, 5- American Indian, 6 Native Hawaiian or Pacific Islander, 7- Other), years of experience (1 1-4 years, 2 5-9 years, 3 10-14 years, 4 15-19 years, 5 20+ years), school type (1-Elementary (PK-5th Grade), 2-Middle (6th-8th Grade), and 3-High (9th-12th Grade), and classroom type (1-inclusive classroom, 2-self-contained general curriculum, and 3-self-contained adaptive curriculum). Subsequently, the researcher uploaded the data into SPSS to begin data analysis.

Data Analysis

The research question will be addressed using a two-way analysis of variance (two-way ANOVA), which will be an appropriate statistical method to determine if the two independent variables (professional development on inclusion participation and classroom environment) will have any impact on the dependent variable (teacher self-efficacy scores) (Gall et al., 2007).

Data will be carefully screened to check for missing data points and inaccuracies.

Additionally, the researcher will use box and whisker plots for each variable to identify any extreme outliers. These graphical representations will allow the researcher to assess the symmetry, tightness of data grouping, skewness, and the presence of any extreme data points. Kolmogorov-Smirnov tests of normality will be employed to assess the assumptions of normality. This step will ensure that the data collected for the ANOVA conforms to a bell-shaped curve, indicating a normal distribution of sample means.

Furthermore, the assumption of equal variance will be tested using Levene's Test of Equality of Error Variance. This step will be crucial to verify that the means of the two populations are equal and that the data will not adversely affect the ANOVA results. The effect size will be calculated using partial eta squared, measuring the proportion of variance in the dependent variable explained by the independent variables.

The null hypothesis will be rejected at the 95% confidence level, indicating a significant relationship between teacher self-efficacy scores, professional development participation, and classroom environment. Tukey's Honest Significant Difference test will be used for post hoc testing with an alpha level of .05. This will allow the researcher to draw meaningful conclusions about the impact of these factors on teacher self-efficacy in the inclusive setting.

CHAPTER FOUR: FINDINGS

Overview

The purpose of this study was to determine if there was any difference in teacher self-efficacy scores between teachers who participate in professional development on inclusion and teachers who do not participate in professional development on inclusion and to determine if there is a difference in teacher self-efficacy scores based on the classroom environment that the teacher works in. Chapter Four comprises the research question, the three corresponding null hypotheses, the descriptive statistics of each variable, and the results from the statistical analysis to identify teacher self-efficacy scores.

Research Question

RQ1: Is there a difference in teacher self-efficacy scores among teachers who participate in professional development and those who do not, based on their classroom environment, inclusive, self-contained general curriculum, or self-contained adaptive curriculum?

Null Hypotheses

H$_0$1: There is no significant difference in *teacher self-efficacy scores* between teachers who participate in professional development on inclusion and those who do not, as measured by the Teacher Sense of Efficacy Scale.

H$_0$2: There is no significant difference in *teacher self-efficacy scores* between teachers whose classroom environment is inclusive, self-contained general curriculum, or self-contained adaptive curriculum, as measured by the Teacher Sense of Efficacy Scale.

H$_0$3: There is no significant interaction between teachers' participation in professional development on inclusion and classroom environment as measured by the Teacher Sense of Efficacy Scale.

Descriptive Statistics

Descriptive statistics were calculated for each of the variables, which include professional development participation and classroom environment. The sample consisted of $N = 144$ participants. Inclusive teachers, self-contained general curriculum teachers, and self-contained adaptive curriculum teachers were recruited through school district email. The researcher acquired permission from the district coordinator and school administrators of each school to present the purpose of the study, the consent from, and a flyer to prospective participants. The treatment group was sent a link to participate in professional development and a link to complete the survey if they desired. The control group was only sent the survey link to complete if they desired. The survey collected demographic data as well as assess teacher self-efficacy scores through the TSES-short (Tschannen-Moran & Hoy, 2001).

Table 4

Descriptive Statistics of Teachers who participated in Professional Development

	Group	n	M	Mdn	SD
Total Teacher Self -Efficacy	Inclusive Classroom	24	7.39	7.25	.96
	SC GC	24	6.95	6.91	1.27
	SC AC	24	7.22	7.12	.92

Table 5

Descriptive Statistics of Teachers who did not participate in Professional Development

|	Group	n	M	Mdn	SD
Total Teacher Self -Efficacy	Inclusive Classroom	24	7.03	7.04	1.13
	SC GC	24	6.14	6.91	1.87
	SC AC	24	7.06	7.25	1.53

Results

A two-way ANOVA was used to compare the total TSES score between two independent variables. The two factors used were PD participation (yes or no) and classroom environment (Inclusive classroom, Self-Contained General Curriculum Classroom, or Self-Contained Adaptive Curriculum Classroom). This section includes a description of the tests conducted to ensure that the data met the assumptions of the two-way ANOVA, followed by a presentation of the results from the subsequent analysis of the research hypotheses.

Data Screening

Before analyzing the data, the researcher thoroughly screened all submissions to detect inconsistencies and missing data. All participants completed and submitted the survey so there were no missing values. The researcher then examined the sample for extreme outliers using box-and-whisker plots. No outliers were identified for Inclusive teachers (See Figure 1) or Self-Contained General Curriculum teachers (See Figure 2). Four outliers were identified for Self-Contained Adaptive teachers (See Figure 3), but were not eliminated from the study as they were not deemed extreme outliers.

Figure 1

Box and whisker plots for Inclusive Teachers.
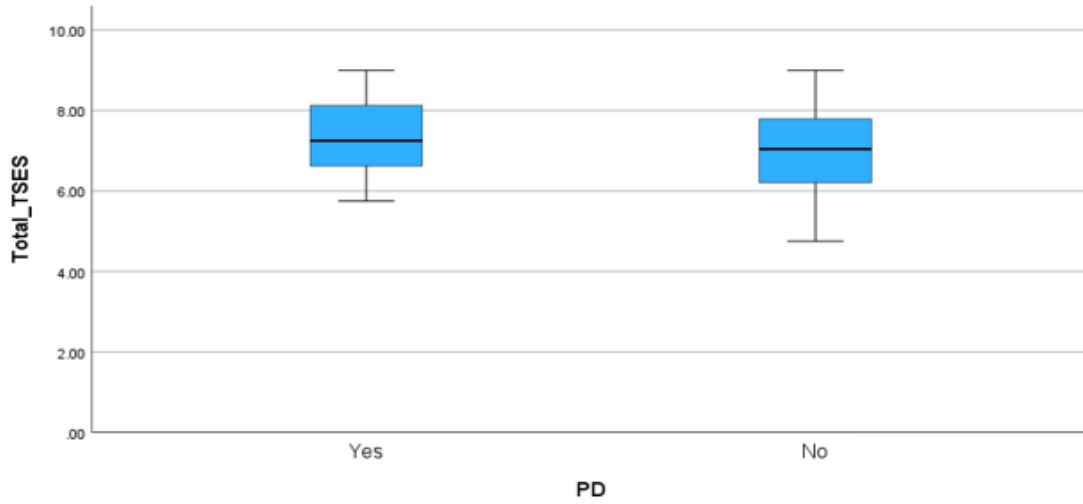
Figure 2

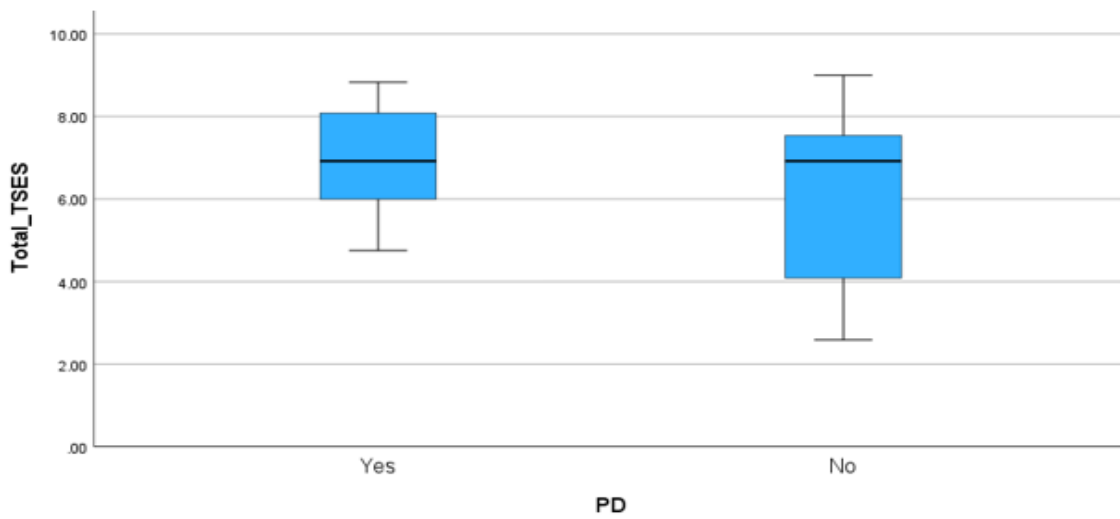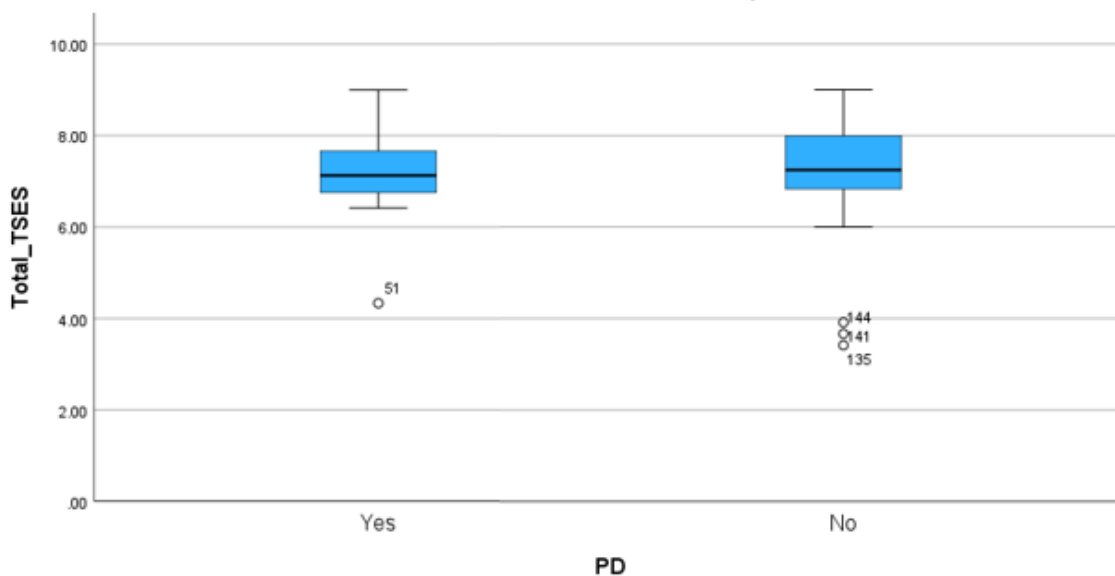*Box and whisker plots for Self-Contained General Curriculum Teachers.*

Figure 3

Box and whisker plots for Self-Contained General Curriculum Teachers.

The Kolmogorov-Smirnov test was used to test the assumption of normality and the results were non-significant for all-inclusive teachers, self-contained general curriculum teachers that participated in professional development, and self-contained adaptive curriculum teachers that participate in professional development, suggesting that there is no significant difference between the sample distribution and the theoretical distribution. The *p*-value was .200 for all-inclusive teachers and self-contained general curriculum teachers who participated in professional development. The *p*-value was .107 for self-contained adaptive curriculum teachers who participated in professional development. The results were significant for self-contained general curriculum teachers that did not participate in professional development and self-contained adaptive curriculum teachers that did not participate in professional development, suggesting that the sample distribution differs significantly from the theoretical distribution (see Table 6). The *p*-value was .032 for self-contained general curriculum teachers who did not participate in professional development and the *p*-value was .002 for self-contained adaptive

teachers who did not participate in professional development.

Table 6

Tests of Normality

Classroom Environment		PD	Kolmogorov-Smirnov			Shapiro-Wilk		
			Statistic	*df*	Sig.	Statistic	*df*	Sig.
Inclusive	Total_TSES	Yes	.114	24	.200	.948	24	.244
Classroom		No	.119	24	.200	.978	24	.865
Self-Contained	Total_TSES	Yes	.095	24	.200	.948	24	.246
General Curriculum		No	.185	24	.032	.909	24	.034
Self-Contained	Total_TSES	Yes	.161	24	.107	.905	24	.027
Adaptive Curriculum		No	.231	24	.002	.862	24	.004

Levene's test of equality of error variances, used to determine homogeneity of variance, was significant, *F=8.13, p=.005* (see Table 7). This suggests that the assumption of homogeneity of variances was violated. Although the assumption of homogeneity of variances was violated, the two-way ANOVA was run as the group sample sizes were equal and it is somewhat robust to heterogeneity of variance in these circumstances (Jaccard, 1998).

Table 7

Test of Equality of Error Variances

		Independent Samples Test							
		Levene's Test for Equality of Variances		t-test for Equality of Means					
						Significance		Mean	Std. Error
		F	Sig.	*t*	*df*	One-Sided p	Two-Sided p	Difference	Difference
Total TSES	Equal variances assumed	8.129	.005	1.969	142	.025	.051	.44329	.22516
	Equal variances not assumed			1.969	124.502	.026	.051	.44329	.22516

Results of Data Analysis

The results of the two-way ANOVA were first evaluated for the main effects of the two

independent variables, professional development participation and classroom environment.

Subsequently, the interaction effect between these two independent variables was assessed. The

detailed results of the ANOVA are presented in Table 8.

Table 8

Results of Two-Way Analysis of Variance to Test Hypotheses

| Tests of Between-Subjects Effects						
Dependent Variable: Total TSES						
Source	Sum of Squares	*df*	Mean Square	F	*p*	Partial Eta Squared
Classroom Environment	12.965	2	6.483	3.674	.028	.051
PD	7.074	1	7.074	4.009	.047	.028
Classroom Environment PD	2.686	2	1.343	.761	.469	.011
Total	7260.549	144				

Null Hypothesis 1

Null Hypothesis One stated that there would not be a statistically significant difference in

teacher self-efficacy scores between teachers who participate in professional development on

inclusion and teachers who did not participate in professional development on inclusion. Based

on the results of the two-way ANOVA, there is a statistically significant difference between

teacher's self-efficacy scores of teachers who participated in professional development on

inclusion and teachers who did not participate in professional development on inclusion. The

main effect of professional development participation was significant, $F(1, 144) = 4.01$, $p =$

.047, partial $\eta 2 = .028$. The effect size was calculated using the η^2 formula and the effect size for

professional development was .028. Therefore, Null Hypothesis One was rejected. Participation in professional development on inclusion does have an effect on teacher self-efficacy scores (See Figure 4).

Figure 4

Estimated Marginal Means of TSES scores based on Professional Development Participation
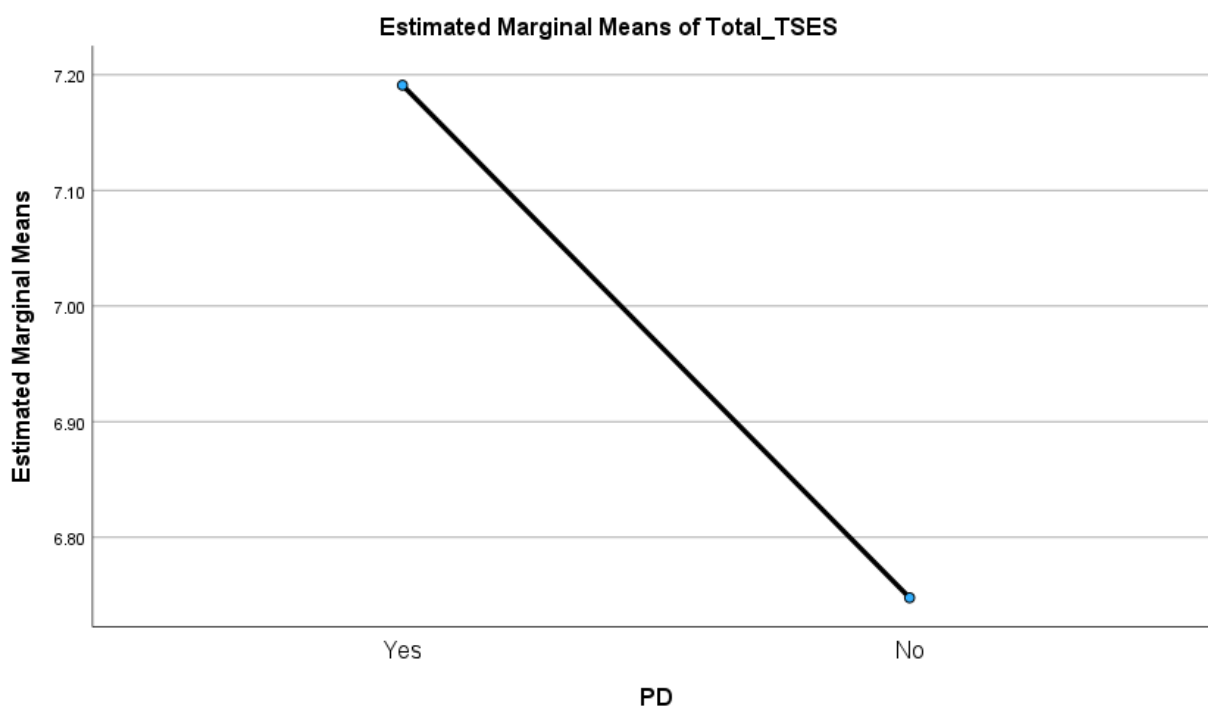
Null Hypothesis 2

Null Hypothesis Two stated that there would not be a statistically significant difference in teacher self-efficacy scores between teachers whose classroom environment is inclusive, self-contained general curriculum, or self-contained adaptive curriculum. Based on the results of the two-way ANOVA, there is a statistically significant difference between teacher's self-efficacy scores based on their classroom environment. The main effect of classroom environment was significant, $F(2, 144) = 3.67$, $p = .028$, partial $\eta2 = .051$. The effect size was calculated using the

η^2 formula and the effect size for classroom environment was .051. Therefore, Null Hypothesis Two was rejected. Because the null was rejected, post hoc analysis was required. A Tukey test was performed to compare all possible pairs of group means among the different classroom environment types. Based on this test, it was found that teachers in the inclusive classroom environment ($M = 7.22$, $SD = 1.06$) scored significantly higher on teachers self-efficacy scores than teachers in the self-contained general curriculum classroom environment ($M = 6.55$, $SD = 1.64$). No other differences in self-efficacy between groups was statistically significant. See Table 9 for Multiple Comparisons of Groups. Classroom environment type does have an effect on teacher self-efficacy scores (See Figure 5).

Figure 5

Estimated Marginal Means of TSES scores based on Classroom Environment Type
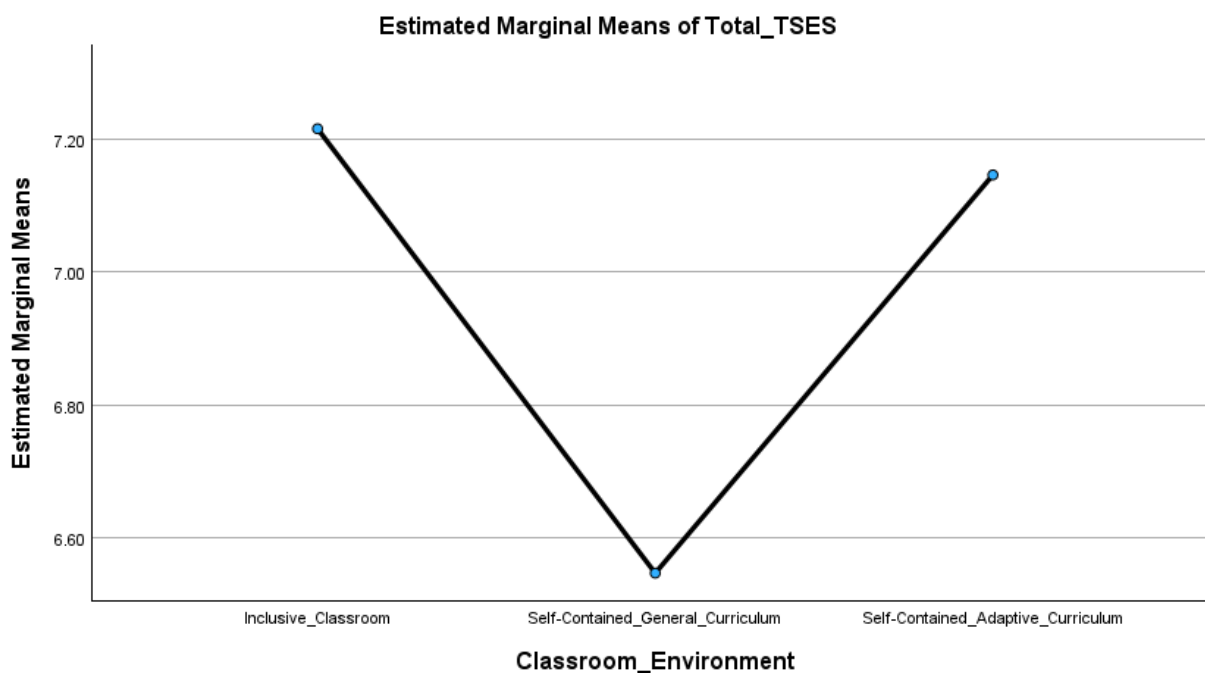
Table 9

Multiple Comparisons of Groups

Multiple Comparisons						
Dependent Variable: Total TSES						
Tukey HSD						
(I)Classroom Environment	(J)Classroom Environment	Mean Difference (I-J)	*SE*	Sig.[b]	95% Confidence Interval Lower Bound	Upper Bound
Inclusive Classroom	Self-Contained General Curriculum	.6684	.27116	.039	.0260	1.3109
	Self-Contained Adaptive Curriculum	.0694	.27116	.964	-.5730	.7119
Self-Contained General Curriculum	Inclusive Classroom	-.6684	.27116	.039	-1.3109	-.0260
	Self-Contained Adaptive Curriculum	-.5990	.27116	.073	-1.2414	.0435
Self-Contained Adaptive Curriculum	Inclusive Classroom	-.0694	.27116	.964	-.7119	.5730
	Self-Contained General Curriculum	.5990	.27116	.073	-.0435	1.2414

Null Hypothesis 3

Null Hypothesis Three stated that there would be no statistically significant interaction between teachers' participation in professional development on inclusion and classroom environment. Based on the results of the two-way ANOVA, there is no statistically significant interaction between teachers' participation in professional development on inclusion and classroom environment. The interaction between professional development on inclusion and classroom environment was not significant, $F(2, 144) = .761$, $p < .469$, partial $\eta2 = .011$. The effect size was calculated using the η^2 formula and the effect size for professional development and classroom environment was .011. Therefore, Null Hypothesis Three failed to reject. The effect of professional development participation on inclusion on teacher self-efficacy was not dependent on the classroom environment type (See Figure 6).

Figure 6

Estimated Marginal Means of TSES scores based on Professional Development Participation

and Classroom Environment Type
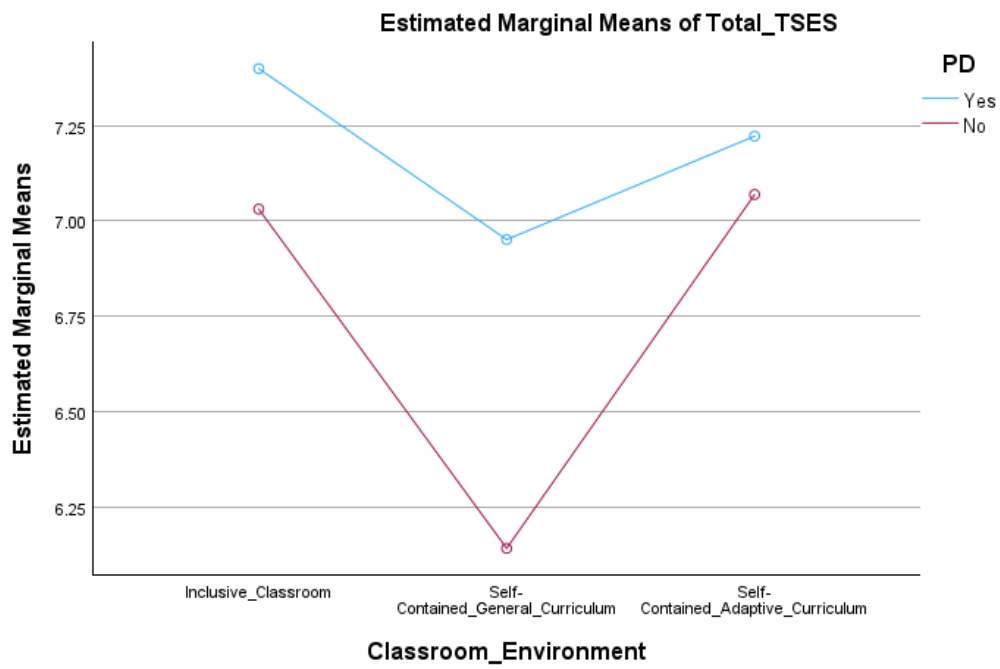
CHAPTER FIVE: CONCLUSIONS

Overview

Chapter Five discusses the study's results and their implications within the context of related research and practical applications. This chapter also addresses the study's limitations and provides recommendations for further related research.

Discussion

The purpose of this quantitative, causal-comparative design study is to determine if there is a difference in teacher self-efficacy scores between teachers who participate in professional development on inclusion and teachers who do not participate in professional development on inclusion and to determine if there is a difference in teacher self-efficacy scores based on the classroom environment. The current study analyzed the data collected from the survey and compared teacher self-efficacy scores based on professional development participation and classroom environment type.

The discussion about students with disabilities being served in the inclusive classroom environment with their same-aged peers has gained researchers' attention in recent years as there are federal mandates ensuring that all students are served in the least restrictive environment. Research supports that teachers with a higher self-efficacy have a more positive classroom environment and better student outcomes in the inclusive classroom environment (Lee et al., 2019; Gentile et al., 2023) and teachers with a lower self-efficacy may exhibit pessimism about the inclusive classroom (Kazanopoulos et al., 2022) and they may feel overwhelmed by challenging behaviors or individual differences (Woodcock et al., 2022). A substantial amount of research supports that teachers have a higher self-efficacy if they receive professional

development on inclusion and are supported throughout the year (Bjerke & Xenofontos, 2023; Porta et al., 2022; Catalano et al., 2022; Alhumaid et al., 2021).

In addition, research has been conducted that compares teacher self-efficacy with classroom environment type. It has been shown that more students with disabilities are served in the inclusive classroom, however the self-contained classroom is used and needed for students with chronic behavior problems and is designed to provide more individualized and intensive behavioral interventions for students with those needs (Moore et al., 2022). The adaptive curriculum is designed for students with intellectual disabilities, utilizing alternate standards that focus more on functional skills than general academic ones (Östlund & Hanreddy, 2020). Teachers in self-contained classrooms have been reported to be more stressed due to persistent challenging behaviors, leading to a shortage of teachers and difficulties in retaining qualified educators (Bettini et al., 2019).

In addition, Albert Bandura's Social Cognitive Theory underscores the importance of early professional development for teachers to foster self-efficacy and gain knowledge in special education, establishing a solid foundation for future growth in working with students with disabilities (Peck & Neeper, 2022). The theory of planned behavior has been used in research to verify teacher behavior determinants in the inclusive classroom and to determine how teachers handle and cope with teaching in the inclusive classroom (Hellmich et al., 2019)

The research question was, "Is there a difference in teacher self-efficacy scores among teachers who participate in professional development and those who do not, based on their classroom environment, inclusive, self-contained general curriculum, or self-contained adaptive curriculum?" The findings of the research do align with the results of this study pertaining to participation in professional development participation and classroom environment.

The first null hypothesis stated, "there is no significant difference in *teacher self-efficacy scores* between teachers who participate in professional development on inclusion and those who do not, as measured by the Teacher Sense of Efficacy Scale". The results indicated that there was significant evidence and the null hypothesis was rejected. Therefore, participation in professional development on inclusion does have an effect on teacher self-efficacy scores. Thus, the findings of the study compared to the research findings of other researchers and theorists studying teachers self-efficacy and professional development.

The second null hypothesis stated, "there is no significant difference in *teacher self-efficacy scores* between teachers whose classroom environment is inclusive, self-contained general curriculum, or self-contained adaptive curriculum, as measured by the Teacher Sense of Efficacy Scale". The results indicated that there was significant evidence and the null hypothesis was rejected. Therefore, classroom environment type does have an effect on teacher self-efficacy scores. Thus, the findings of the study compared to the research findings of other researchers and theorists studying teachers self-efficacy and classroom environment type.

The third null hypothesis stated, "there is no significant interaction between teachers' participation in professional development on inclusion and classroom environment as measured by the Teacher Sense of Efficacy Scale". The results indicated that there was no statistically significant interaction between teachers' participation in professional development on inclusion and classroom environment and the null hypothesis was not rejected. Therefore, the findings of this research contrast to the researcher because the research supports that a relationship exists between professional development and classroom environment type.

Implications

The aim of this study was to determine if there is a difference in teacher self-efficacy scores between teachers who participate in professional development on inclusion and teachers who do not participate in professional development on inclusion and to determine if there is a difference in teacher self-efficacy scores based on the classroom environment. Numerous studies have been conducted on the implications of teacher self-efficacy showing that teachers with a higher self-efficacy have more positive benefits for themselves and their students (Lee et al., 2019; Gentile et al., 2023). Additionally, numerous study have been conducted on the implications of the need for professional development to enhance teachers' self-efficacy (Bjerke & Xenofontos, 2023; Porta et al., 2022; Catalano et al., 2022). There is a limited amount of research that has been conducted to determine reasons for low self-efficacy for teachers in different classroom environments.

Despite the limited amount of research on teacher self-efficacy in different classroom environments, many studies have explored the benefits of the inclusive classroom and the negative perceptions that teachers have with working with students with disabilities in that type of setting (Teixeira et al., 2918). While positive effects occur for students with disabilities in the inclusive setting, teachers are in need of professional development to help enhance their self-efficacy of working with students in the inclusive classroom (Malki & Einat, 2018).

Teachers with lower self-efficacy are more likely to experience higher job stress, leading to poor job satisfaction and burnout (Hu et al., 2019). Given the current nationwide teacher shortage, it is crucial for school districts to identify strategies to reduce teacher burnout and improve retention rates. Teacher shortages can arise from various factors, including job dissatisfaction, career changes, and personal or family reasons (Ingersoll & Tran, 2023). This

study's findings are significant, as Huang et al. (2019) demonstrated that teachers with higher self-efficacy tend to experience greater job satisfaction.

As teachers gain more experience and support, their confidence and self-efficacy in various areas of inclusive education may continue to improve, which could potentially reduce teacher burnout (Sawyer et al., 2022). The current study suggests that participation in professional development leads to stronger beliefs in self-efficacy for teachers working in the inclusive setting, which suggests that work by the local school district is needed to provide teachers with more professional development on inclusion to increase teacher self-efficacy.

Limitations

The survey was completed by a total of N= 144 participants, evenly distributed across all groups, which met the minimum standards for a two-way ANOVA. Increasing the sample size would enhance the clarity of the results (Gall et al., 2007). Therefore, conducting a study with a larger sample size is necessary to ensure a more comprehensive assessment.

The participants of the study were all from a single school district located in a suburban school district in North Central Georgia. Thus, the research was constrained by its limited geographical scope. Surveying educators from a broader range of geographical locations would have yielded clearer and more comprehensive results on teacher self-efficacy scores and their professional development participation and classroom environment type.

Additionally, the study did not employ random sampling. Instead, convenience sampling was used, based on the qualifications for completing the survey and availability. While convenience sampling can help achieve a sufficient sample size, it is not representative of the entire population and thus limits the generalizability of the results (Gall et al., 2007). Despite these limitations, convenience sampling was deemed the most practical approach to ensure an

adequate sample size for the research. This sampling method, however, introduced bias into the study. To mitigate this bias, the researcher collected samples exclusively from certified teachers who had taught in the school district in one of the following classroom environments: inclusive classroom, Self-Contained General Curriculum classroom, and Self-Contained Adaptive Curriculum classroom.

Additionally, the data was collected from teachers through a self-reported survey. Although teachers were assured of the confidentiality and anonymity of their responses, some participants might have feared that their leader could access their results. Consequently, some respondents may not have answered all questions truthfully, potentially skewing the data. As a result, this fear could have influenced some of the responses.

Recommendations for Future Research

Based on the findings, additional research is recommended to further enhance understanding in the differences of teacher self-efficacy based on professional development participation and classroom environment type. The following recommendations should be considered for further study:

1. This study could benefit from a larger sample size, encompassing teachers from various school districts. Additionally, replication of the study in multiple states and across different school districts would help identify potential geographic similarities and differences.

2. A study examining demographic factors would contribute significantly to the field of education. Investigating elements such as age, race, gender, religion, education level, and years of experience in the teaching profession, and their impact on a teachers' self-efficacy, would advance research and deepen understanding of these topics.

3. A qualitative study would provide a deeper understanding of participants' thoughts, feelings, and attitudes regarding working in their classroom environment type and its influence on teacher self-efficacy.

4. A final suggested study would be to look at the three subcategories of the TSES (instruction practices, classroom management, and student engagement) to determine if there is any differences in those categories based on a teacher's professional development participation and classroom environment type.

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APPENDICES

Appendix A

Permission to Use the Teacher Sense of Efficacy Survey

OHIO STATE UNIVERSITY COLLEGE OF EDUCATION AND HUMAN ECOLOGY

ANITA WOOLFOLK HOY, PH.D.

PROFESSOR
PSYCHOLOGICAL STUDIES IN EDUCATION

Dear

You have my permission to use the *Teachers' Sense of Efficacy Scale* in your research. A copy the scoring instructions can be found at:

http://u.osu.edu/hoy.17/research/instruments/

Best wishes in your work,

Anita Woolfolk Hoy, Ph.D.
Professor Emeritus

Appendix B

Teacher Sense of Efficacy Survey

Teachers' Sense of Efficacy Scale[1] (short form)

Teacher Beliefs	How much can you do?								
Directions: This questionnaire is designed to help us gain a better understanding of the kinds of things that create difficulties for teachers in their school activities. Please indicate your opinion about each of the statements below. Your answers are confidential.	Nothing		Very Little		Some Influence		Quite A Bit		A Great Deal
1. How much can you do to control disruptive behavior in the classroom?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
2. How much can you do to motivate students who show low interest in school work?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
3. How much can you do to get students to believe they can do well in school work?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
4. How much can you do to help your students value learning?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
5. To what extent can you craft good questions for your students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
6. How much can you do to get children to follow classroom rules?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
7. How much can you do to calm a student who is disruptive or noisy?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
8. How well can you establish a classroom management system with each group of students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
9. How much can you use a variety of assessment strategies?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
10. To what extent can you provide an alternative explanation or example when students are confused?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
11. How much can you assist families in helping their children do well in school?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
12. How well can you implement alternative strategies in your classroom?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

Appendix C

Institutional Review Board Application Approval

LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

January 22, 2024

Tiffany Cain
Sara Geary

Re: IRB Exemption - IRB-FY23-24-834 A QUANTITATIVE, CASUAL-COMPARATIVE DESIGN STUDY OF TEACHER SELF-EFFICACY BASED ON CLASSROOM ENVIRONMENT AND PROFESSIONAL DEVELOPMENT

Dear Tiffany Cain, Sara Geary,

The Liberty University Institutional Review Board (IRB) has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds your study to be exempt from further IRB review. This means you may begin your research with the data safeguarding methods mentioned in your approved application, and no further IRB oversight is required.

Your study falls under the following exemption category, which identifies specific situations in which human participants research is exempt from the policy set forth in 45 CFR 46:104(d):

Category 2.(i). Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording) if at least one of the following criteria is met:
The information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained, directly or through identifiers linked to the subjects;

For a PDF of your exemption letter, click on your study number in the My Studies card on your Cayuse dashboard. Next, click the Submissions bar beside the Study Details bar on the Study details page. Finally, click Initial under Submission Type and choose the Letters tab toward the bottom of the Submission Details page. Your information sheet and final versions of your study documents can also be found on the same page under the Attachments tab.

Please note that this exemption only applies to your current research application, and any modifications to your protocol must be reported to the Liberty University IRB for verification of continued exemption status. You may report these changes by completing a modification submission through your Cayuse IRB account.

If you have any questions about this exemption or need assistance in determining whether possible modifications to your protocol would change your exemption status, please email us at irb@liberty.edu.

Sincerely,
G. Michele Baker, PhD, CIP
Administrative Chair
Research Ethics Office

Appendix D

School District Approval to Conduct Research

COUNTY SCHOOLS

Performance and Strategy Department

Performance and Strategy Department

Dr. Emily
Assistant Superintendent, School and District Accountability

March 11th, 2024

SENT VIA EMAIL TO tiffany.woodward@
Tiffany Woodward
ESE Chair

Dear Ms. Woodward,

Thank you for your interest in conducting research in Henry County Schools. Your interest to conduct research in our school system as part of your graduate student requirements from Liberty University has been received. It is the Research Committee's understanding that you plan to examine, *"A Quantitative, Casual-Comparative Design Study of Teacher Self-Efficacy based on Classroom Environment and Professional Development"*. Consideration for Research requests are filtered through a Research Review Committee, which met on March 6th, 2023, to review your research request.

Congratulations! I am pleased to inform you that your application has been approved by the district. With this approval, you are provided the opportunity to hold discussions with your building principal regarding moving forward in your research.

Appendix E

Study Purpose and Link Email

Dear Teacher:

As a graduate student in the School of Education at Liberty University, I am conducting research to better understand teacher self-efficacy based on classroom environment and professional development on inclusion. The purpose of my research is to determine if there is a difference in teacher self-efficacy scores between teachers who participate in professional development and teachers who do not participate in professional development on inclusion and to determine if there is a difference in teacher self-efficacy scores based on the classroom environment that they teach in, and I am writing to invite eligible participants to join my study.

Participants must be 18 years of age or older and have at least one year of teaching experience. Participants, if willing, will be asked to complete a survey and some participants will be asked to complete a professional development on inclusion prior to completing the survey. It should take approximately 20 minutes to complete the procedures listed. Participation will be completely anonymous, and no personal, identifying information will be collected.

To participate, please click here https://forms.gle/wyDpRdzZZEArxJY66 to complete the survey. If you were selected to complete the professional development on inclusion, the presentation is attached to this email. Please complete the professional development presentation prior to completing the survey.

An information sheet is attached to this email. The information sheet contains additional information about my research. Because participation is anonymous, you do not need to sign and return the information sheet unless you would prefer to do so.

Participants, if wanted, will be entered in a raffle to receive a gift card of their choice. The link to the raffle survey can be found once the initial survey is completed.

Sincerely,

Tiffany Cain Woodward, Ed.S.
Doctoral Candidate
Tiffany.woodward