Teacher Self-Efficacy Across Certification Routes in Alabama: A Quantitative Study with Qualitative Perspectives on Preparation

by

Cody Bowers

B.S., Athens State University, 2020
M.S., Bowling Green State University, 2023

AN ABSTRACT OF A DISSERTATION

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Curriculum and Instruction
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Abstract

This quantitative, cross-sectional study examined perceived teaching self-efficacy among 105 Alabama special education teachers prepared through traditional bachelor's-level (n = 45), master's-level initial certification (n = 45), and Temporary Special Education Certificate (n = 15) pathways. Participants completed the 24-item Teacher Sense of Efficacy Scale, which measures perceived capability in student engagement, instructional strategies, and classroom management. Written survey responses were analyzed descriptively to identify perceived preparation strengths, areas needing greater emphasis, and recommendations for improvement. Separate one-way analyses of variance showed significant differences among pathways in all three self-efficacy domains. Follow-up comparisons indicated that the bachelor's-level group reported lower self-efficacy than both the master's-level and temporary-certificate groups; the latter two groups did not differ significantly. Across pathways, participants most clearly identified instructional planning and differentiation as areas of preparedness. They most frequently identified individualized education program (IEP) development and legal compliance as areas in which they felt underprepared. Recommendations emphasized practice with the complete IEP process, clinical experiences reflecting teachers' responsibilities, collaboration and communication, and continued mentoring and feedback. Interpreted through Bandura's sources of self-efficacy, these findings highlight the value participants placed on supported practice with authentic responsibilities. The results distinguish perceived efficacy in broad teaching domains from perceived readiness for specialized special education tasks. Because the study relied on cross-sectional, self-reported data, the observed pathway differences do not establish causal effects of preparation.

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Approved by:
Major Professor
Dr. Michael Lawson

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building a fort or playing outside. I am so glad that I finally get to give you 100% of me now that this chapter is behind us. I love you both so much.

Chapter 1 - Teacher Self-Efficacy and Certification Routes

Introduction

Special education is widely recognized as one of the most complex areas of the teaching profession. Special educators are responsible for designing individualized instruction, implementing evidence-based interventions, managing challenging behaviors, collaborating with general educators and families, and ensuring compliance with extensive legal mandates. The quality of teacher preparation has long been identified as a critical factor influencing how effectively these responsibilities are carried out (Council for Exceptional Children [CEC], 2020; McLeskey & Brownell, 2010). Despite ongoing reform efforts, preparation programs continue to vary considerably in structure, clinical experience requirements, and instructional emphasis, raising persistent concerns regarding how consistently new special educators are equipped to meet classroom demands.

Across the United States, and particularly in Alabama, special education teacher preparation programs have undergone substantial policy-driven transformation during the past three decades. Federal legislation, including the Individuals with Disabilities Education Act (IDEA, 1997, 2004) and the No Child Left Behind Act (2002), reshaped expectations for teacher quality, accountability, and inclusive practice. These reforms encouraged programs to expand evidence-based instructional practices, strengthen collaboration competencies, and emphasize data-driven decision-making, while also accelerating the development of Temporary Special Education Certificate (TSEC) route) pathways designed to address chronic teacher shortages (McLeskey & Brownell, 2010). As a result, individuals now enter the profession through

multiple preparation routes that differ in duration, coursework sequencing, supervision structures, and clinical experience intensity.

Although preparation pathways have diversified, questions remain regarding how these differing routes influence teachers' beliefs about their capability to perform essential teaching tasks. Contemporary educational research increasingly emphasizes teacher self-efficacy, defined as a teacher's belief in their capability to organize and execute the actions necessary to achieve desired outcomes (Bandura, 1997). Within educational contexts, teachers with stronger self-efficacy beliefs demonstrate greater persistence, instructional adaptability, and resilience when confronting classroom challenges (Tschannen-Moran & Hoy, 2001). Teacher self-efficacy may therefore be conceptualized as a meaningful psychological outcome of preparation experiences, reflecting not only the acquisition of pedagogical knowledge and skills but also the development of perceived professional capability.

State-level data continue to indicate persistent shortages of special education teachers and uneven retention rates among early-career educators in Alabama (Medeiros & Kane, 2021). While workforce reports provide valuable information regarding staffing patterns, limited quantitative evidence exists examining how teachers prepared through different certification routes perceive their instructional efficacy upon entering the profession. In the absence of such evidence, educator preparation programs and school systems must rely largely on anecdotal perceptions when evaluating preparation effectiveness or designing targeted induction supports.

The present study addressed this gap by examining teacher self-efficacy among Alabama special education teachers who completed their preparation through different certification

pathways, including traditional bachelor's-level preparation, master's-level preparation leading to initial certification and Temporary Special Education Certificate (TSEC) route.

Limiting the sample to teachers who completed Alabama state-approved preparation programs within the past five years allowed the study to focus more closely on recent preparation experiences. Teacher self-efficacy was measured using the Teacher Sense of Efficacy Scale (Tschannen-Moran & Hoy, 2001), a validated instrument grounded in Bandura's social cognitive theory. The scale evaluates three dimensions of teaching efficacy: efficacy in student engagement, efficacy in instructional strategies, and efficacy in classroom management. By examining differences in teacher self-efficacy across certification routes, this study provided empirical evidence regarding how variation in preparation pathways may be associated with early-career special educators' perceived capability to meet the complex instructional, behavioral, and collaborative demands of their professional roles.

Statement of the Problem

Teacher preparation remains one of the most critical factors influencing both the effectiveness and retention of special education teachers. Although federal and state policy reforms, including the No Child Left Behind Act (2002) and the Individuals with Disabilities Education Improvement Act (2004), were designed to strengthen instructional accountability and teacher quality, persistent shortages and elevated attrition rates suggest that preparation systems may not consistently produce educators who feel capable of meeting the complex demands of special education classrooms. This concern is particularly pronounced in Alabama, where special education continues to rank among the state's highest shortage areas (Medeiros & Kane, 2021).

Special education teachers assume a multidimensional professional role that requires expertise in individualized instructional planning, evidence-based intervention implementation, behavioral support, multidisciplinary collaboration, and compliance with extensive legal mandates under the Individuals with Disabilities Education Act (IDEA, 2004). Successfully performing these responsibilities requires not only pedagogical knowledge and technical skill, but also strong beliefs in one's capability to execute professional tasks effectively. Bandura (1997) conceptualized this belief system as self-efficacy, emphasizing that individuals' judgments about their capabilities influence motivation, persistence, and performance in challenging contexts.

Research consistently demonstrates that teacher self-efficacy is associated with meaningful professional outcomes. Teachers with stronger self-efficacy beliefs demonstrate greater instructional adaptability, more effective classroom management, and increased persistence when facing instructional challenges (Tschannen-Moran & Hoy, 2001). Within special education contexts, higher self-efficacy has been linked to increased job satisfaction and stronger intentions to remain in the profession (Billingsley et al., 2020; Conley & You, 2017). Despite the established importance of teacher self-efficacy, relatively little quantitative research has examined how structural differences in teacher preparation pathways may influence efficacy beliefs early in their career (or between 1-5 years in the profession).

In Alabama, special education teacher preparation occurs through multiple certification routes, including traditional bachelor's-level preparation, master's-level preparation leading to initial certification and Temporary Special Education Certificate (TSEC) route. These routes differ in duration, sequencing of coursework, clinical experience intensity, supervision structures, and opportunities for guided instructional practice. Although such pathways were

developed to address workforce shortages and increase access to certification, it remains unclear whether they provide comparable opportunities for the development of teacher self-efficacy among program completers.

Existing research within Alabama has primarily focused on descriptive workforce trends or qualitative accounts of teacher experience (Medeiros & Kane, 2021). While these investigations provide important contextual insight, they do not offer systematic quantitative comparisons of teacher self-efficacy across certification routes. Additionally, limited research has examined how recently prepared teachers themselves describe strengths and gaps in preparation experiences that may contribute to their early efficacy perceptions. In the absence of such evidence, preparation programs and policymakers lack empirically grounded guidance regarding how structural features of certification pathways may be associated with teachers' perceived readiness to perform essential professional responsibilities.

The central problem addressed in this study was the lack of evidence regarding whether differences in teacher self-efficacy exist among Alabama special education teachers prepared through different certification routes, as well as how teachers perceived their preparation experiences as contributing to areas of professional confidence or perceived underpreparedness. Restricting eligibility to teachers who completed initial preparation during 2021–2025 narrowed the preparation period represented in the sample. However, the design did not isolate preparation experiences from other influences on current self-efficacy. Examining these differences provided state-specific evidence that may inform educator preparation program design, certification policy decisions, and workforce development initiatives aimed at strengthening the preparation and retention of special education teachers in Alabama.

Significance of the Problem

The significance of this study lies in its potential to clarify how different special education teacher preparation pathways contribute to the development of teacher self-efficacy among newly prepared educators in Alabama. Although substantial policy reforms have aimed to strengthen teacher preparation and improve instructional quality, limited evidence exists examining whether various certification routes produce comparable levels of teacher self-efficacy at entry into the profession. Because self-efficacy reflects teachers' beliefs in their capability to organize and execute instructional practices successfully, it represents a critical indicator of perceived readiness for professional practice (Bandura, 1997; Tschannen-Moran & Hoy, 2001).

From a theoretical perspective, this study applies Bandura's (1997) social cognitive theory by examining teacher self-efficacy as an outcome shaped by preparation experiences rather than solely as a characteristic associated with in-service teacher effectiveness. While prior research has demonstrated that teacher self-efficacy influences instructional decision-making, persistence when facing classroom challenges, and long-term professional commitment (Tschannen-Moran & Hoy, 2001; Conley & You, 2017), relatively little research has focused on how preservice preparation structures contribute to the early development of efficacy beliefs. By examining self-efficacy among teachers who recently completed Alabama state-approved preparation programs, this study contributes to a more nuanced understanding of how institutional features of preparation pathways may support or constrain the development of perceived professional capability.

In addition to providing quantitative evidence of efficacy differences across certification routes, the study also incorporated descriptive participant reflections regarding preparation strengths and areas needing greater emphasis. These reflections offer contextual insight into preparation experiences that may contribute to the development of efficacy beliefs, including opportunities for guided instructional practice, observation of experienced educators, feedback from mentors or supervisors, and emotional responses to early teaching responsibilities. Examining these experiences in relation to certification pathway structures strengthens theoretical understanding of how teacher self-efficacy develops during the transition from preparation to professional practice.

Practically, the findings of this study have direct implications for educator preparation programs, state policymakers, and local school districts. Identifying whether differences in teacher self-efficacy exist across certification routes can provide empirical guidance for program improvement, licensure policy decisions, and the design of targeted induction support for beginning special education teachers.

By providing state-specific evidence regarding the relationship between certification route and early-career teacher self-efficacy, this study addressed a gap in the literature. The findings may inform educator preparation programs, school districts, and state leaders as they consider how to strengthen preparation and induction for special education teachers. The study did not identify a single route as universally superior. Instead, it examined whether efficacy differed by route and what participants said about the preparation experiences that supported or limited their readiness.

Theoretical Framework

This study was guided by Albert Bandura's (1997) theory of self-efficacy, a central construct within social cognitive theory that explains how individuals' beliefs in their capabilities influence motivation, persistence, and performance. Bandura defined self-efficacy as an individual's judgment of their ability to organize and execute the actions required to achieve desired outcomes. Within educational contexts, teacher self-efficacy has been shown to influence instructional decision-making, classroom management practices, responsiveness to diverse student needs, and persistence when facing professional challenges.

Bandura (1997) identified four primary sources through which self-efficacy beliefs develop: mastery experiences, vicarious experiences, verbal persuasion, and physiological or affective states. Mastery experiences, defined as opportunities to successfully perform professional tasks, represent the most influential source because they provide direct evidence of competence. Vicarious experiences occur when individuals observe others successfully performing similar tasks, thereby strengthening beliefs about their own potential effectiveness. Verbal persuasion, including feedback, encouragement, and coaching from credible sources, reinforces perceptions of capability. Physiological and affective states influence how individuals interpret emotional responses such as stress, anxiety, or confidence when confronting professional demands. Within teacher preparation programs, these sources of efficacy development are embedded in coursework, clinical experiences, mentoring relationships, and supervised instructional practice, positioning preparation pathways as a critical context for the formation of early professional efficacy beliefs.

Research consistently demonstrates that teacher self-efficacy is associated with meaningful professional outcomes. Teachers who report stronger efficacy beliefs are more likely to implement effective instructional strategies, actively engage students in learning, manage classroom behavior successfully, and persist through instructional challenges (Klassen & Chiu, 2011). Higher levels of self-efficacy have also been associated with increased job satisfaction, reduced burnout, and greater intentions to remain in the profession, outcomes of particular importance in special education where attrition rates remain elevated (Conley & You, 2017; Bettini et al., 2019).

In the context of teacher preparation, self-efficacy can be conceptualized as a developing professional belief system shaped through structured preservice experiences. Preparation programs provide opportunities for preservice teachers to build efficacy through supervised performance of instructional tasks, observation of experienced educators, feedback from supervisors and mentors, and emotional interpretation of early teaching challenges. Because certification routes differ in duration, coursework sequencing, clinical experience intensity, and supervision structures, these pathways may provide varying opportunities for exposure to the four sources of efficacy development identified by Bandura.

To operationalize teacher self-efficacy in the present study, the Teacher Sense of Efficacy Scale (TSES) developed by Tschannen-Moran and Hoy (2001) was used. The TSES measures teachers' perceived capability across three empirically validated domains: efficacy in student engagement, efficacy in instructional strategies, and efficacy in classroom management. These domains represent core instructional functions of teaching and reflect Bandura's conceptualization of self-efficacy as task-specific judgments of professional capability.

Bandura's theory served as the primary interpretive framework for both the quantitative and descriptive components of this study. Differences in teacher self-efficacy scores across certification routes were examined to determine whether teachers prepared through different pathways reported varying levels of perceived capability in key instructional domains. In addition, participant reflections regarding preparation strengths and areas needing greater emphasis were examined descriptively to identify preparation experiences that may correspond to Bandura's four sources of efficacy development. Through this theoretical lens, the study moves beyond structural comparisons of preparation pathways to examine how preparation experiences may shape early professional confidence among special education teachers.

Grounding the study in self-efficacy theory allows findings to be interpreted in terms of how preparation experiences contribute to the development of teachers' perceived capability to perform essential professional responsibilities. This framework provides a conceptual basis for understanding how variations in certification pathway design may influence early-career efficacy beliefs and, ultimately, professional persistence within the special education workforce.

Study Purpose and Research Questions

The purpose of this study was to examine whether teacher self-efficacy differed among Alabama special education teachers prepared through different certification routes. Grounded in Bandura's (1997) theory of self-efficacy, the study investigated whether teachers who completed traditional bachelor's-level preparation, master's-level preparation leading to initial certification or Temporary Special Education Certificate (TSEC) route reported differing levels of perceived capability across three core domains of teaching efficacy: student engagement, instructional strategies, and classroom management.

The study also examined how recently prepared teachers described the areas in which they felt best prepared and least prepared when beginning special education practice. In the required best-prepared and least-prepared responses, participants identified a task, described the preparation experiences that contributed to their sense of readiness or underpreparedness, and explained how those experiences affected how confident, comfortable, stressed, or uncertain they felt about performing the task. Optional follow-up items allowed participants to identify additional areas, and a separate required item asked participants to recommend one change for future preparation programs. These responses were analyzed descriptively to provide context for the quantitative findings and to show how specific preparation experiences related to Bandura's four sources of self-efficacy.

The following research questions and subquestions guided the study:

Research Question 1: To what extent does teacher self-efficacy differ among Alabama special education teachers prepared through different certification routes (traditional bachelor's-level preparation, master's-level preparation leading to initial certification and Temporary Special Education Certificate (TSEC) route) across the domains of student engagement, instructional strategies, and classroom management?

Research Question 2: What areas of preparation do recently prepared Alabama special education teachers identify as strengths and areas needing greater emphasis within their certification programs?

a) What areas of their job do recently prepared Alabama special education teachers report feeling best prepared to perform on Day 1 after completing their initial preparation/certification route?

b) What areas of their job do recently prepared Alabama special education teachers report feeling least prepared to perform on Day 1 after completing their initial preparation/certification route?

c) How do recently prepared Alabama special education teachers describe preparation experiences that reflect Bandura's four sources of self-efficacy: mastery experiences, vicarious experiences, verbal persuasion, and physiological and affective states, in relation to their perceived preparedness on Day 1?

d) What changes do recently prepared Alabama special education teachers recommend to improve initial preparation/certification routes for future special education teachers' responsibilities on Day 1?

Study Overview

This study employed a quantitative, cross-sectional, non-experimental comparative design to examine differences in teacher self-efficacy among Alabama special education teachers prepared through different certification routes. A cross-sectional design is appropriate because the study compared distinct groups at a single point in time rather than examining developmental change across multiple stages of professional experience (Creswell & Creswell, 2018; Johnson & Christensen, 2020). The purpose of the design was to identify whether variation exists in teacher self-efficacy associated with the preparation pathway, rather than to establish causal relationships.

Teacher self-efficacy was measured using the Teacher Sense of Efficacy Scale (TSES) developed by Tschannen-Moran and Hoy (2001), a validated instrument grounded in Bandura's

(1997) social cognitive theory. The TSES assesses three empirically supported dimensions of teaching efficacy: efficacy in student engagement, efficacy in instructional strategies, and efficacy in classroom management. For this study, domain-specific scores for Student Engagement, Instructional Strategies, and Classroom Management served as the primary dependent variables for Research Question 1.

The independent variable was the certification route, categorized into three groups: traditional bachelor's-level preparation, master's-level preparation leading to initial certification and Temporary Special Education Certificate (TSEC) route. These pathways differ in duration, sequencing of coursework, clinical experience intensity, and supervision structures, making them appropriate comparison groups for examining variation in teacher self-efficacy beliefs.

The target population consisted of Alabama special education teachers who completed an Alabama state-approved preparation program within the years 2021-2025 and were currently employed in Alabama public schools. Limiting participation to recently prepared teachers allows the study to focus on preparation experiences as a primary influence on early-career efficacy beliefs while reducing the potential impact of long-term professional development or career-stage factors.

Participants were recruited through professional educator networks, district-level communications, and snowball sampling procedures intended to promote broad geographic representation across the state. Quantitative data were analyzed using one-way analyses of variance (ANOVA) to determine whether statistically significant differences in teacher self-efficacy existed across certification routes overall and within the domains of student engagement, instructional strategies, and classroom management. When statistically significant

differences were identified, post hoc analyses using Tukey's Honestly Significant Difference (HSD) procedure were conducted to determine which certification route groups differed.

In addition to the quantitative analysis, required open-ended survey responses were summarized descriptively to provide contextual insight into how participants perceived strengths and areas needing greater emphasis within their preparation experiences. These descriptive findings are intended to support interpretation of the quantitative results by identifying preparation experiences that participants associate with the development of instructional confidence, classroom management capability, and student engagement practices.

Although detailed methodological procedures are presented in Chapter 3, this overview highlights the study's integrated conceptual foundation. Together, Bandura's (1997) theory of self-efficacy and the validated TSES measurement framework provide a theoretically aligned approach for examining whether structural differences in certification pathways are associated with variation in early-career special educators' perceived capability to perform essential teaching responsibilities.

Limitations

Several limitations should be considered when interpreting the findings of this study. These limitations concern recruitment, sample size, group composition, research design, and the use of self-reported and retrospective data. They define the scope of the conclusions drawn about reported self-efficacy and perceived preparation among the participating Alabama special education teachers.

First, participation was voluntary, and recruitment occurred through district contacts, professional networks, social media, and participant sharing. This approach introduced the possibility of self-selection bias because teachers' decisions to participate may have been related to their preparation experiences or perceptions of efficacy (Bethlehem, 2010). The study could not determine whether teachers with particularly positive or negative experiences were more likely to respond. Although recruitment through multiple channels created opportunities to reach teachers across certification routes, it did not establish statewide representativeness. The findings therefore describe the participating teachers and should not be interpreted as population estimates for all recently prepared Alabama special educators. Generalizability to teachers prepared in other states is also limited by differences in certification pathways and preparation requirements.

Second, the final sample of 105 participants fell below the planned target of approximately 159 for a balanced three-group design. Group sizes were unequal, with 45 bachelor's-route participants, 45 graduate initial-certification participants identified as the master's route, and 15 TSEC participants. The smaller TSEC group provided less precise estimates and limited the ability to detect differences involving that group. Accordingly, nonsignificant comparisons between master's-route and TSEC participants should not be interpreted as evidence that the groups were equivalent.

Third, the cross-sectional, nonexperimental design examined differences among certification routes at a single point in time and did not establish causal relationships. Participants were not randomly assigned to routes, and prior school-based experience, teaching assignment, program characteristics, and mentoring quality were not systematically measured or statistically controlled. Although some participants described these circumstances in their written responses, their contributions to the quantitative differences could not be established. Observed

differences in self-efficacy therefore represent associations within the sample rather than effects attributable to certification route.

Fourth, the study relied on self-reported perceptions. The Teacher Sense of Efficacy Scale (Tschannen-Moran & Hoy, 2001) measured perceived capability in Student Engagement, Instructional Strategies, and Classroom Management rather than observed teaching performance or specialized special education compliance skills. Reported efficacy should therefore be distinguished from demonstrated competence. The written responses described additional professional responsibilities, but those accounts likewise reflected participants' perceptions rather than independent assessments of their performance.

Finally, participants' descriptions of preparedness on Day 1 were retrospective and may have been influenced by later teaching experiences. The written survey format also limited the depth of responses and did not permit follow-up probing. Although the prompts provided a common reference point and invited descriptions of both best and least preparedness, they could not eliminate recall limitations or self-selection bias. These responses addressed Research Question 2 and its subquestions by describing preparation strengths, needs, experiences, and recommendations. They were not intended to establish why the statistical differences in TSES scores occurred. COVID-related preparation disruptions were retained as supplemental context; their contribution could not be isolated because the timing and severity of those disruptions were not systematically measured.

Within these limitations, the study provides an Alabama-specific comparison of reported teacher self-efficacy and a descriptive account of the preparation responsibilities participants

identified as strengths or areas needing greater emphasis. Chapter 5 discusses these limitations and their implications for interpreting the findings in greater detail.

Delimitations

Some delimitations define the intentional scope and boundaries of this study. The research includes only special education teachers who completed their initial preparation through an Alabama state-approved educator preparation program within the past five years and who are currently employed in Alabama public schools. Teachers prepared in other states, as well as those employed exclusively in private school settings, are excluded in order to ensure that findings reflect the influence of Alabama-specific certification requirements and preparation structures.

Participants were categorized according to their initial certification route. The study focused specifically on differences associated with preparation route structure rather than variation related to career stage or extended years of professional experience. These delimitations maintained a focused scope aligned with the study's purpose of examining differences in teacher self-efficacy among recently prepared Alabama special education teachers across distinct certification routes.

Definition of Terms

For the purpose of this study, the following key terms are defined to provide clarity and consistency throughout the dissertation. Definitions are presented in alphabetical order and reflect how each construct is operationalized within this research.

Certification Route

The pathway through which an individual completes requirements for initial teacher licensure. In this study, the certification route serves as the independent variable and includes

three categories: traditional bachelor's-level preparation, master's-level preparation leading to initial certification and Temporary Special Education Certificate (TSEC) route. Certification routes differ in program length, clinical experiences, coursework sequencing, and supervision structures, all of which may influence teacher self-efficacy development (Boyd et al., 2006; Darling-Hammond, 2010).

Classroom Management Efficacy

Teachers' beliefs in their capability to manage classroom behavior, establish routines, maintain student engagement, and respond effectively to disruptive behaviors. This construct represents one of the three subscales of the Teacher Sense of Efficacy Scale (Tschannen-Moran & Hoy, 2001) and reflects teachers' perceived ability to create productive learning environments.

Individualized Education Program (IEP)

A written educational plan developed, reviewed, and revised by an IEP team for a student with a disability. The plan identifies the student's present levels of academic achievement and functional performance, measurable annual goals, special education and related services, necessary supports and accommodations, and procedures for measuring and reporting progress (34 C.F.R. § 300.320, 2026).

Instructional Strategies Efficacy

Teachers' beliefs in their ability to implement effective instructional practices, differentiate instruction, assess student understanding, and support student learning through appropriate teaching strategies. Within this study, instructional strategies efficacy is measured using the corresponding subscale of the Teacher Sense of Efficacy Scale (Tschannen-Moran & Hoy, 2001).

Student Engagement Efficacy

Teachers' beliefs in their ability to motivate students, foster participation, and support learning among students with diverse academic and behavioral needs. This construct forms the third subscale of the Teacher Sense of Efficacy Scale and reflects teachers' perceived ability to engage students actively in learning (Tschannen-Moran & Hoy, 2001).

Self-Efficacy

A theoretical construct defined as an individual's belief in their capability to organize and execute actions required to achieve desired outcomes (Bandura, 1997). Within education, teacher self-efficacy influences instructional decisions, persistence, classroom management, and responsiveness to student needs (Tschannen-Moran & Hoy, 2001). In this study, self-efficacy represents the primary dependent variable.

Prepared (Perceived Preparedness)

For the purpose of this study, preparedness referred to teachers' perceptions of how well their preparation program equipped them to perform the professional responsibilities of teaching upon entering the classroom. Preparedness reflected a teacher's belief in their capability to apply instructional strategies, engage students in learning, and manage classroom environments effectively during the early stages of professional practice (Darling-Hammond, 2017). In this study, perceived preparedness is reflected in participants' self-reported descriptions of areas in which they felt best and least prepared upon entering special education practice, while teacher self-efficacy is measured separately through the TSES.

Practicum

A clinical experience that combines formal study with practical experience in a teacher candidate's area of specialization. Under Alabama's educator preparation rules, a practicum

takes place in an approved educational setting and must match the subject area and grade level for which the candidate seeks certification. In this study, *practicum* refers to this type of preparation experience, which is distinct from the culminating internship or student teaching experience (Ala. Admin. Code r. 290-3-3-.01, 2025).

Special Education Teacher Preparation

The structured combination of coursework, supervised clinical experiences, and professional training completed to obtain initial certification in special education (Brownell et al., 2010). Depending on the certification route, preparation may occur before assuming a teaching position or concurrently with employment, as in the TSEC route. Preparation experiences may provide opportunities for direct practice, observation of experienced educators, and feedback relevant to the development of teacher self-efficacy (Bandura, 1997).

Teacher Sense of Efficacy Scale (TSES)

A validated instrument developed by Tschannen-Moran and Hoy (2001) to measure teachers' self-efficacy across three domains: student engagement, instructional strategies, and classroom management. The TSES is widely used in educational research and demonstrates strong reliability and construct validity across teaching contexts (Tschannen-Moran & Hoy, 2001; Klassen et al., 2009). In this study, composite and subscale scores derived from the TSES operationalize teacher self-efficacy.

Teacher-Preparation Program

An accredited educator preparation program offered by a state-approved institution of higher education designed to prepare candidates for professional certification through pedagogical coursework, supervised field experiences, and performance assessment (Council for the Accreditation of Educator Preparation [CAEP], 2022). In this study, the term refers

specifically to programs offered by Alabama state-approved institutions. The broader term *certification route* encompasses all three pathways examined, including TSEC, in which preparation and teaching employment may occur concurrently. References to TSEC participants' preparation experiences therefore do not necessarily indicate completion of an institution-based teacher-preparation program.

Temporary Special Education Certificate (TSEC)

A pathway to teacher licensure that allows individuals who hold a bachelor's degree in a field other than education to enter teaching while completing required pedagogical coursework and supervised experiences concurrently with employment (Feistritzer, 2011; Zeichner & Schulte, 2001). In Alabama, TSEC programs are designed to address teacher shortages while providing an accelerated preparation structure aligned with state certification requirements (Alabama State Department of Education [ALSDE], 2024).

Chapter Summary

This chapter introduced the background, purpose, and scope of the study examining teacher self-efficacy among Alabama special education teachers in relation to their initial preparation experiences. Grounded in Bandura's (1997) theory of self-efficacy and operationalized through the Teacher Sense of Efficacy Scale (Tschannen-Moran & Hoy, 2001), the study investigated whether differences in perceived teaching capability exist among educators prepared through different certification routes, particularly across the domains of student engagement, instructional strategies, and classroom management.

The problem addressed in this study reflects ongoing concerns regarding the consistency and effectiveness of special education teacher-preparation programs. Although policy reforms

and TSEC pathways have expanded access to the profession, limited empirical evidence exists examining how structural differences in preparation pathways may be associated with teachers' self-efficacy at entry into the field.

Using a quantitative, cross-sectional survey design, the study compared teacher self-efficacy across certification routes. Required open-ended responses were incorporated descriptively to provide contextual insight into how participants perceive strengths and areas needing greater emphasis within their preparation experiences. The findings were intended to provide state-specific evidence that may inform educator preparation program design, targeted induction supports, and policy decisions aimed at strengthening the preparation and retention of special education teachers in Alabama.

Chapter 2 presents a comprehensive review of the literature related to teacher self-efficacy theory, special education teacher-preparation models, certification pathways, and empirical research examining the development of teacher efficacy beliefs. Particular attention is given to preparation practices within Alabama and the broader southeastern United States in order to situate the present study within relevant regional and national contexts.

Chapter 2 - Literature Review

Introduction

Over the past three decades, special education teacher preparation has undergone substantial transformation in response to federal legislation, accountability reforms, and evolving expectations for inclusive education. Preparation programs that historically emphasized procedural compliance, behavioral management, and legal documentation have increasingly shifted toward research-based instructional practices, collaborative service delivery models, and inclusive pedagogical frameworks. These developments reflect broader efforts to redefine teacher effectiveness; however, questions remain regarding whether contemporary preparation structures consistently foster teachers' belief in their capability to perform the complex responsibilities associated with special education practice.

Teaching special education is widely recognized as one of the most demanding professional roles in education. Special educators are expected to design individualized instruction, implement evidence-based interventions, manage diverse behavioral needs, collaborate with multidisciplinary teams, and ensure compliance with extensive legal mandates established under the Individuals with Disabilities Education Act (IDEA, 2004) and related policy frameworks. Successfully fulfilling these responsibilities requires not only pedagogical knowledge and technical skill but also strong professional self-efficacy. Bandura (1997) defined self-efficacy as individuals' beliefs in their capability to organize and execute the actions necessary to achieve desired outcomes. Within educational contexts, teacher self-efficacy has been consistently associated with instructional effectiveness, persistence in challenging

situations, job satisfaction, and teacher retention (Tschannen-Moran & Hoy, 2001; Zee & Koomen, 2020).

Self-efficacy is particularly prominent in special education settings, where teachers frequently encounter complex instructional and behavioral demands early in their careers. Research suggests that teachers who report stronger efficacy beliefs demonstrate greater willingness to implement innovative instructional strategies, sustain engagement with students experiencing academic or behavioral difficulties, and remain committed to the profession despite challenging working conditions (Klassen & Chiu, 2011; Conley & You, 2017). Conversely, teachers entering the profession with weaker efficacy beliefs are more likely to experience elevated stress, emotional exhaustion, and early attrition, an especially pressing concern in states such as Alabama, where shortages of certified special education teachers persist across both rural and urban districts (Alabama State Department of Education [ALSDE], 2024).

Teacher preparation programs represent one of the earliest and most influential contexts in which efficacy beliefs begin to develop. Bandura (1997) emphasized that efficacy formation is shaped through mastery experiences, observation of competent models, performance feedback, and emotional interpretation of challenging tasks. These conditions are typically embedded within coursework, clinical placements, mentoring relationships, and supervised instructional practice. However, preparation pathways differ considerably in program duration, sequencing of clinical experiences, supervision intensity, and opportunities for guided instructional performance. As a result, teachers entering the profession through different certification routes may develop varying levels of professional self-efficacy upon completion of their preparation.

Despite extensive scholarship examining teacher preparation and instructional effectiveness, comparatively limited empirical research has investigated how differences in preparation pathway structure relate specifically to teachers' self-efficacy early in their career (or between 1-5 years in the profession. Much of the existing literature focuses on early-career teacher adjustment, program evaluations, or national workforce trends rather than examining preparation outcomes within a defined state context. Alabama provides a particularly relevant setting for such investigation due to its continued reliance on multiple certification pathways to address special education staffing shortages and its diverse network of state-approved educator preparation programs.

To address this gap, the present study examined differences in teacher self-efficacy among Alabama special education teachers who completed their initial preparation at Alabama institutions within the past five years. Teacher self-efficacy was measured using the Teacher Sense of Efficacy Scale (TSES) developed by Tschannen-Moran and Hoy (2001), a widely validated instrument assessing three domains of teacher efficacy: student engagement, instructional strategies, and classroom management. These domains reflect teachers' perceived capability to perform core instructional functions central to effective special education practice.

This chapter reviews the literature establishing the theoretical and empirical foundation for the study. The first section examines Bandura's theory of self-efficacy and its relevance to teacher development. The second section reviews research on teacher self-efficacy and the development and validation of the Teacher Sense of Efficacy Scale. Subsequent sections examine special education teacher preparation models, differences across certification pathways, and regional considerations influencing preparation experiences within Alabama and the broader southeastern United States. The chapter concludes by identifying gaps in the literature that

support the need for examining teacher self-efficacy across certification routes among recently prepared Alabama special education teachers.

Self-Efficacy Theory in Education

Albert Bandura's (1997) social cognitive theory provides a foundational framework for understanding how beliefs about professional capability develop and influence behavior within educational contexts. Central to this framework is the construct of self-efficacy, defined as an individual's belief in their capability to organize and execute the actions required to manage prospective situations (Bandura, 1997). Unlike generalized confidence or self-esteem, self-efficacy is task-specific and contextually grounded. It influences whether individuals initiate particular actions, the level of effort they invest, their persistence when encountering difficulty, and their resilience following setbacks. Within education, teacher self-efficacy has been consistently identified as a significant predictor of instructional practice, classroom climate, and professional persistence (Tschannen-Moran & Hoy, 2001; Klassen & Chiu, 2011; Zee & Koomen, 2020).

Bandura (1997) proposed that self-efficacy beliefs develop through four primary sources: mastery experiences, vicarious experiences, verbal persuasion, and physiological or affective states. Mastery experiences, or direct performance accomplishments, represent the most influential source because successful task execution provides concrete evidence of professional competence. Within teacher preparation, mastery experiences typically occur through structured opportunities such as supervised lesson delivery, assessment implementation, individualized education program (IEP) development, and guided classroom management practice. When these experiences are systematically scaffolded, they contribute to the formation of durable efficacy

beliefs that extend into early professional practice (Darling-Hammond, 2017; Brownell et al., 2010).

Vicarious experiences involve observing competent models successfully perform professional tasks. In preparation settings, preservice teachers often develop efficacy beliefs by observing mentor teachers, university supervisors, or experienced practitioners demonstrate effective instructional and behavioral support strategies. Research indicates that high-quality modeling and mentoring relationships are associated with stronger instructional competence and increased professional confidence among beginning teachers (Ingersoll & Strong, 2011; Lohmann & Boothe, 2022). Observational learning provides preservice teachers with cognitive frameworks for interpreting classroom challenges and envisioning their own potential effectiveness.

Verbal persuasion, the third source of efficacy development, includes evaluative feedback, encouragement, and professional affirmation provided by credible instructional mentors or supervisors. Bandura (1997) emphasized that feedback grounded in specific performance behaviors rather than personal traits strengthens efficacy beliefs and promotes persistence. Within teacher preparation programs, structured supervisory feedback during practicum or internship experiences plays a critical role in shaping preservice teachers' perceptions of their instructional capability (Fives & Buehl, 2016).

Physiological and affective states represent the emotional interpretations individuals assign to challenging performance contexts. Teaching in special education settings often involves navigating complex behavioral demands, legal compliance expectations, and individualized instructional planning, all of which may contribute to elevated stress among novice teachers (Bettini et al., 2019; Billingsley et al., 2020). When preparation experiences normalize

professional challenge and provide guided opportunities to develop coping strategies, teachers are more likely to interpret stress as a situational demand rather than as evidence of personal inadequacy. Such interpretations support the maintenance of stronger efficacy beliefs during early career transitions (Bandura, 1997).

The relevance of self-efficacy is particularly pronounced in special education due to the multidimensional nature of the professional role. Special educators are expected to individualize instruction, collaborate with multidisciplinary teams, implement behavior interventions, and ensure adherence to federal and state mandates under the Individuals with Disabilities Education Act (IDEA, 2004). Research suggests that special education teachers often report lower initial efficacy beliefs than general educators, especially in domains related to behavior management and collaborative practice (Brownell et al., 2010; McLeskey & Brownell, 2015). These differences are frequently attributed to variability in preparation experiences, including the depth of clinical practice opportunities and the quality of mentoring support.

Recent educational research continues to position self-efficacy as a mediating mechanism linking preparation experiences to instructional implementation and professional persistence. Teachers who perceive themselves as capable are more likely to adopt inclusive instructional practices, sustain engagement with students experiencing difficulty, and refine their instructional approaches over time (Conley & You, 2017; Zee & Koomen, 2020). Conversely, teachers with lower efficacy beliefs may avoid complex instructional tasks, rely on less adaptive teaching strategies, or experience increased emotional exhaustion.

Although self-efficacy evolves across professional contexts, foundational efficacy beliefs formed during preparation often shape early career trajectories (Bandura, 1997; Tschannen-Moran & Hoy, 2001). When preservice preparation provides limited opportunities for mastery

experiences, modeling, or structured feedback, novice teachers may interpret early professional challenges as evidence of insufficient capability rather than as opportunities for growth. This dynamic is particularly salient in states experiencing persistent teacher shortages, where beginning special educators may enter high-need instructional settings with limited induction support (Billingsley et al., 2020).

Grounded in this theoretical perspective, the present study conceptualized teacher self-efficacy as a measurable outcome associated with preparation pathway experiences. By examining differences in efficacy beliefs across certification routes, the study investigated whether structural variation in preparation programs corresponds with differences in teachers' perceived capability to perform essential instructional and behavioral responsibilities. Understanding how efficacy beliefs develop within preparation contexts is critical for informing efforts to strengthen special education teacher preparation and support long-term workforce stability.

Measurement of Teacher Self-Efficacy

The measurement of teacher self-efficacy has evolved considerably since Bandura's (1997) original conceptualization of efficacy beliefs within social cognitive theory. Early educational research often relied on global measures of teaching confidence that lacked domain specificity, limiting researchers' ability to understand how efficacy beliefs function within distinct aspects of instructional practice. Recognizing this limitation, Tschannen-Moran and Hoy (2001) advanced teacher efficacy research by developing a multidimensional framework that conceptualized teacher self-efficacy as context-dependent and task-specific. Their work led to the development of the Teacher Sense of Efficacy Scale (TSES), now widely regarded as one of

the most valid and reliable instruments for assessing teachers' beliefs about their professional capabilities.

The TSES reflects Bandura's assertion that efficacy beliefs must be measured in relation to specific tasks rather than generalized feelings of confidence. Teachers do not experience efficacy uniformly across professional responsibilities; instead, beliefs about capability vary depending on instructional demands, student needs, and classroom contexts (Bandura, 1997). Tschannen-Moran and Hoy (2001) operationalized this principle by structuring teacher self-efficacy around three empirically supported domains. These domains represent core dimensions of teaching practice and align closely with the daily responsibilities of special education teachers.

The Teacher Sense of Efficacy Scale has demonstrated strong psychometric properties across numerous educational contexts. Initial validation studies reported high internal consistency reliability coefficients exceeding .90 across domains, as well as strong construct validity supported through factor analysis (Tschannen-Moran & Hoy, 2001). Subsequent research has replicated these findings across grade levels, subject areas, and international settings, confirming the instrument's stability and applicability across diverse teaching populations (Klassen et al., 2009; Zee & Koomen, 2020). Because the TSES measures teachers' perceived capability rather than observable performance, it directly aligns with Bandura's theoretical definition of self-efficacy as a belief system influencing behavior rather than behavior itself.

Within special education research, the multidimensional structure of the TSES is particularly valuable. Special educators operate in instructional environments requiring simultaneous attention to academic instruction, behavioral intervention, and individualized

student motivation. The three efficacy domains captured by the TSES collectively represent these essential professional functions, making the instrument conceptually appropriate for examining how preparation programs influence teachers' perceived readiness for practice.

Efficacy in Student Engagement

The first domain, efficacy in student engagement, reflects teachers' beliefs in their ability to motivate students, foster participation, and sustain attention among learners with diverse needs. Student engagement represents a foundational component of effective teaching because instructional strategies cannot succeed without meaningful student involvement (Skinner & Belmont, 1993). For special education teachers, engagement often requires adapting instruction for students with learning disabilities, emotional and behavioral disorders, autism spectrum disorders, and other exceptionalities that influence motivation and participation. Research demonstrates that teachers with higher engagement efficacy are more likely to employ differentiated instruction, individualized supports, and motivational strategies that promote persistence among struggling learners (Zee & Koomen, 2020). Engagement efficacy is especially relevant in special education settings where students may have experienced repeated academic failure or behavioral exclusion, requiring teachers to believe strongly in their ability to reach students who are traditionally disengaged from schooling.

Efficacy in Instructional Strategies

The second domain, efficacy in instructional strategies, captures teachers' beliefs about their ability to design, implement, and adapt instruction to promote student learning. Instructional efficacy reflects confidence in using assessment data, explaining concepts effectively, providing appropriate accommodations, and modifying teaching approaches when

students struggle. In special education contexts, instructional strategy efficacy extends beyond general pedagogical skill to include individualized instruction aligned with IEP goals and evidence-based intervention practices (Cook & Odom, 2013). Teachers with strong instructional efficacy are more likely to implement research-supported instructional methods, engage in data-driven decision making, and persist in instructional problem solving when students do not initially respond to intervention (Darling-Hammond, 2017). Because preparation programs vary widely in the amount of clinical practice and instructional modeling provided to preservice teachers, examining instructional efficacy offers insight into how effectively different certification routes prepare educators for instructional decision-making.

Efficacy in Classroom Management

The third domain, efficacy in classroom management, represents teachers' beliefs in their ability to maintain productive learning environments, prevent disruptive behavior, and respond effectively to behavioral challenges. Classroom management efficacy is particularly critical in special education, where teachers frequently support students with complex behavioral and social-emotional needs. Research consistently identifies classroom management as one of the strongest predictors of teacher stress, burnout, and attrition in special education (Bettini et al., 2019; Billingsley et al., 2020). Teachers who believe they can successfully manage behavior demonstrate greater persistence, reduced emotional exhaustion, and stronger instructional implementation fidelity (Skaalvik & Skaalvik, 2017). Conversely, teachers who feel underprepared to manage behavior often experience reduced professional efficacy early in their careers. Because certification pathways differ in the extent to which they provide supervised behavioral practice and mentoring, classroom management efficacy serves as a critical indicator of preparation program effectiveness.

Together, these three domains form a comprehensive representation of teacher self-efficacy aligned with Bandura's theoretical framework. Rather than measuring isolated competencies, the TSES captures teachers' integrated belief systems regarding their ability to engage students, deliver effective instruction, and manage classroom environments. These domains collectively reflect the essential responsibilities of special education teachers and provide a theoretically grounded structure for examining how preparation pathways influence professional efficacy.

The selection of the Teacher Sense of Efficacy Scale for the present study addresses an important methodological consideration identified in prior research. Measures designed to assess specific instructional practices or compliance tasks may not adequately capture overall professional efficacy. In contrast, the TSES evaluates teachers' beliefs about their capability to perform core teaching functions across contexts, making it especially appropriate for comparative research examining preparation experiences rather than specific instructional interventions (Tschannen-Moran & Hoy, 2001).

Also, using the TSES allows the present study to distinguish clearly between self-efficacy and confidence, a distinction emphasized within contemporary educational psychology literature. While confidence often refers to general feelings of assurance, self-efficacy reflects context-specific judgments about one's ability to execute particular actions successfully (Bandura, 1997). By grounding measurement in self-efficacy rather than generalized confidence, the study maintaind strong theoretical alignment and enhances interpretability of findings.

Recent research continues to affirm the relevance of the TSES across evolving educational contexts. Studies conducted within the past five years demonstrate that teacher self-efficacy measured through the TSES predicts instructional innovation, inclusive teaching

practices, and resilience during periods of educational disruption, including pandemic-related instructional changes (Fackler & Malmberg, 2021; Lauermann & König, 2023; Kim & Asbury, 2024). These findings reinforce the instrument's applicability for examining how preparation experiences shape teachers' beliefs about professional capability during entry into the profession.

Within Alabama's special education context, employing the TSES enables examination of whether teachers prepared through different certification routes demonstrate differing efficacy beliefs across the three central domains of teaching practice. Because certification pathways vary in coursework structure, clinical experience duration, supervision intensity, and alignment with professional standards, differences in efficacy beliefs may reflect meaningful variation in preparation program design. Measuring efficacy across student engagement, instructional strategies, and classroom management therefore provides an empirically grounded mechanism for evaluating preparation outcomes.

In summary, the Teacher Sense of Efficacy Scale provides a theoretically coherent, psychometrically validated, and contextually appropriate instrument for measuring teacher self-efficacy within this study. Grounded in Bandura's social cognitive theory and supported by extensive empirical research, the TSES captures three essential dimensions of teaching practice that are central to special education effectiveness. By examining differences in these efficacy domains across certification routes, the present study contributed evidence of how preparation pathways contribute to the development of professional self-efficacy among Alabama special education teachers.

Teacher Self-Efficacy in Special Education

Teacher self-efficacy holds particular significance within special education due to the complex, multifaceted nature of the role. Special education teachers operate at the intersection of

instructional design, behavioral intervention, collaboration, legal compliance, and individualized student support. Unlike many general education roles that focus primarily on whole-class instruction, special educators must adapt curriculum across diverse disability categories, implement individualized education programs (IEPs), conduct progress monitoring, and respond to behavioral and emotional needs that directly affect access to instruction. Because of this multidimensional responsibility structure, beliefs about professional capability are especially consequential in special education contexts. Self-efficacy influences not only instructional decision-making but also teachers' resilience when confronted with challenging student behaviors, compliance demands, and collaborative tensions (Bandura, 1997; Tschannen-Moran & Hoy, 2001).

Empirical research consistently demonstrates that special education teacher self-efficacy is closely linked to instructional quality and classroom outcomes. Teachers who report stronger efficacy beliefs are more likely to implement differentiated instruction, persist in the use of evidence-based interventions, and maintain structured classroom management systems that support student engagement (Zee & Koomen, 2020; Klassen & Chiu, 2011). Within inclusive environments, efficacy beliefs predict teachers' willingness to collaborate with general educators and adapt instructional strategies to meet diverse learning needs (Sharma, Loreman, & Forlin, 2012). In contrast, lower self-efficacy has been associated with avoidance of complex instructional tasks, reduced innovation, and increased emotional exhaustion (Skaalvik & Skaalvik, 2017).

The relationship between self-efficacy and teacher retention is particularly pronounced in special education. Billingsley, Bettini, and Jones (2020) noted that special education teachers experience higher attrition rates than general educators, often citing overwhelming workload,

compliance burdens, and insufficient preparation as contributing factors. Klassen and Chiu (2011) found that teacher self-efficacy significantly predicted job satisfaction and reduced burnout, even when controlling for years of experience and contextual variables. In special education settings, where early career teachers frequently encounter high caseloads and complex behavioral needs, the protective function of self-efficacy becomes even more critical (Bettini et al., 2019).

Research further suggests that early efficacy beliefs may have long-term consequences for professional trajectories. Tschannen-Moran and Hoy (2001) argued that efficacy beliefs formed during teacher preparation and induction establish patterns of instructional persistence that may endure throughout a teacher's career. When novice teachers enter the profession with strong efficacy beliefs, they are more likely to interpret setbacks as opportunities for refinement rather than evidence of inadequacy. Conversely, teachers who begin their careers with weaker efficacy beliefs may interpret classroom challenges as confirmation of insufficient capability, accelerating stress and attrition (Bandura, 1997).

Within special education, efficacy development is often influenced by preparation experiences related to behavior management and instructional differentiation. Classroom management efficacy has emerged as one of the strongest predictors of special education teacher retention (Bettini et al., 2019). Teachers who report confidence in their ability to establish routines, address challenging behaviors, and maintain productive learning environments demonstrate lower rates of emotional exhaustion and greater commitment to the profession (Skaalvik & Skaalvik, 2017). These findings are particularly relevant given that classroom management remains one of the most frequently cited areas of perceived underpreparedness among new special education teachers (Brownell et al., 2010; McLeskey & Brownell, 2015).

Efficacy in instructional strategies is similarly critical. Special educators must implement evidence-based practices tailored to students with diverse cognitive, behavioral, and communication needs. Research indicates that teachers with stronger instructional efficacy are more likely to implement data-based decision-making practices and high-leverage instructional strategies (Conley & You, 2017). Because instructional complexity increases in inclusive and resource settings, efficacy beliefs influence whether teachers adapt materials, collaborate on differentiated lesson plans, and sustain individualized interventions over time.

Student engagement efficacy also plays a significant role in special education contexts. Teachers who believe they can motivate students with disabilities to participate meaningfully in instruction demonstrate higher levels of instructional persistence and creativity (Zee & Koomen, 2020). Engagement efficacy becomes especially salient in classrooms serving students with emotional or behavioral disorders, where motivation and sustained attention may require intensive intervention strategies. Teachers lacking confidence in their ability to foster engagement may rely more heavily on compliance-oriented approaches rather than instructional adaptation.

Importantly, the development of self-efficacy among special education teachers cannot be separated from preparation program structures. Research consistently identifies supervised clinical practice as a primary contributor to efficacy development (Darling-Hammond, 2017). Preservice teachers who complete extended, high-quality field experiences with structured feedback report stronger efficacy beliefs upon entering the profession (Brownell et al., 2010). Conversely, abbreviated or poorly supported clinical placements may limit opportunities for mastery experiences, thereby weakening efficacy formation (Bettini et al., 2019).

TSEC pathways introduce additional complexity into efficacy development. While such pathways expand access to the profession, they often compress pedagogical coursework and clinical supervision timelines (Cross & Billingsley, 2021). Research examining TSEC route teachers has produced mixed findings; some studies suggest comparable instructional outcomes, while others report lower initial self-efficacy in classroom management and instructional differentiation (Sindelar et al., 2010; McLeskey et al., 2018). These differences may reflect variations in opportunities for mastery experiences and structured mentoring during preparation.

The context of teacher shortages further complicates efficacy development in special education. In high-need districts, novice teachers frequently assume full instructional responsibility with limited mentoring support. When preparation programs do not sufficiently scaffold behavioral intervention or legal compliance training, early professional challenges may undermine efficacy beliefs rather than reinforce growth (Billingsley et al., 2020). Given that efficacy beliefs influence teachers' persistence in challenging environments, understanding how preparation pathways contribute to initial efficacy formation is critical for workforce sustainability.

Recent research has increasingly emphasized the importance of examining teacher efficacy development within specific state contexts. Preparation standards, accreditation requirements, and certification structures vary across states, potentially influencing the nature and quality of preservice experiences (Darling-Hammond, 2017). In Alabama, where special education remains a designated shortage area (ALSDE, 2024), preparation programs operate under state-approved guidelines but differ in structure, duration, and clinical integration. Because certification routes in Alabama include traditional bachelor's-level preparation, master's-level preparation leading to initial certification and Temporary Special Education Certificate (TSEC)

route, examining efficacy differences across these routes offers a meaningful lens for evaluating preparation outcomes.

Collectively, the literature indicates that teacher self-efficacy is both a predictor of professional performance and a product of preparation experiences. Within special education, efficacy beliefs influence instructional quality, classroom management, student engagement, collaboration, and professional persistence. However, relatively few studies have examined how different certification pathways influence self-efficacy among recently prepared teachers within a single state context. This gap shows the importance of the present study, which sought to determine whether structural differences in preparation pathways correspond with measurable differences in teacher self-efficacy among Alabama special education teachers.

Historical Evolution of Special Education Teacher Preparation

Special education teacher preparation in the United States has evolved substantially over the past century in response to shifting legal mandates, professional standards, and philosophical conceptions of disability. Early preparation programs in the mid-20th century were largely specialized and categorical, designed to train teachers to serve students within specific disability classifications, often in segregated settings (McLeskey & Brownell, 2015). Preparation emphasized behavioral intervention techniques, procedural documentation, and compliance with emerging federal regulations rather than inclusive instructional practice. During this period, teacher preparation was often pragmatic and skills-oriented, reflecting the prevailing medical and deficit-based models of disability that dominated special education policy and practice.

The passage of the Education for All Handicapped Children Act in 1975, later reauthorized as the Individuals with Disabilities Education Act (IDEA, 1997, 2004), marked a

turning point in special education teacher preparation. Federal mandates requiring free appropriate public education (FAPE), individualized education programs (IEPs), and least restrictive environment (LRE) provisions fundamentally reshaped the role of the special educator. Preparation programs expanded to include training in assessment, procedural safeguards, multidisciplinary collaboration, and compliance documentation (Brownell et al., 2010). During the 1980s and 1990s, emphasis on procedural fidelity and legal defensibility often dominated coursework, reflecting heightened accountability for documentation accuracy and due process adherence.

By the early 2000s, educational reform movements associated with the No Child Left Behind Act (2002) and subsequent accountability initiatives shifted preparation priorities once again. The focus moved toward evidence-based instructional practices, data-driven decision making, and inclusive pedagogical approaches. Special education teachers were increasingly expected to support student access to general education curriculum, collaborate intensively with general educators, and implement research-supported interventions aligned with academic standards (McLeskey & Brownell, 2015). This shift reflected a broader reconceptualization of disability from a categorical placement model toward a more inclusive, instructional framework.

Contemporary preparation models further emphasize high-leverage practices (HLPs), universal design for learning (UDL), and multi-tiered systems of support (MTSS) as foundational instructional frameworks (Council for Exceptional Children, 2020). These reforms aim to equip special educators with adaptable instructional strategies applicable across disability categories and inclusive settings. However, scholars have raised concerns that as preparation programs broaden their instructional focus, depth of training in behavior management and procedural compliance may receive comparatively less emphasis than in earlier eras (Bettini et

al., 2019). Because self-efficacy develops largely through structured mastery experiences, the relative balance between theoretical coursework and applied clinical practice remains a central concern in teacher preparation research (Bandura, 1997; Darling-Hammond, 2017).

Simultaneously, persistent national shortages in special education have influenced preparation structures. To address workforce demands, states have expanded TSEC pathways and accelerated entry programs (Sutcher et al., 2019). While these initiatives increase teacher supply, they introduce variability in preparation intensity and clinical supervision. Research suggests that variability in supervised practice opportunities may correspond with differences in teacher self-efficacy, particularly in classroom management and instructional adaptation (Sindelar et al., 2010; McLeskey et al., 2018). Therefore, the historical evolution of special education teacher preparation reflects not only shifts in instructional philosophy but also policy-driven adaptations to workforce pressures.

Across these reform eras, one consistent theme emerges: teacher preparation serves as the primary context in which early professional self-efficacy develops. As preparation models evolved from compliance-focused frameworks to inclusive, research-based pedagogies, the opportunities provided for mastery experiences, guided feedback, and applied instructional practice have likewise shifted. Understanding how these structural changes influence teacher self-efficacy remains an essential question within special education research.

Special Education Teacher Preparation in Alabama

Within this national historical context, Alabama's special education teacher preparation system reflects both alignment with federal mandates and adaptation to state-specific workforce needs. Alabama educator preparation programs operate under standards established by the

Alabama State Department of Education (ALSDE), requiring alignment with state licensure regulations and professional competencies consistent with national frameworks such as those articulated by the Council for Exceptional Children (CEC, 2020). These standards ensure that all state-approved programs address instructional planning, behavior management, assessment, collaboration, and legal compliance competencies central to special education practice.

Like many southeastern states, Alabama has experienced persistent shortages in certified special education teachers, particularly in rural districts and high-poverty communities (ALSDE, 2024). These shortages have shaped preparation program design and state policy initiatives aimed at increasing access to certification. Alabama institutions of higher education collectively produce a substantial number of special education graduates annually; however, vacancy rates remain elevated in certain geographic regions, indicating ongoing supply-demand imbalance.

Preparation programs in Alabama include structured coursework and supervised field experiences designed to provide preservice teachers with applied practice prior to assuming full classroom responsibility. Field placements typically occur in public school settings under the supervision of cooperating teachers and university faculty. The quality and duration of these experiences vary across institutions but remain central to the development of instructional competence. Consistent with Bandura's (1997) theoretical framework, opportunities for mastery experiences during clinical practice play a critical role in shaping preservice teachers' beliefs about their capability to manage classrooms, engage students, and deliver effective instruction.

Alabama's preparation context is further influenced by geographic diversity. Many districts serve rural populations where access to mentoring and induction support may differ from urban settings. Teachers prepared within Alabama institutions frequently enter schools that

reflect similar demographic and socioeconomic characteristics to those experienced during field placements, potentially reinforcing contextual alignment between preparation and practice. However, variability in school resources, administrative support, and student behavioral complexity may still influence early professional experiences and the stability of initial efficacy beliefs.

Importantly, while all Alabama preparation programs must meet state approval criteria, structural differences remain across institutions in program sequencing, clinical intensity, and mentoring integration. These variations, though aligned under common licensure standards, may influence how preservice teachers experience mastery, feedback, and professional modeling. Given that efficacy beliefs are shaped through these experiences, examining preparation outcomes within Alabama provides a meaningful lens for understanding teacher self-efficacy development in a shared policy environment.

The present study built upon this context by focusing specifically on teachers who completed their initial preparation at Alabama institutions within the past five years. By limiting the sample to Alabama-prepared educators, the study focused on preparation pathway differences within a consistent regulatory framework, thereby strengthening interpretability of self-efficacy comparisons across certification routes.

Differences Across Certification Routes

The expansion of multiple certification pathways represents one of the most significant structural developments in teacher preparation over the past three decades. While all approved programs are intended to meet state licensure standards, certification routes differ meaningfully in duration, sequencing, clinical intensity, and entry structure. These structural differences are

not merely administrative distinctions; they may shape the types and frequency of mastery experiences, modeling opportunities, and feedback mechanisms that contribute to the development of teacher self-efficacy (Bandura, 1997).

Traditional undergraduate preparation programs remain the most established pathway into special education teaching. These programs typically span four years and integrate pedagogical coursework with progressively intensive clinical experiences. Preservice teachers often complete early field placements followed by a semester-long student teaching experience under supervised mentorship. Research consistently demonstrates that extended, scaffolded clinical practice contributes to stronger early-career instructional confidence and classroom management competence (Darling-Hammond, 2017; Ronfeldt et al., 2018). Because undergraduate programs generally provide multiple opportunities to design lessons, manage small-group instruction, and receive formative feedback prior to assuming full classroom responsibility, they may offer repeated mastery experiences central to efficacy formation. Studies examining traditionally prepared teachers suggest that prolonged exposure to supervised practice is associated with higher perceived preparedness in classroom management and instructional adaptation (Brownell et al., 2010; Bettini et al., 2019).

Master's-level certification programs, often designed for candidates who already hold bachelor's degrees in education, differ structurally from undergraduate programs in both intensity and sequencing. These programs typically condense pedagogical coursework into a shorter time frame while emphasizing theoretical grounding and research-based practice. Candidates may complete field experiences concurrently with coursework, though the overall duration of supervised practice may be shorter than that of traditional four-year programs. Some research suggests that graduate-prepared teachers report strong instructional reasoning skills and

familiarity with evidence-based strategies, potentially strengthening efficacy in instructional strategies (Boyd et al., 2009). However, compressed timelines may limit opportunities for extended behavioral practice prior to independent classroom assignment, which could influence classroom management efficacy during initial years of teaching (Ingersoll et al., 2014). Because efficacy beliefs are shaped through repeated task performance and guided feedback, variation in clinical exposure across graduate programs may correspond with variability in perceived preparedness.

The TSEC pathway represents the most structurally distinct preparation route. Candidates enter with an existing bachelor's degree and may also hold a master's degree, including degrees in education or certification in another teaching field. This pathway therefore provides an avenue into special education for individuals whose previous preparation may have focused on another area. Developed within broader efforts to address teacher shortages, employment-based routes allow candidates to assume classroom responsibilities while completing certification requirements concurrently (Sutcher et al., 2019). In Alabama, TSEC candidates complete required coursework, professional learning, and practical field experiences while teaching full-time with assigned mentoring support (Ala. Admin. Code r. 290-3-2-.31). Although alternative pathways expand access to teaching, research identifies variation in supervision and mentoring support across programs (Sindelar et al., 2010; McLeskey et al., 2018). Consequently, candidates' mastery experiences develop through classroom responsibilities while their specialized preparation continues, making the structure and availability of support particularly important.

The implications of these structural differences for teacher self-efficacy are significant. Bandura (1997) emphasized that mastery experiences are the most influential source of efficacy

development. When preservice teachers repeatedly experience successful lesson delivery, effective classroom management, and positive student engagement under guided supervision, efficacy beliefs are strengthened. Conversely, early professional challenges without adequate support may weaken efficacy perceptions, particularly in high-demand contexts such as special education. TSEC route teachers, who frequently assume independent instructional responsibility earlier, may experience heightened stress during initial teaching assignments, potentially affecting classroom management efficacy (Klassen & Chiu, 2011).

Efficacy in student engagement may also vary across certification routes. Traditional programs that integrate coursework in differentiation, motivational strategies, and inclusive pedagogy over multiple semesters may provide sustained opportunities to practice engagement techniques in supervised settings. Graduate programs emphasizing research-based practice may similarly strengthen engagement efficacy through deeper theoretical understanding. In contrast, TSEC route candidates navigating concurrent coursework and full-time teaching may have fewer structured opportunities to experiment with engagement strategies prior to high-stakes classroom implementation. Because student engagement efficacy reflects teachers' beliefs in their ability to motivate and sustain participation among diverse learners, differences in preparation scaffolding may influence early perceptions of capability (Zee & Koomen, 2020).

Instructional strategy efficacy may also be shaped by certification structure. Programs that provide systematic instruction in assessment-driven lesson planning and repeated opportunities for instructional refinement are more likely to support efficacy in adapting teaching methods for students with disabilities (Cook & Odom, 2013). Master's programs often emphasize theoretical frameworks and research literacy, potentially enhancing confidence in evidence-based practice selection. However, without extended supervised practice, theoretical

understanding may not translate into equally strong perceived capability in applied contexts. TSEC pathways that prioritize rapid workforce entry may provide uneven exposure to structured instructional modeling prior to independent teaching.

Classroom management efficacy remains one of the most critical domains within special education, given the prevalence of behavioral and social-emotional needs among students with disabilities. Research consistently identifies classroom management challenges as a leading contributor to special education teacher stress and attrition (Bettini et al., 2019; Billingsley et al., 2020). Programs that incorporate sustained behavioral practicum experiences, role-play simulations, and mentorship in real classroom settings are more likely to provide the mastery experiences necessary for durable management efficacy. Differences in the depth and duration of these experiences across certification routes may therefore correspond with measurable differences in classroom management self-efficacy.

Despite structural distinctions across certification pathways, empirical comparisons of self-efficacy outcomes remain limited. Many studies focus on teacher retention, evaluation ratings, or student achievement outcomes rather than teachers' perceived professional capability early in their careers (Goldhaber et al., 2022). Additionally, research comparing certification routes often aggregates data across multiple states, obscuring the influence of state-specific licensure structures and program requirements. Few studies have examined self-efficacy differences among recently prepared special education teachers within a single state context using a validated, multidimensional measure such as the Teacher Sense of Efficacy Scale.

The theoretical foundation of self-efficacy suggests that structural differences in preparation pathways, particularly in clinical duration, mentoring intensity, and sequencing of

responsibility, should influence the development of efficacy beliefs across the domains of student engagement, instructional strategies, and classroom management. However, the extent to which these differences manifest within Alabama's preparation system remains unclear. Given the state's reliance on multiple certification routes to address workforce needs, examining whether measurable differences in teacher self-efficacy exist across these pathways represents both a theoretical and practical contribution.

This comparative perspective directly informs the present study's central research question, which examined whether self-efficacy differed among Alabama special education teachers prepared through traditional bachelor's-level preparation, master's-level preparation leading to initial certification and Temporary Special Education Certificate (TSEC) route.

Gap in the Literature

Despite extensive research examining teacher preparation, teacher effectiveness, and educator retention, several important gaps remain in understanding how preparation pathways influence the development of teacher self-efficacy, particularly within special education. Existing research has established that preparation experiences play a critical role in shaping teachers' beliefs about their professional capability (Bandura, 1997; Tschannen-Moran & Hoy, 2001; Zee & Koomen, 2020). However, the empirical literature reveals notable limitations related to population focus, measurement alignment, and contextual specificity.

First, much of the research on teacher self-efficacy has focused on in-service teachers broadly rather than preparation outcomes specifically. Studies frequently examine relationships between self-efficacy and instructional practice, burnout, or retention among practicing educators (Klassen & Chiu, 2011; Skaalvik & Skaalvik, 2017; Billingsley et al., 2020). While these

investigations demonstrate the importance of efficacy beliefs for professional functioning, they provide limited insight into how those beliefs originate during teacher preparation. Bandura (1997) emphasized that efficacy beliefs are formed through early mastery experiences and guided practice; therefore, examining self-efficacy after years of professional experience may obscure the influence of preparation programs themselves. Consequently, relatively few studies focuses on teacher self-efficacy as an outcome associated directly with initial preparation experiences.

Second, existing studies rarely compare structural differences across certification pathways using validated efficacy measures. Research examining TSEC has often centered on teacher shortages, workforce diversification, or student achievement outcomes rather than psychological readiness for teaching (Sindelar et al., 2010; McLeskey et al., 2018; Sutcher et al., 2019). Although some findings suggest variability in early-career readiness across preparation routes, these studies frequently rely on administrative data or observational evaluations rather than teachers' own perceptions of professional capability. Because self-efficacy represents a belief system influencing persistence, instructional decision-making, and resilience, understanding how certification pathways relate to efficacy development remains an underexplored area of inquiry.

Third, much of the literature relies on national or multi-state samples, which limits understanding of how state policy environments shape preparation outcomes. Teacher preparation requirements, accreditation expectations, and clinical experience standards vary substantially across states (Darling-Hammond, 2017). Aggregated national analyses therefore obscure localized preparation conditions that may influence efficacy development. Alabama provides a particularly important context for investigation due to persistent shortages of special

education teachers and continued reliance on multiple certification pathways to meet workforce demand (Alabama State Department of Education [ALSDE], 2024). Despite these conditions, empirical research examining preparation outcomes within Alabama remains limited, with existing studies primarily descriptive or qualitative in nature (Medeiros & Kane, 2021).

A fourth limitation concerns participant selection within prior research. Many studies compare teachers based on years of experience or career stage rather than preparation pathway (Klassen & Chiu, 2011; Conley & You, 2017). Although experience influences professional development, years in teaching do not reliably indicate how teachers were prepared. Individuals entering teaching at the same time may have completed fundamentally different preparation programs, particularly as TSEC routes expanded nationally during periods of teacher shortage. Focusing on certification routes rather than the career stage allows for a more direct examination of preparation structures and their relationship to efficacy beliefs.

Additionally, relatively few investigations have focused on recently prepared teachers. Including educators prepared decades apart introduces variability related to changing policy eras, evolving accountability systems, and shifting instructional expectations. Limiting the population to teachers who completed preparation within the past five years reduces historical confounding variables and allows for clearer interpretation of preparation pathway effects. This approach aligns with Bandura's (1997) assertion that early efficacy beliefs are especially influential during entry into professional practice.

Another gap involves measurement alignment. Some studies examining preparedness employ instruments designed to evaluate instructional practice or specific pedagogical competencies rather than global teaching capability. Such measures may not adequately capture

the multidimensional belief structures described in self-efficacy theory. The Teacher Sense of Efficacy Scale (TSES) developed by Tschannen-Moran and Hoy (2001) addresses this limitation by measuring efficacy across three empirically validated domains, student engagement, instructional strategies, and classroom management, each representing core dimensions of teaching practice. Although widely used across general education research, the TSES has been applied less frequently to examine preparation pathway differences among special education teachers within single-state contexts.

Finally, the literature lacks integration between psychological theory and preparation policy analysis. Research on teacher preparation often focuses on program structure, accreditation standards, or curricular reforms, whereas self-efficacy research emphasizes individual cognition and motivation. Few studies explicitly connect these perspectives by examining how institutional preparation structures translate into measurable differences in teachers' beliefs about professional capability. Bridging this theoretical and policy divide represents an important contribution to both educational psychology and teacher education research.

The present study addressed these gaps by examining differences in teacher self-efficacy among Alabama special education teachers who completed their initial preparation at Alabama institutions within the past five years. By comparing efficacy beliefs across certification routes using the validated Teacher Sense of Efficacy Scale, the study focuses on preparation pathway differences within a shared policy environment. This design contributes to existing literature by focusing directly on preparation outcomes, aligning measurement with self-efficacy theory, and providing state-specific quantitative evidence relevant to workforce development and program evaluation.

Chapter Summary

This chapter reviewed the theoretical and empirical literature informing the present study's examination of teacher self-efficacy among Alabama special education teachers. Grounded in Bandura's (1997) social cognitive theory, the review established self-efficacy as a central psychological construct influencing instructional decision-making, persistence, emotional resilience, and professional retention. Within educational settings, teacher self-efficacy has consistently emerged as an important predictor of instructional effectiveness and professional commitment.

The literature further demonstrated that self-efficacy is especially significant in special education, where teachers must navigate instructional complexity, behavioral intervention, collaboration, and legal compliance demands. Research suggests that these beliefs are shaped early through preparation experiences and are influenced by opportunities for supervised practice, modeling, feedback, and emotional interpretation of professional challenges.

This chapter also examined the Teacher Sense of Efficacy Scale as a theoretically aligned and psychometrically supported measure of teacher self-efficacy across the domains of student engagement, instructional strategies, and classroom management. In addition, the review explored the historical evolution of special education teacher preparation, the Alabama preparation context, and structural differences across certification pathways.

Collectively, the literature suggests that preparation pathways may differ in the extent to which they provide the experiences that support early efficacy development. However, limited quantitative research has examined whether certification routes are associated with differences in teacher self-efficacy among recently prepared special education teachers within a single state

context. Alabama's continued reliance on multiple certification pathways and ongoing shortages of special education teachers make it a particularly important setting for this investigation.

Chapter 3 presents the methodological framework for the study, including the research design, participant selection criteria, instrumentation, data collection procedures, and data analysis strategies used to examine differences in teacher self-efficacy across certification pathways.

Chapter 3 - Methodology

Introduction

This chapter describes how the completed study was conducted. The study examined whether teacher self-efficacy differed among Alabama special education teachers prepared through three initial certification routes: traditional bachelor's-level programs, master's-level programs leading to initial certification, and the Temporary Special Education Certificate (TSEC) route. Teacher self-efficacy was measured with the Teacher Sense of Efficacy Scale (TSES; Tschannen-Moran & Hoy, 2001). The survey also included written questions about the areas in which participants felt best prepared, least prepared, and the changes they would recommend for future preparation programs.

The study remained quantitative in design. The open-ended responses were used descriptively to add context to the TSES findings and to show how participants described their preparation experiences. The written responses were also reviewed through Bandura's (1997) four sources of self-efficacy: mastery experiences, vicarious experiences, verbal persuasion, and physiological or affective states.

Methodological Approach

This study used a non-experimental, quantitative, comparative research design (Creswell & Creswell, 2018; Johnson & Christensen, 2020) to examine differences in teacher self-efficacy among Alabama special education teachers across initial certification routes. A quantitative approach was selected to allow for systematic measurement and statistical comparison of group-level differences using a validated instrument grounded in self-efficacy theory. Because the purpose of the study was to determine whether mean differences in teacher self-efficacy existed

across preparation pathways, a comparative design was appropriate for examining naturally occurring groups without manipulation of variables.

Prior research examining special education teacher preparation has frequently relied on qualitative or mixed-methods approaches, including interviews and case studies that explore teachers' lived experiences and professional challenges (Billingsley et al., 2020; Bettini et al., 2019; Conley & You, 2017). While such approaches provide valuable contextual insight, they often limit the ability to conduct statistical comparisons across preparation pathways or to identify measurable differences in professional belief systems at the group level. Quantitative investigations using validated multidimensional measures of teacher self-efficacy remain comparatively limited within single-state contexts (Klassen & Chiu, 2011; Zee & Koomen, 2020).

Additionally, much of the existing literature relies on national or multi-state samples, which may obscure differences attributable to state-specific preparation structures and licensure policies. In Alabama, available research has largely consisted of descriptive workforce reports or qualitative examinations of teacher shortages and professional challenges (Medeiros & Kane, 2021; Alabama State Department of Education [ALSDE], 2024). Consequently, there is a need for state-specific quantitative research that focuses on certification pathway differences within a shared regulatory environment.

To address this gap, the present study focused exclusively on special education teachers who completed their initial preparation at Alabama state-approved institutions. Teacher self-efficacy served as the dependent variable and was measured using the Teacher Sense of Efficacy Scale (TSES; Tschannen-Moran & Hoy, 2001), which assessed perceived capability across three

domains of teaching practice: student engagement, instructional strategies, and classroom management. Certification route functioned as the independent grouping variable, categorized as traditional bachelor's-level preparation, master's-level preparation leading to initial certification and Temporary Special Education Certificate (TSEC) route. Differences in mean self-efficacy scores across certification routes were examined using a one-way analysis of variance (ANOVA).

Although the primary analytic focus of the study is quantitative, structured open-ended survey questions were included to provide descriptive contextual insight into participants' perceptions of preparation experiences. Special education teachers serve in diverse instructional roles and settings, including self-contained classrooms, inclusion environments, and resource programs across grade levels. As a result, standardized quantitative measures may not fully capture the range of preparation experiences influencing perceptions of readiness. Open-ended responses therefore allowed participants to describe specific areas in which they felt well prepared or less prepared upon entering the profession.

Responses to these open-ended items were summarized using a directed descriptive coding approach grounded in Bandura's (1997) theory of self-efficacy. Participant statements were reviewed for evidence of the four primary sources of efficacy development: mastery experiences, vicarious experiences, verbal persuasion, and physiological or affective states. This theory-guided approach enabled systematic interpretation of preparation experiences while maintaining the study's overall quantitative orientation. The purpose of including these responses was to support interpretation of statistical findings by identifying recurring themes related to perceived preparation strengths and areas needing greater emphasis, rather than to conduct a standalone qualitative investigation.

Bandura's theoretical framework therefore informs both the measurement and interpretation of study outcomes. Differences in teacher self-efficacy across certification routes may reflect variation in the extent to which preparation programs provide opportunities for supervised instructional practice, observation of effective models, performance feedback, and guided emotional adaptation to professional demands. Interpreting statistical results through this theoretical lens allows the study to examine how structural features of preparation pathways may relate to the development of teachers' beliefs about their professional capability.

Participants and Recruitment

The participants in this study consisted of certified special education teachers currently employed in Alabama public schools who completed their initial special education preparation at an Alabama state-approved institution between 2021 to 2025. The purpose of the study was to examine differences in teacher self-efficacy across initial certification routes; therefore, participants were grouped according to their pathway into the profession. Limiting participation to teachers prepared in Alabama ensured that all respondents completed their preparation within a shared state regulatory and accreditation context.

Participants were recruited from urban and rural public-school districts across Alabama. Recruitment occurred, during March-May 2026, through direct communication with special education administrators who were asked to distribute the survey invitation to eligible teachers. Additional recruitment strategies included professional educator networks, such as Teach in Alabama, and educator-focused social media platforms commonly used within the state. A snowball sampling approach (Goodman, 1961) was also employed by encouraging participants to share the survey link with other eligible teachers in their professional networks.

To be eligible for inclusion, participants were required to have completed their initial special education preparation at an Alabama state-approved institution within the past five years, currently hold Alabama certification in special education, and be employed in an Alabama public school at the time of data collection. Teachers prepared outside Alabama were excluded to maintain alignment with the study's focus on Alabama preparation pathways. Teachers employed exclusively in private school settings were also excluded to ensure consistency with public school policy contexts and state certification structures. Demographic items included in the survey collected information regarding certification route and certification completion year. These variables were used to assign participants to the appropriate certification groups for statistical comparison.

The final Qualtrics export contained 145 participant records after the two Qualtrics metadata rows were removed. Data screening followed the procedures specified in Chapter 3. Records were reviewed for survey completion, consent, Alabama preparation eligibility, certification route, duplicate submissions, and sufficient completion of the TSES. The purpose of this process was to ensure that the analytic dataset represented the defined population and that valid scale scores could be computed for every participant retained for analysis.

Thirty-one records were classified by Qualtrics as unfinished and were removed because they did not provide the complete information required for the study. Of the 114 finished records, one participant declined consent and was excluded. Seven additional participants indicated that they had not completed their initial preparation through an Alabama state-approved program and were therefore ineligible. The remaining 106 records met the consent, completion, and Alabama-preparation requirements. One participant selected "Other" for the certification route but did not provide the requested description. Because the response could not

be placed into one of the three planned comparison groups, it was removed without further interpretation.

As table 3.1 shows, the resulting analytic sample consisted of 105 participants. No duplicate Response IDs or exact duplicate analytic records were identified. All 105 retained participants completed all 24 TSES items, and no TSES values fell outside the permitted 1-to-9 response range.

Table 3.1 Participant Screening Summary

Screening step	Removed	Remaining
Survey records received	—	145
Unfinished survey records	31	114
Declined informed consent	1	113
Not prepared through an Alabama state-approved program	7	106
Certification route outside the three comparison groups	1	105
Duplicate or insufficient TSES records	0	105
Final analytic sample	—	105

The final sample represented 72.4% of the 145 survey records received. The largest reduction resulted from unfinished records rather than from the eligibility screening of finished surveys. Once incomplete and ineligible records were removed, nearly all remaining participants belonged to one of the three planned certification groups. The screening results therefore supported use of a clearly defined three-group sample for both research questions and subquestions.

Sample Size and Power Considerations

An a priori power analysis was conducted using G*Power version 3.1.9.7 (Faul et al., 2009) to estimate the minimum sample size required for the proposed one-way analysis of variance (ANOVA) comparing teacher self-efficacy across three certification route groups. Using an alpha level of .05, a desired statistical power of .80, and a medium effect size ($f = .25$) consistent with conventions in educational research (Cohen, 1988; Field, 2018), the analysis indicated a minimum total sample size of 159 participants under balanced group conditions.

Although this represents the recommended sample size for a balanced design, Alabama educator preparation completion data from 2021 through 2025 indicate substantial differences in the number of individuals completing each certification route. During this period, approximately 759 individuals completed traditional bachelor's-level preparation programs, approximately 742 completed master's-level initial certification programs, and only approximately 30 individuals completed their initial certification through the Temporary Special Education Certificate (TSEC) pathway (Alabama Commission on Higher Education [ACHE], 2026) . Because the available TSEC population is substantially smaller than the other certification routes, recruiting approximately equal group sizes is not feasible. Unequal group sizes are common in studies involving naturally occurring groups and do not invalidate one-way ANOVA; however, they may reduce statistical power relative to a balanced design and require careful evaluation of model assumptions.

The final sample included 45 participants prepared through traditional bachelor's-level programs, 45 prepared through master's-level initial certification programs, and 15 prepared through the TSEC pathway (Table 3.2). The bachelor's and master's groups each represented

42.9% of the sample, while the TSEC group represented 14.3%. The smaller TSEC group was anticipated because considerably fewer individuals completed this route during the study's 2021–2025 preparation window.

Table 3.2 Participant Distribution by Certification Route

Certification route	n	%
Traditional bachelor's-level preparation	45	42.9
Master's- level initial certification	45	42.9
Temporary Special Education Certificate (TSEC)	15	14.3
Total	105	100.0

Preparation completion years ranged from 2021 through 2025 (Table 3.3). Fourteen participants completed preparation in 2021, 35 in 2022, 25 in 2023, 20 in 2024, and 11 in 2025.

Table 3.3 Preparation Completion Year by Certification Route

Completion Year	Bachelor's	Master's	TSEC	Total
2021	7	7	0	14
2022	18	15	2	35
2023	8	12	5	25
2024	6	7	7	20
2025	6	4	1	11
Total	45	45	15	105

Although this sample size is smaller than the ideal balanced design suggested by the a priori power analysis, it reflects the practical limitations of the available population while ensuring representation from all three certification routes. The quantitative analyses provided evidence regarding differences in teacher self-efficacy across certification pathways, and the

required open-ended survey responses provided descriptive contextual information regarding participants' preparation experiences. These open-ended responses are not intended to compensate for reduced statistical power; rather, they provide additional insight into how teachers describe the preparation experiences that contributed to their perceptions of readiness, including experiences related to Bandura's (1997) four sources of self-efficacy. Together, the quantitative and descriptive findings provide a more comprehensive understanding of teacher preparation while maintaining the study's primary quantitative design.

Instrument Design

Data for this study were collected using an online survey administered through Qualtrics. The primary instrument used to measure teacher self-efficacy was the Teacher Sense of Efficacy Scale (TSES) developed by Tschannen-Moran and Hoy (2001). Permission to use the instrument was obtained prior to data collection. The TSES is a validated 24-item measure designed to assess teachers' beliefs regarding their capability to perform core instructional tasks. Each item is rated on a nine-point Likert-type scale ranging from 1 (None at all) to 9 (A great deal).

Participants completed the TSES using the instrument's standard directions, which asked them to consider their current ability, resources, and opportunities to perform teaching tasks in their present position. This instruction was part of the instrument rather than an additional instruction developed for this study. Scores therefore represent perceived capability within participants' current teaching circumstances, including the resources and opportunities available to them. The TSES assesses broad efficacy in Student Engagement, Instructional Strategies, and Classroom Management rather than demonstrated competence in specialized responsibilities such as completing an IEP, meeting legal timelines, or managing a special education caseload.

Although the scale includes an item about assisting families, it does not assess the full range of special education collaboration and compliance responsibilities (Tschannen-Moran & Hoy, 2001).

The survey was organized into four sections. First, informed consent was obtained electronically prior to participation. Data were collected anonymously through an online Qualtrics survey, and the study posed no more than minimal risk to participants. A waiver of signed consent was requested from and approved by the Institutional Review Board (IRB). Participants reviewed an informed consent statement presented on the first page of the survey outlining the purpose of the study, procedures, expected time commitment, potential risks and benefits, confidentiality protections, and the voluntary nature of participation. Participants could discontinue the survey at any time without penalty, and consent was indicated by proceeding to the survey questions.

The second section included demographic and screening items used to confirm eligibility and support group classification for analysis. Participants report their initial certification route, year of preparation program completion, and confirmation that their preparation program was completed at an Alabama state-approved institution. These responses were used to verify inclusion criteria and assign participants to certification route comparison groups.

The third section consisted of the 24-item Teacher Sense of Efficacy Scale. Responses to items within each TSES domain were averaged to calculate scores for Student Engagement, Instructional Strategies, and Classroom Management, which served as the primary dependent variables for Research Question 1.

Subscale scores corresponding to the three efficacy domains: student engagement, instructional strategies, and classroom management were also calculated to support domain-specific comparisons across certification routes.

The fourth section included structured open-ended questions designed to provide descriptive contextual insight into participants' perceptions of their preparation experiences prior to entering the profession. Although the primary analytic focus of the study is quantitative, these open-ended responses allow participants to describe specific preparation experiences that may not be fully captured through standardized scale scores. The open-ended portion of the survey is organized into three subsections.

In the first subsection, participants were asked to identify an area of teaching in which they felt best prepared on their first day as a special education teacher. Participants then described preparation experiences that contributed to this sense of readiness and explained how those experiences influenced their feelings of confidence, comfort, or stress when performing the task. An optional follow-up prompt allowed participants to identify additional areas of perceived strength.

The second subsection asked participants to identify an area of teaching in which they felt least prepared upon entering the profession. Participants describe preparation experiences associated with this perception and explained how those experiences influenced their emotional responses to performing the task. An optional prompt allowed participants to identify additional areas of perceived underpreparedness.

The third subsection invited participants to recommend at least one change that could strengthen special education preparation programs for future teachers. Participants were also

asked whether their preparation experiences were affected by disruptions associated with the COVID-19 pandemic, with an optional follow-up item allowing further explanation. This item was included to provide contextual information and is not treated as a central analytic variable. The COVID-19 question was not piloted.

Collectively, these open-ended questions were designed to capture participant reflections on preparation experiences that may have contributed to the development of teacher self-efficacy beliefs. Consistent with Bandura's (1997) theoretical framework, participant responses may reflect evidence of mastery experiences (direct instructional practice), vicarious experiences (observation of mentor teachers or modeled practice), verbal persuasion (feedback or encouragement received during preparation), and physiological or affective states (emotional reactions such as confidence, anxiety, or stress). Responses were summarized using a directed descriptive coding approach grounded in these four sources of efficacy development. The purpose of this analysis is to identify recurring themes related to perceived preparation strengths and areas needing greater emphasis in order to support interpretation of the quantitative self-efficacy findings rather than to generate an independent qualitative theory.

Data Analysis

Survey responses were exported from Qualtrics. Quantitative data were analyzed using IBM SPSS Statistics. Prior to conducting statistical analyses, the dataset was screened for accuracy, duplicate entries, missing data patterns, and out-of-range values. Participant eligibility was verified based on reported preparation location, current teaching assignment, and certification pathway. Cases that did not meet inclusion criteria were removed prior to analysis. In addition, participants with insufficient completed responses on the Teacher Sense of Efficacy

Scale (TSES) to compute valid domain scores were excluded. These screening steps were intended to ensure analytic accuracy and maintain consistency with the defined study population.

Quantitative Analysis

Research Question 1 examined the extent to which teacher self-efficacy differed among Alabama special education teachers prepared through different certification routes across the domains of student engagement, instructional strategies, and classroom management. Teacher self-efficacy was operationalized using the Teacher Sense of Efficacy Scale (Tschannen-Moran & Hoy, 2001). Domain scores for student engagement, instructional strategies, and classroom management served as dependent variables. Certification route functioned as the independent grouping variable and was categorized as traditional bachelor's-level preparation, master's-level preparation leading to initial certification and Temporary Special Education Certificate (TSEC) route.

Separate one-way analyses of variance (ANOVA) were conducted to determine whether statistically significant differences in mean self-efficacy scores exist across certification routes within each efficacy domain. Prior to interpretation of ANOVA results, statistical assumptions were evaluated. Homogeneity of variance was assessed using Levene's test. When ANOVA results were statistically significant at an alpha level of .05, post hoc comparisons using Tukey's Honestly Significant Difference (HSD) procedure were conducted to identify specific group differences while controlling for Type I error. Effect sizes were reported using eta squared to indicate the magnitude of observed differences. Findings were presented using descriptive statistics, ANOVA test statistics, and post hoc comparison results.

Qualitative Descriptive Analysis

Research Question 2 and its subquestions were addressed through descriptive analysis of the open-ended survey responses. The written responses identified areas of best and least preparedness, described preparation experiences associated with perceived readiness, and offered recommendations for program improvement. The study retained its quantitative, cross-sectional, nonexperimental comparative design. The descriptive analysis addressed Research Question 2 and provided context for the TSES findings without generating an independent qualitative theory.

Responses were reviewed in their entirety, with attention to the professional task, the preparation experiences associated with that task, and participants' descriptions of confidence, comfort, or stress. The coding process combined structural organization, inductive identification of experience descriptions, pattern coding, and interpretation through Bandura's four sources of self-efficacy. These stages distinguished the organization of responses from the development and interpretation of recurring patterns (Saldaña, 2021).

Structural coding first organized responses according to the three sections of the survey: best prepared, least prepared, and program improvement. Within those sections, responses were categorized by the professional responsibility being described. Initial task categories were informed by the special education preparation literature reviewed in Chapter 2, which describes the instructional, assessment, collaborative, and professional responsibilities of special educators (Brownell et al., 2010). Categories included instructional planning and differentiation, classroom management and routines, student relationships and advocacy, collaboration and communication, behavior support, assessment and progress monitoring, IEP development and legal compliance, caseload and daily procedures, and transition to independent teaching.

This organization incorporated a deductive component because the survey sections and literature-informed responsibilities provided an initial structure for reviewing the data. However, responses were not restricted to a single category or required to fit the initial structure. When a response addressed more than one responsibility, it could receive multiple task codes. Additional or refined categories accommodated responsibilities identified by participants that were not adequately represented by the initial categories.

Within the structural categories, inductive coding identified how participants described the experiences associated with their preparedness or underpreparedness. These descriptions included coursework, practicum, student teaching or internship, observation and modeling, mentor or faculty feedback, prior school-based employment, team or data meetings, and on-the-job learning. Attention was given to what participants had observed, attempted, completed, or assumed responsibility for, as well as to experiences they reported lacking. This stage allowed participants' accounts to provide detail beyond the name of the professional task.

Pattern coding then brought related experience descriptions together to summarize recurring preparation patterns within and across task categories (Saldaña, 2021). For example, descriptions of observing a mentor, performing a responsibility with supervision, and receiving feedback were examined together while retaining distinctions among those experiences. Program-improvement responses were similarly grouped into broader recommendation themes. This process supported descriptive comparisons across certification routes without treating the written accounts as explanations established for the statistical route differences.

The preparation accounts were also reviewed through Bandura's (1997) four sources of self-efficacy: mastery experiences, vicarious experiences, verbal persuasion, and physiological or affective states. Direct task performance, observation of others, feedback or encouragement, and

emotional reactions were considered in relation to participants' descriptions of preparedness. Confidence, comfort, anxiety, stress, uncertainty, worry, and feeling overwhelmed were examined in the context of the experience described. More than one source could be represented in the same account. The framework guided interpretation of participants' experiences; participants were not required to identify the sources by name, and the analysis did not test their causal effects.

Figure 3.1 illustrates how participant excerpts were examined for preparation experiences, perceived readiness, and sources of self-efficacy. Matching colors connect portions of each excerpt with their corresponding analytic labels. The examples demonstrate how multiple analytic layers could be identified within participants' accounts (Bandura, 1997; Saldaña, 2021).

Figure 3.1 Illustration of Coding Open-Ended Responses

Gavin | Master's route | Best Prepared

Task category: Behavior Support (Table 4.5)

Participant excerpt	Coding interpretation
"Because I had opportunities to practice those interventions , I felt prepared when challenging behaviors occurred in my own classroom."	**Direct practice → Mastery experiences** **Perceived readiness → Felt prepared**

Taylor | Master's route | Least Prepared

Task categories: IEP Development and Legal Compliance; Collaboration and Communication (Table 4.8)

Participant excerpt	Coding interpretation
"I attended several meetings, but my mentor usually led the more difficult discussions with families."	**Mentor-led meetings → Vicarious experiences**
"I felt nervous because I wanted to communicate clearly while also supporting families through emotional conversations."	**Nervousness → Physiological or affective states**

Note. Excerpts are reproduced from Tables 4.5 and 4.8. Matching colors connect participant language with analytic labels. Pseudonyms protect participant identities.

Counts reported for task themes represented unique participants rather than the total number of references to a theme. When a participant mentioned the same theme in both a required response and an optional follow-up, that participant was counted once for the theme within that survey section. A participant could contribute to more than one distinct theme. Best-prepared, least-prepared, and program-improvement responses were summarized separately.

To maintain anonymity and help readers follow participant examples, randomly generated pseudonyms were assigned after the analytic dataset was finalized. These pseudonyms did not reflect participants' actual names or identities. The descriptive findings were organized by task theme and certification route, with comparisons identifying shared and route-specific patterns. Interpretation of the findings and their broader implications was developed primarily in Chapter 5.

Representative quotations illustrated patterns identified across the broader responses rather than serving as findings independently. Selection considered the quotation's relevance to the pattern, fidelity to the participant's meaning, descriptive richness, and protection of identity, consistent with Yeo and Han's (2025) guidance. To limit repetition while retaining participants' voices, the reporting approach prioritized one illustrative narrative block for each theme within each certification route when a suitable account was available.

Reliability and Consistency

Although the TSES possesses established reliability, internal consistency reliability was examined within the present sample as an additional quality assurance step. Cronbach's alpha coefficients were calculated for the overall scale and each subscale following data collection to

confirm acceptable internal consistency among study participants. Reliability coefficients meeting or exceeding .70 were considered acceptable for research purposes (Field, 2018).

Internal consistency reliability was assessed before group comparisons were conducted. Cronbach's alpha was calculated for the complete 24-item TSES and for each eight-item domain. The overall instrument produced an alpha coefficient of .960. The domain coefficients were .900 for Student Engagement, .920 for Instructional Strategies, and .890 for Classroom Management.

Table 3.4 Internal Consistency Reliability of the TSES

Scale	Items	Cronbach's α	Interpretation
Student Engagement	8	.900	Excellent
Instructional Strategies	8	.920	Excellent
Classroom Management	8	.890	Good
Overall TSES	24	.960	Excellent

Positionality Statement

As the researcher, I acknowledge that my background and experiences shape the lens through which this study is conducted. I am a certified special education teacher who graduated from an Alabama university with a degree in special education in 2020, within the past five years. I currently serve in the field of education in Alabama and have firsthand experience with both the instructional and compliance responsibilities faced by special education teachers. This professional background provides valuable contextual understanding of the challenges and expectations associated with teacher preparation and classroom practice.

At the same time, my connection to the profession requires careful attention to potential bias. Anonymous collection reduced the opportunity to associate responses with known

individuals. Interpretation was guided by the stated coding procedures and participants' written accounts. My intent was to approach this study as both a practitioner and a researcher, guided by evidence rather than personal perspective. The goal is to contribute meaningful data that can help teacher preparation programs and policymakers better understand how Alabama's special education teachers perceive their ability to meet the complex demands of their roles.

Chapter Summary

This chapter described the methodological framework used to examine differences in teacher self-efficacy among Alabama-prepared special education teachers across initial certification routes. Guided by Bandura's (1997) social cognitive theory, the study employed a quantitative, non-experimental comparative design to examine whether statistically significant differences in teacher self-efficacy existed among educators prepared through bachelor's-level programs, master's-level initial certification programs, and the TSEC route.

The chapter described the Alabama study context, participant eligibility criteria, recruitment procedures, data screening decisions, and the final analytic sample. An a priori power analysis established the preferred sample size for a balanced three-group comparison, while the completed study retained 105 eligible participants: 45 bachelor's-route participants, 45 master's-route participants, and 15 TSEC-route participants. The smaller TSEC group and the final sample size are considered when interpreting the findings.

Teacher self-efficacy was measured using the Teacher Sense of Efficacy Scale (TSES) developed by Tschannen-Moran and Hoy (2001), which assesses perceived capability across student engagement, instructional strategies, and classroom management. The quantitative analysis used descriptive statistics, internal consistency estimates, one-way ANOVAs, effect sizes, and Tukey HSD follow-up comparisons. The open-ended responses were analyzed

descriptively by keeping the professional task, preparation experience, effect on perceived readiness, and Bandura source coding connected. Chapter 4 presents the findings produced by these procedures.

Chapter 4 - Results

Introduction

The purpose of this chapter is to present the findings of the study examining teacher self-efficacy among Alabama special education teachers prepared through different initial certification routes. The study compared teachers who completed traditional bachelor's-level preparation, master's-level preparation leading to initial certification and Temporary Special Education Certificate (TSEC) route. Teacher self-efficacy was measured using the 24-item Teacher Sense of Efficacy Scale (TSES), which assessed perceived capability in student engagement, instructional strategies, and classroom management. In addition to the TSES, participants completed five substantive open-ended preparation items and one supplemental COVID-19 item. Three preparation items required a response, while two were optional; participants who indicated that COVID-19 affected their preparation could also provide an optional written explanation.

The findings are organized according to the two research questions that guided the study. Research Question 1 examined the extent to which teacher self-efficacy differed across certification routes within the three TSES domains. Research Question 2 examined the preparation strengths and areas needing greater emphasis identified by recently prepared Alabama special education teachers. The open-ended responses were analyzed descriptively using a theory-guided coding framework based on Bandura's four sources of self-efficacy: mastery experiences, vicarious experiences, verbal persuasion, and physiological or affective states.

Descriptive Statistics for Teacher Self-Efficacy

TSES domain and composite scores were calculated as unweighted means, preserving the instrument's original 1-to-9 response metric (Table 4.1). Higher scores represented stronger perceived teacher self-efficacy. Descriptive statistics were examined for the full sample and separately for each certification route. Across the full sample, Instructional Strategies produced the highest mean score (M = 7.10, SD = 0.97), followed by Classroom Management (M = 6.91, SD = 0.98) and Student Engagement (M = 6.67, SD = 1.02). The overall TSES mean was 6.90 (SD = 0.94).

Table 4.1 TSES Descriptive Statistics by Certification Route

Scale/Certification Route	M	SD	Minimum	Maximum
Student Engagement				
Bachelor's	6.13	1.09	3.62	8.75
Master's	7.01	0.79	4.75	8.38
TSEC	7.29	0.57	6.12	8.38
Total	6.67	1.02	3.62	8.75
Instructional Strategies				
Bachelor's	6.58	1.02	3.25	8.75
Master's	7.47	0.80	4.88	8.75
TSEC	7.57	0.49	6.38	8.38
Total	7.10	0.97	3.25	8.75
Classroom Management				
Bachelor's	6.39	0.98	4.00	9.00
Master's	7.26	0.86	5.25	8.88
TSEC	7.42	0.50	6.25	8.12
Total	6.91	0.98	4.00	9.00

Scale/Certification Route		M	SD	Minimum	Maximum
Overall					
	Bachelor's	6.37	0.96	4.08	8.83
	Master's	7.25	0.76	4.96	8.54
	TSEC	7.43	0.49	6.25	8.21
	Total	6.90	0.94	4.08	8.83

A consistent descriptive pattern appeared across all three domains. Bachelor's-route participants had the lowest mean scores in Student Engagement, Instructional Strategies, and Classroom Management. TSEC participants had the highest descriptive means, and master's participants had closely similar values. The same ordering was present for the overall TSES composite. These descriptive differences suggested a stable certification route pattern, but descriptive means alone do not show whether the differences are statistically reliable. Research Question 1 therefore tested whether the observed differences were statistically significant.

Research Question 1

Research Question 1 asked: *To what extent does teacher self-efficacy differ among Alabama special education teachers prepared through different certification routes (*traditional bachelor's-level preparation, master's-level preparation leading to initial certification and Temporary Special Education Certificate (TSEC) route.*) across the domains of student engagement, instructional strategies, and classroom management?*

A separate one-way analysis of variance (ANOVA) was conducted for each TSES domain, where each ANOVA tested whether the three certification route groups had different average scores. When a statistically significant difference was found, Tukey HSD follow-up comparisons were used to determine which groups differed from one another.

Assumption Evaluation

The assumptions for the ANOVAs were examined before the group comparisons. Each participant was included in only one certification route group, and no duplicate analytic records were present. The score distributions were adequate for the analyses. Levene's tests were nonsignificant for Student Engagement ($p = .105$), Instructional Strategies ($p = .094$), Classroom Management ($p = .139$), and the overall TSES score ($p = .100$), indicating that the equal-variance assumption was met. Standard one-way ANOVAs and Tukey HSD follow-up comparisons were therefore used.

The assumption results are reported briefly because they serve one purpose: they support the use of the planned ANOVA procedures. They are not the main findings of the study. The main results are the group differences reported in Tables 4.2 and 4.3 and explained in the sections that follow.

ANOVA and Tukey HSD Results

Table 4.2 presents the ANOVA results for the three TSES domains. Statistically significant differences among certification routes were found for every outcome. The 2values ranged from .216 to .244, which were interpreted as a large effect size. This implies that the certification route groups differed in a meaningful way, not merely by a very small amount that happened to reach statistical significance.

Table 4.2 One-Way ANOVA Results by TSES Scale

Scale	F(2, 102)	p	η^2	Magnitude
Student Engagement	14.35	< .001	.220	Large
Instructional Strategies	14.16	< .001	.217	Large
Classroom Management	14.05	< .001	.216	Large
Overall TSES composite	16.47	< .001	.244	Large

Because each ANOVA showed a statistically significant difference somewhere among the three certification route groups, Tukey HSD follow-up comparisons were conducted. These comparisons tested the certification route groups two at a time for each domain of self-efficacy: master's versus bachelor's, TSEC versus bachelor's, and TSEC versus master's. Table 4.3 contains the full comparison results.

Table 4.3 Tukey HSD Pairwise Comparisons

Scale and Groups	Mean Difference	95% CI	p	Significant
Student Engagement				
Master's – Bachelor's	0.88	[0.42, 1.33]	< .001	Yes
TSEC – Bachelor's	1.16	[0.51, 1.81]	< .001	Yes
TSEC – Master's	0.28	[−0.36, 0.93]	.553	No
Instructional Strategies				
Master's – Bachelor's	0.89	[0.45, 1.32]	< .001	Yes
TSEC – Bachelor's	0.98	[0.37, 1.60]	< .001	Yes
TSEC – Master's	0.10	[−0.52, 0.71]	.926	No
Classroom Management				
Master's – Bachelor's	0.87	[0.43, 1.31]	< .001	Yes
TSEC – Bachelor's	1.03	[0.41, 1.66]	< .001	Yes
TSEC – Master's	0.16	[−0.46, 0.78]	.812	No
Overall TSES composite				
Master's – Bachelor's	0.88	[0.47, 1.29]	< .001	Yes
TSEC – Bachelor's	1.06	[0.48, 1.64]	< .001	Yes
TSEC – Master's	0.18	[−0.40, 0.76]	.743	No

Student Engagement

Student Engagement differed significantly by certification route, $F(2, 102) = 14.35$, $p < .001$, $\eta^2 = .220$. Bachelor's-route participants reported a mean of 6.13, compared with 7.01 for master's-route participants and 7.29 for TSEC participants. Tukey HSD comparisons showed

that the bachelor's group scored significantly lower than both the master's group and the TSEC group. The difference between the master's and TSEC groups was not statistically significant.

The important point is that the Student Engagement result did not show three separate levels of efficacy. Instead, one group stood apart. Bachelor's participants reported lower confidence in their ability to engage students than participants in the other two certification routes, while master's and TSEC participants reported statistically similar levels of engagement efficacy. The large effect size indicates that this was a substantial route-associated difference within the study sample.

Instructional Strategies

Instructional Strategies followed the same pattern, $F(2, 102) = 14.16$, $p < .001$, $\eta^2 = .217$. Bachelor's-route participants reported a mean of 6.58, compared with 7.47 for master's-route participants and 7.57 for TSEC participants. Both the master's and TSEC groups scored significantly higher than the bachelor's group. The master's and TSEC groups did not significantly differ from one another.

This finding is especially useful because Instructional Strategies had the highest mean score across the full sample. Participants generally reported strong efficacy in this area, but the certification route pattern still remained. Bachelor's-route participants reported lower instructional efficacy than participants in the other two groups even though their mean was still above the midpoint of the TSES scale. The result therefore reflects relative differences among groups rather than evidence that bachelor's participants lacked instructional confidence altogether

.

Classroom Management

Classroom Management also differed significantly by certification route, $F(2, 102) = 14.05$, $p < .001$, $\eta^2 = .216$. Bachelor's-route participants reported a mean of 6.39, master's-route participants reported a mean of 7.26, and TSEC participants reported a mean of 7.42. The bachelor's group scored significantly lower than both the master's and TSEC groups. The master's and TSEC groups did not significantly differ.

The Classroom Management result repeated the same two-versus-one pattern found in the other domains. The bachelor's group had the lower mean, while the master's and TSEC groups were similar. This consistency matters because it shows that the route pattern was not limited to one isolated part of the TSES. It appeared across engagement, instruction, and management.

Overall TSES Composite

The overall TSES score was examined and showed the same pattern, $F(2, 102) = 16.47$, $p < .001$, $\eta^2 = .244$. The bachelor's mean was 6.37, compared with 7.25 for master's participants and 7.43 for TSEC participants. Bachelor's participants scored significantly lower than both comparison groups. Master's and TSEC participants did not significantly differ.

The composite was not used to replace the three domains named in the research question. Instead, it provided a summary check of the pattern already seen in the domain analyses. Its result reinforced the same conclusion: the bachelor's group reported lower general teaching efficacy, while the master's and TSEC groups reported similar, higher levels of efficacy.

Summary of Research Question 1

Research Question 1 produced a clear answer. Teacher self-efficacy differed by certification route across Student Engagement, Instructional Strategies, and Classroom Management. The differences were large in each domain. In every case, bachelor's-route

participants reported significantly lower self-efficacy than master's-route and TSEC participants. Master's-route and TSEC participants did not significantly differ from one another. The results therefore did not support a three-level ranking of the certification routes. Instead, the bachelor's group reported lower efficacy, while the master's and TSEC groups reported statistically similar, higher efficacy.

These results establish the quantitative pattern but do not explain why it occurred. The study was not designed to show that certification route caused the differences, and factors such as previous school-based work or teaching experience were not measured systematically. The open-ended responses that were analyzed qualitatively for Research Question 2 provide additional context about the preparation experiences participants remembered, but they are not used as proof of a causal explanation.

Research Question 2

Research Question 2 asked: *What areas of preparation do recently prepared Alabama special education teachers identify as strengths and areas needing greater emphasis within their certification programs?* Additionally, four subquestions sought to focus on participants' preparedness, specifically: (a) areas they felt best prepared, (b) areas they felt least prepared, (c) understanding their experiences in relation to self-efficacy, and (d) their recommendations for improving their preparation/certification route.

The written responses were organized around the wording used in the survey: areas participants felt best prepared, areas participants felt least prepared, and recommended program improvements. Within the Best Prepared and Least Prepared sections, findings are presented first by certification route so that the experiences of bachelor's, master's, and TSEC participants can be understood separately. For each route, the tables identify the areas of preparation reflected in

participants' responses, describe what was included within each area, report the number of participants whose responses reflected the area, and provide a representative participant quotation. The narrative following each table focuses on the preparation experiences that appeared to support or limit readiness and how those experiences influenced participants' confidence, comfort, stress, or uncertainty. A cross-route comparison follows the three route-specific findings to identify areas of similarity and variation across certification routes. Recommended program improvements are presented separately to reflect participants' suggestions for strengthening the preparation of future special education teachers.

Areas Participants Felt Best Prepared

Participants were asked to identify responsibilities for which they felt best prepared when they began working as special education teachers and to describe the preparation experiences that contributed to that readiness. Responses were reviewed to identify recurring areas of preparation within each certification route. Because participants sometimes identified more than one area within their required and optional responses, the areas were not mutually exclusive. A participant could therefore be represented in more than one area. However, when the same participant referred to the same area more than once, the participant was counted only once within that area. The following tables present the areas identified within each certification route, a description of what was included within each area, the number of participants whose responses reflected the area, and a representative participant response.

Bachelor's Route

Bachelor's-route participants identified strengths across seven areas of preparation. *Instructional Planning and Differentiation* was identified most frequently, followed by

Classroom Management and Routines, *Student Relationships and Advocacy*, *Collaboration and Communication*, and *Behavior Support*. Smaller numbers of participants identified *IEP Development and Legal Compliance and Assessment and Progress Monitoring* as areas in which they felt prepared to begin their work on Day 1. Table 4.4 presents the areas of preparation identified by bachelor's-route participants.

Table 4.4 Areas in Which Bachelor's-Route Participants Felt Best Prepared

Areas of Preparation	Description	n	Representative Quotation
Instructional Planning and Differentiation	Preparing, adapting, and delivering instruction to address individual student needs, including accommodations, modifications, differentiated lessons, small-group instruction, and evidence-based practices.	38	"Throughout my preparation program we practiced modifying classroom assignments for students with different disabilities." (Quinn)
Classroom Management and Routines	Establishing expectations, procedures, structure, organization, and routines that support the everyday operation of the classroom and learning environment.	18	"On day one of the job I felt best prepared to establish routines and expectations." (Avery)
Student Relationships and Advocacy	Building supportive relationships with students, understanding individual needs, developing trust, promoting student well-being, and advocating for appropriate supports and services.	12	"I already knew how to start building trust with students." (Riley)
Collaboration and Communication	Working and communicating with general education teachers, families, related-service providers, administrators, and other professionals to support students and coordinate services.	11	"I felt most prepared to collaborate with general education teachers." (Casey)
Behavior Support	Using proactive and positive strategies to support student behavior, including reinforcement, prevention, and responses to everyday behavioral needs.	11	"Classroom management was definitely what I felt most prepared to do." (Morgan)

Areas of Preparation	Description	n	Representative Quotation
IEP Development and Legal Compliance	Participating in IEP development, meetings, documentation, and other special education processes requiring knowledge and application of legal, procedural, and compliance requirements.	5	"I feel that I was best prepared for the paperwork that is associated with being a special education teacher." (Jordan)
Assessment and Progress Monitoring	Collecting, interpreting, and using assessment or progress-monitoring information to evaluate student performance, monitor growth, and inform instructional decisions.	3	"I felt most prepared to collect progress monitoring data and use it to make instructional decisions." (Kendall)

Note. Frequencies represent unique participants whose responses reflected each area of preparation. Participants could be represented in more than one area; therefore, frequencies may exceed the number of participants within the certification route. A participant was counted only once within an area even when the area appeared in multiple responses. Pseudonyms are used to protect participant confidentiality.

Instructional Planning and Differentiation was the most frequently identified area of preparation strength among bachelor's-route participants. Participants connected this readiness to opportunities to work with actual students, adapt assignments, provide accommodations and modifications, teach in small groups, and receive feedback from professors, cooperating teachers, or mentors. Their descriptions suggested that coursework became especially meaningful when they were able to apply what they had learned with students and receive feedback on their performance.

Classroom Management and Routines represented another common area of strength. Participants described preparation for establishing expectations, organizing the classroom, developing routines, and managing the everyday operation of the classroom. These experiences were often connected to field placements in which participants first observed classroom management and then gradually assumed greater responsibility. Avery, for example, explained that substantial preparation related to structure, routines, and expectations contributed to feeling

confident implementing those practices on Day 1. Avery distinguished this preparation from managing more challenging behaviors, which had received considerably less attention during preparation.

Student Relationships and Advocacy also emerged as an area of strength. Participants described learning to listen to students, understand individual needs, build trust, and advocate for appropriate support. These responses emphasized the value of repeated interaction with students during preparation rather than a single course or assignment. Riley described how a mentor modeled relationship-building strategies and gradually allowed greater responsibility. These experiences contributed to confidence because Riley had already practiced beginning the process of building trust with students before Day 1.

Collaboration and Communication and Behavior Support were also identified as areas of preparation strength. Participants described experiences planning with general education teachers, working with other professionals, participating in meetings, and supporting student behavior through routines, reinforcement, and planned interventions. Importantly, readiness in one aspect of an area did not necessarily indicate readiness for every responsibility associated with it.

Smaller numbers of bachelor's-route participants identified *IEP Development and Legal Compliance and Assessment and Progress Monitoring* as areas of strength. These lower-frequency responses are important because they demonstrate that specialized responsibilities were not experienced uniformly as weaknesses. Jordan, for example, described feeling prepared for special education paperwork because coursework emphasized both completing the paperwork and understanding its legal requirements. Participants who identified assessment and progress

monitoring as strengths similarly connected their readiness to opportunities to collect information, review student progress, and use data to make decisions.

Across the bachelor's-route responses, preparation strengths were most often associated with responsibilities participants had opportunities to see, practice, and refine before becoming independently responsible for them. The specific responsibility differed across participants, but their descriptions repeatedly connected readiness with opportunities to participate in authentic work, receive feedback, and gradually assume responsibility.

Master's Route

Master's-route participants identified strengths across seven areas of preparation. *Instructional Planning and Differentiation* was identified most frequently, followed by *Collaboration and Communication*, *Student Relationships and Advocacy*, and *Assessment and Progress Monitoring*. Participants also identified *Classroom Management and Routines, Behavior Support, and IEP Development and Legal Compliance* as areas in which their preparation contributed to Day 1 readiness. Table 4.5 presents the areas of preparation identified by master's-route participants.

Table 4.5 Areas in Which Master's-Route Participants Felt Best Prepared

Area of Preparation	Description	n	Representative Quotation
Instructional Planning and Differentiation	Preparing, adapting, and delivering instruction to address individual student needs, including accommodations, modifications, differentiated lessons, small-group instruction, and evidence-based practices.	32	"I felt best at differentiating learning and reaching all levels of learning academically." (Skyler)
Collaboration and Communication	Working and communicating with general education teachers, families, related-service providers, administrators, and other professionals to support students and coordinate services.	16	"I felt most prepared to collaborate with multidisciplinary teams." (Parker)

Area of Preparation	Description	n	Representative Quotation
Student Relationships and Advocacy	Building supportive relationships with students, understanding individual needs, developing trust, promoting student well-being, and advocating for appropriate supports and services.	14	"I felt best prepared to build relationships with students and create a safe space for them." (Emerson)
Assessment and Progress Monitoring	Collecting, interpreting, and using assessment or progress-monitoring information to evaluate student performance, monitor growth, and inform instructional decisions.	10	"I felt most prepared to analyze student data and use it to guide instruction." (Taylor)
Classroom Management and Routines	Establishing expectations, procedures, structure, organization, and routines that support the everyday operation of the classroom and learning environment.	7	"I felt like I was best prepared for classroom management and organization." (Alex)
Behavior Support	Using proactive and positive strategies to support student behavior, including reinforcement, prevention, and responses to everyday behavioral needs.	7	"Because I had opportunities to practice those interventions, I felt prepared when challenging behaviors occurred in my own classroom." (Gavin)
IEP Development and Legal Compliance	Participating in IEP development, meetings, documentation, and other special education processes requiring knowledge and application of legal, procedural, and compliance requirements.	5	"I felt prepared to write measurable IEP goals." (Dylan)

Note. Frequencies represent unique participants whose responses reflected each area of preparation. Participants could be represented in more than one area; therefore, frequencies may exceed the number of participants within the certification route. A participant was counted only once within an area even when the area appeared in multiple responses. Pseudonyms are used to protect participant confidentiality.

Instructional Planning and Differentiation was the most frequently identified area of preparation strength among master's-route participants. Participants connected this readiness to graduate coursework, internships, case studies, previous school-based experience, and opportunities to adapt instruction for individual student needs. Their responses emphasized

applying instructional knowledge rather than simply learning about instructional practices in coursework.

Collaboration and Communication represented another prominent strength. Participants described working with multidisciplinary teams, general education teachers, families, related-service providers, and other school personnel during preparation experiences. Parker, for example, described graduate internship experiences involving speech therapists, occupational therapists, school psychologists, and general education teachers. These opportunities contributed to comfort asking questions and working with professionals from different backgrounds.

Student Relationships and Advocacy were also identified as preparation strengths. Participants described establishing trust, understanding student needs, advocating for students, and creating supportive classroom environments. Some participants described substantial confidence in relationship building while simultaneously identifying other responsibilities for which they felt considerably less prepared. This distinction demonstrates that confidence in one responsibility did not necessarily indicate confidence across the entire special education role.

Assessment and Progress Monitoring represented another area of strength. Taylor described repeated opportunities to analyze assessment data and participate in data meetings during an internship. Taylor explained that these experiences built confidence because instructional decisions had been practiced rather than assessment data simply being collected.

Classroom Management and Routines and Behavior Support were also identified as areas of readiness. Participants described experiences establishing classroom expectations, organizing learning environments, supporting student behavior, and responding to individual needs. One master's-route participant specifically described classroom management and organization as the area of greatest preparation strength and attributed that readiness to repeated observations of

special education teachers and classrooms. The same participant, however, identified violent behavior as an area that produced uncertainty, demonstrating the difference between general classroom management and more intensive behavioral situations.

IEP Development and Legal Compliance represented a smaller but important area of strength. Participants who identified this area described more direct opportunities to engage with IEP components, meetings, goals, or legal requirements. Its appearance among both best-prepared and least-prepared responses does not represent a contradiction. Instead, it demonstrates differences in the depth and type of preparation individual participants experienced.

Taken together, the master's-route responses showed preparation strengths across a range of responsibilities, with *Instructional Planning and Differentiation* appearing most frequently. As with the bachelor's route, participants' descriptions suggested that readiness was strongest when preparation allowed them to apply knowledge to authentic responsibilities with guidance, feedback, and opportunities for repeated practice.

TSEC Route

TSEC participants identified six areas in which they felt prepared to begin their work on Day 1. *Instructional Planning and Differentiation* was identified most frequently, followed by *Collaboration and Communication, Student Relationships and Advocacy, and Classroom Management and Routines*. Smaller numbers of participants identified *Behavior Support and IEP Development and Legal Compliance* as preparation strengths. Table 4.6 presents the areas of preparation identified within the TSEC route.

Table 4.6 Areas in Which TSEC Participants Felt Best Prepared

Area of Preparation	Description	n	Representative Quotation
Instructional Planning and Differentiation	Preparing, adapting, and delivering instruction to address individual student needs, including accommodations, modifications, differentiated lessons, small-group instruction, and evidence-based practices.	13	"I felt best prepared to teach because I had already been a general education teacher." (Drew)
Collaboration and Communication	Working and communicating with teachers, families, mentors, related-service providers, administrators, and other professionals to support students and coordinate services.	6	"I felt most prepared to collaborate with my mentor teacher and ask for feedback." (Hollis)
Student Relationships and Advocacy	Building supportive relationships with students, understanding individual needs, developing trust, promoting student well-being, and advocating for appropriate supports and services.	6	"I felt best prepared to build relationships with my students." (Cameron)
Classroom Management and Routines	Establishing expectations, procedures, structure, organization, and routines that support the everyday operation of the classroom and learning environment	5	"Managing different classrooms taught me how important routines and consistency are for student success." (Jamie)
Behavior Support	Using proactive and positive strategies to support student behavior, including reinforcement, prevention, and responses to everyday behavioral needs.	3	"I felt best prepared to handle challenging behaviors because of my previous teaching experience." (Drew)
IEP Development and Legal Compliance	Participating in IEP development, meetings, documentation, and other special education processes requiring knowledge and application of legal, procedural, and compliance requirements.	2	"Working alongside experienced special education teachers helped me understand the IEP process." (Cameron)

Note. Frequencies represent unique participants whose responses reflected each area of preparation. Participants could be represented in more than one area; therefore, frequencies may exceed the number of participants within the certification route. A participant was counted only once within an area even when the area appeared in multiple responses. Pseudonyms are used to protect participant confidentiality. Assessment and Progress Monitoring was not identified as a best-prepared area by a TSEC participant.

Instructional Planning and Differentiation represented the most frequently identified area of strength among TSEC participants. Several participants connected their readiness to professional experiences that occurred before or alongside their preparation through the TSEC-route. Previous general education teaching, paraprofessional work, and other school-based experiences gave some participants familiarity with instruction before they assumed specialized special education responsibilities.

Collaboration and Communication and Student Relationships and Advocacy were also identified as strengths. Participants described learning through interactions with mentors, colleagues, students, families, and other professionals. Prior employment outside traditional teacher preparation could also contribute to these areas. One TSEC participant, for example, described being assigned an experienced mentor who regularly observed instruction and met afterward to discuss successes and challenges.

Classroom Management and Routines were also identified as an area of readiness. As with instruction, some TSEC participants entered the route with previous experience managing students or classrooms. These prior experiences appeared to provide a foundation for responsibilities common across general and special education settings.

Behavior Support represented a smaller area of strength. Some participants connected readiness for challenging behavior to previous classroom experience. This distinction was important because prior teaching experience could contribute to confidence with instruction or behavior without necessarily providing preparation for specialized special education responsibilities.

IEP Development and Legal Compliance were identified as strengths by a small number of TSEC participants. These responses remain important despite their lower frequency because

they demonstrate variation within the route. Assessment and Progress Monitoring, however, was not identified as a best-prepared area within the TSEC route.

Overall, TSEC responses highlighted the importance of considering the experiences participants brought with them into the certification route. Prior teaching, paraprofessional work, professional experience, mentoring, and concurrent classroom practice contributed to readiness for several responsibilities. At the same time, readiness for general teaching responsibilities did not necessarily provide equivalent preparation for the specialized procedural and legal work of special education.

Cross Route Comparison of Areas Preparation Felt Best Prepared

Across the three certification routes, *Instructional Planning and Differentiation* was the most consistently identified area of preparation strength. It was identified by 38 bachelor's-route participants, 32 master's-route participants, and 13 TSEC participants. Although participants entered special education through different preparation routes, their descriptions frequently connected instructional readiness to opportunities to apply what they had learned with students. Bachelor's- and master's-route participants commonly described coursework, practicum experiences, internships, and feedback, while TSEC participants also described previous teaching and school-based experiences as contributing to their readiness.

Other areas of preparation showed greater variation across routes. *Classroom Management and Routines* was identified by 18 bachelor's-route participants, compared with seven master's-route and five TSEC participants. *Collaboration and Communication* was identified by 11 bachelor's-route, 16 master's-route, and six TSEC participants, while *Student Relationships and Advocacy* was represented by 12 bachelor's-route, 14 master's-route, and six TSEC participants. *Behavior Support* was also represented within all three routes. *Assessment*

and Progress Monitoring was identified as a preparation strength by three bachelor's-route and 10 master's-route participants but was not identified as a best-prepared area among TSEC participants. *IEP Development and Legal Compliance* was identified as a strength by relatively few participants across all three routes.

Despite these differences, a common pattern was evident in participants' descriptions of preparation strengths. Participants across routes frequently connected readiness to responsibilities they had opportunities to perform, practice, and receive feedback on before or while assuming responsibility for students. The specific experiences differed by route and participant, but readiness was commonly associated with opportunities to move beyond learning about a responsibility to actually carrying it out.

Areas Participants Felt Least Prepared

Participants were also asked to identify responsibilities for which they felt least prepared when beginning their work as special education teachers and to describe the preparation experiences that contributed to those perceptions. Responses were reviewed to identify recurring areas of underpreparedness within each certification route. As in the Best Prepared section, areas were not mutually exclusive. Participants could be represented in more than one area, but each participant was counted only once within an individual area. The following tables present the areas identified within each certification route, a description of what was included within each area, the number of participants whose responses reflected the area, and a representative participant response.

Bachelor's Route

Bachelor's-route participants identified areas of underpreparedness across seven areas of preparation. *IEP Development and Legal Compliance* was identified most frequently, followed by *Transition to Independent Teaching, Caseload and Daily Procedures, and Assessment and Progress Monitoring*. Participants also identified C*ollaboration and Communication, Instructional Planning and Differentiation, and Behavior and Crisis Response* as areas in which they felt less prepared on Day 1. Table 4.7 presents the areas identified by bachelor's-route participants.

Table 4.7 Areas in Which Bachelor's-Route Participants Felt Least Prepared

Area of Preparation	Description	n	Representative Quotation
IEP Development and Legal Compliance	Completing IEPs, conducting or participating in meetings, managing documentation and timelines, and carrying out special education legal, procedural, and compliance responsibilities.	29	"During my preparation program I only viewed 1 IEP and only wrote 1 IEP." (Avery)
Transition to Independent Teaching	Assuming full responsibility for the special education teacher role after preparation, including making decisions and managing multiple responsibilities without the level of supervision or support available during preparation.	14	"Teacher candidates [should] manage all responsibilities instead of only teaching lessons." (Finley)
Caseload and Daily Procedures	Managing the operational responsibilities of the special education role, including caseloads, schedules, service requirements, paperwork, documentation, deadlines, and other day-to-day procedures.	13	"I felt overwhelmed trying to balance instruction with all of my responsibilities." (Quinn)
Assessment and Progress Monitoring	Administering, interpreting, documenting, and using assessments and progress-monitoring information, including evaluation-related responsibilities and required reporting.	11	"I observed evaluations but never had the opportunity to help write the reports or interpret assessment results." (Hayden)

Area of Preparation	Description	n	Representative Quotation
Collaboration and Communication	Communicating and working with families, general education teachers, paraprofessionals, administrators, related-service providers, and other professionals, including difficult conversations and leadership responsibilities.	9	"I wasn't sure how to give directions to adults who had been working in the classroom much longer than I had." (Casey)
Instructional Planning and Differentiation	Planning, adapting, and delivering instruction for varied student needs, including accommodations, modifications, differentiated instruction, and specialized instructional practices.	8	"We were never tasked with accommodating or modifying any material/content." (Avery)

Note. Frequencies represent unique participants whose responses reflected each area of preparation. Participants could be represented in more than one area; therefore, frequencies may exceed the number of participants within the certification route. A participant was counted only once within an area even when the area appeared in multiple responses. Pseudonyms are used to protect participant confidentiality.

IEP Development and Legal Compliance was the most frequently identified area of underpreparedness among bachelor's-route participants. A recurring distinction in these responses was the difference between learning about the IEP process and being responsible for carrying it out. Participants described observing meetings, discussing IEP requirements in coursework, or completing limited portions of an IEP without having responsibility for the complete process.

Avery provided a particularly clear example. During preparation, Avery had viewed only one IEP and written one IEP, which was not subsequently reviewed and corrected. Avery reported feeling "extremely stressed and anxious" when responsibility for IEP work became real and explained that the lack of preparation nearly affected the decision to accept a special education position. Other participants similarly described knowing that IEPs were important while lacking opportunities to complete the entire process or lead meetings before becoming independently responsible for them.

Transition to Independent Teaching represented another area of underpreparedness. Participants described a noticeable shift between completing responsibilities with a cooperating teacher or supervisor present and becoming the person responsible for students, decisions, deadlines, paperwork, and services. For some participants, the challenge was not an absence of preparation experiences but the difference between participating in selected activities during preparation and carrying the complete role independently.

Caseload and Daily Procedures were also frequently identified. Participants described challenges involving schedules, service minutes, paperwork, deadlines, school procedures, documentation, and coordination of responsibilities. One participant described preparation as focusing primarily on teaching lessons while providing little explanation of everything involved in managing multiple students, deadlines, meetings, and paperwork. The participant reported feeling overwhelmed while attempting to balance instruction with the full range of responsibilities.

Assessment and Progress Monitoring were also identified as areas of underpreparedness. Participants described concerns involving evaluation reports, formal assessment responsibilities, progress documentation, eligibility paperwork, and interpreting assessment information. In many of these responses, participants had observed these responsibilities but had not completed them independently.

Collaboration and Communication, Instructional Planning and Differentiation, and Behavior and Crisis Response occurred less frequently but remained meaningful areas of underpreparedness. Avery, for example, described learning the difference between accommodations and modifications without actually being required to modify or accommodate instructional material. That lack of practice left Avery feeling “confused and worried” about

meeting students' needs. Another bachelor's-route participant described never experiencing a major behavioral crisis during student teaching and worrying about not knowing how to respond if a student became aggressive.

Across the bachelor's-route responses, underpreparedness was therefore not confined to one responsibility. A broader pattern appeared across several areas: participants sometimes knew about a responsibility or had observed someone else perform it but had not yet carried enough of that responsibility themselves to feel ready when it became their own.

Master's Route

Master's-route participants identified areas of underpreparedness across seven areas of preparation. *IEP Development and Legal Compliance* was identified most frequently, followed by *Caseload and Daily Procedures, Instructional Planning and Differentiation, and Collaboration and Communication*. Participants also identified *Transition to Independent Teaching, Assessment and Progress Monitoring, and Behavior and Crisis Response*. Table 4.8 presents the areas identified by master's-route participants.

Table 4.8 Areas in Which Master's-Route Participants Felt Least Prepared

Area of Preparation	Description	n	Representative Quotation
IEP Development and Legal Compliance	Completing IEPs, conducting or participating in meetings, managing documentation and timelines, and carrying out special education legal, procedural, and compliance responsibilities.	28	"I attended several meetings, but my mentor usually led the more difficult discussions with families." (Taylor)
Caseload and Daily Procedures	Managing the operational responsibilities of the special education role, including caseloads, schedules, service requirements, paperwork, documentation, deadlines, and other day-to-day procedures.	18	"I felt overwhelmed trying to keep everything organized during my first semester." (Parker)

Area of Preparation	Description	n	Representative Quotation
Instructional Planning and Differentiation	Planning, adapting, and delivering instruction for varied student needs, including accommodations, modifications, differentiated instruction, and specialized instructional practices.	11	"I did not feel prepared to manage all of the different instructional needs at the same time." (Emerson)
Collaboration and Communication	Communicating and working with families, general education teachers, paraprofessionals, administrators, related-service providers, and other professionals, including difficult conversations and leadership responsibilities.	11	"I felt nervous because I wanted to communicate clearly while also supporting families through emotional conversations." (Taylor)
Transition to Independent Teaching	Assuming full responsibility for the special education teacher role after preparation, including making decisions and managing multiple responsibilities without the level of supervision or support available during preparation.	8	"The transition from being an intern to being responsible for everything was overwhelming." (Ellis)
Assessment and Progress Monitoring	Administering, interpreting, documenting, and using assessments and progress-monitoring information, including evaluation-related responsibilities and required reporting.	5	"I helped gather assessment information but rarely completed full reports myself." (Gavin)

Note. Frequencies represent unique participants whose responses reflected each area of preparation. Participants could be represented in more than one area; therefore, frequencies may exceed the number of participants within the certification route. A participant was counted only once within an area even when the area appeared in multiple responses. Pseudonyms are used to protect participant confidentiality.

IEP Development and Legal Compliance was the most frequently identified area of underpreparedness among master's-route participants. As with bachelor's-route participants, responses frequently distinguished knowing the requirements of special education from being responsible for carrying out the complete process. Participants described concerns involving IEP writing, documentation, meetings, timelines, and the legal responsibilities attached to those tasks.

Caseload and Daily Procedures represented the second most frequently identified area. Participants described moving from supervised experiences into responsibility for schedules,

paperwork, deadlines, service coordination, meetings, and multiple students simultaneously. Parker described learning about timelines in coursework but not being responsible for tracking every deadline during the internship. When the complete responsibility became Parker's, keeping everything organized became overwhelming. Parker recommended allowing interns to manage a small supervised caseload before graduation.

Instructional Planning and Differentiation and Collaboration and Communication were also identified as areas of underpreparedness. Their appearance in both the Best Prepared and Least Prepared sections is important. It does not indicate inconsistency in the analysis; rather, different participants experienced different levels and types of preparation within the same broad responsibility.

Taylor's experience demonstrates that distinction within collaboration. Taylor had attended several IEP meetings but reported that a mentor typically led the more difficult family discussions. Taylor described feeling nervous about communicating clearly while supporting families through emotional conversations and recommended opportunities for teacher candidates to facilitate portions of meetings while receiving mentor feedback.

Transition to Independent Teaching was also identified as an area of underpreparedness. These responses reflected the difference between completing responsibilities with a mentor or supervisor nearby and becoming the person ultimately responsible for decisions and outcomes.

Assessment and Progress Monitoring and *Behavior and Crisis Response* occurred less frequently, with five and four participants, respectively, identifying these areas as preparation needs. Gavin described limited responsibility for completing assessment reports: "I helped gather assessment information but rarely completed full reports myself." His account distinguished participating in assessment activities from completing the documentation independently. In

behavior and crisis response, Alex described feeling uneasy about handling students with violent behaviors despite reporting preparedness for classroom management. These accounts illustrate how perceived preparedness for familiar responsibilities could coexist with uncertainty about more specialized tasks.

Across the master's-route responses, participants could describe meaningful preparation and substantial confidence in one responsibility while identifying a different responsibility for which they had received less direct practice. The responses therefore reflected task-specific readiness rather than a simple division between participants who were prepared and those who were not.

TSEC Route

TSEC participants identified areas of underpreparedness across seven areas of preparation. *IEP Development and Legal Compliance* was identified most frequently, followed by *Assessment and Progress Monitoring, Caseload and Daily Procedures, and Instructional Planning and Differentiation*. *Transition to Independent Teaching, Collaboration and Communication, and Behavior and Crisis Response* were each identified by one participant. Table 4.9 presents the areas identified by TSEC participants.

Table 4.9 Areas in Which TSEC Participants Felt Least Prepared

Areas of Preparation	Description	n	Representative Quotation
IEP Development and Legal Compliance	Completing IEPs, conducting or participating in meetings, managing documentation and timelines, and carrying out special education legal, procedural, and compliance responsibilities.	11	"I had never written an IEP before becoming a special education teacher." (Cameron)

Areas of Preparation	Description	n	Representative Quotation
Assessment and Progress Monitoring	Administering, interpreting, documenting, and using assessments and progress-monitoring information, including evaluation-related responsibilities and required reporting.	5	"I felt least prepared for progress monitoring and all of the documentation that went with it." (Sage)
Caseload and Daily Procedures	Managing the operational responsibilities of the special education role, including caseloads, schedules, service requirements, paperwork, documentation, deadlines, and other day-to-day procedures.	4	"I observed annual reviews but never completed the paperwork or organized the meetings myself." (Jamie)
Instructional Planning and Differentiation	Planning, adapting, and delivering instruction for varied student needs, including accommodations, modifications, differentiated instruction, and specialized instructional practices.	3	"Most of my field experiences involved students with mild disabilities, so I had limited exposure to students with more significant support needs." (Hollis)
Transition to Independent Teaching	Assuming full responsibility for the special education teacher role after preparation, including making decisions and managing multiple responsibilities without the level of supervision or support available during preparation.	1	"I was learning how to do the job while already being responsible for doing the job." (River)
Collaboration and Communication	Communicating and working with families, general education teachers, paraprofessionals, administrators, related-service providers, and other professionals, including difficult conversations and leadership responsibilities.	1	"I did not feel prepared for some of the difficult conversations that came with the role." (Phoenix)

Note. Frequencies represent unique participants whose responses reflected each area of preparation. Participants could be represented in more than one area; therefore, frequencies may exceed the number of participants within the certification route. A participant was counted only once within an area even when the area appeared in multiple responses. Pseudonyms are used to protect participant confidentiality.

IEP Development and Legal Compliance was the clearest area of underpreparedness among TSEC participants. This finding was particularly notable because some TSEC participants entered special education with previous classroom or school-based experience. Prior experience could contribute to confidence in instruction, behavior, relationships, or classroom management

without necessarily providing experience with the specialized legal and procedural responsibilities of special education.

Participants' descriptions repeatedly distinguished previous teaching experience from specialized special education experience. A participant could know how to teach, manage a classroom, or build relationships with students while encountering IEP development, legal documentation, annual reviews, and other procedural responsibilities for the first time after entering the special education role.

Assessment and Progress Monitoring represented another area of underpreparedness. Participants described concerns involving data, documentation, progress reports, evaluations, and related responsibilities. These responses suggested that the challenge was not simply collecting information about students but understanding how to document and use that information within special education requirements.

C*aseload and Daily Procedures and Instructional Planning and Differentiation* were also identified. One TSEC participant described having observed annual reviews without ever completing the paperwork or organizing the meetings independently. Another explained that most field experiences involved students with mild disabilities, resulting in limited exposure to students with more significant support needs. These responses again reflected the difference between exposure to a responsibility and assuming responsibility for completing it.

Transition to Independent Teaching, Collaboration and Communication, and Behavior and Crisis Response were each represented by individual participants in the current coding. These areas remained in the table despite their low frequency because the purpose of the table is to accurately represent the coded participant responses. At the same time, their frequency does

not support describing them as common experiences across the TSEC route. They are more appropriately reported as individual experiences within the route.

Taken together, TSEC participants' responses showed an important distinction between previous experience with teaching and preparation for the specialized responsibilities of special education. Prior professional experience contributed to readiness in several areas, while IEPs, legal compliance, assessment, documentation, and other specialized responsibilities could remain unfamiliar until participants were already responsible for performing them.

Cross Route Comparison of Areas Preparation Felt Least Prepared

IEP Development and Legal Compliance represented the clearest shared area of underpreparedness across the three certification routes. It was identified by 29 bachelor's-route participants, 28 master's-route participants, and 11 TSEC participants. Across routes, participants frequently described having learned about IEPs, legal requirements, meetings, or paperwork without having comparable opportunities to assume responsibility for completing the full process. Although the specific preparation experiences varied, the distinction between exposure to these responsibilities and independently carrying them out appeared repeatedly in participants' responses.

Other areas of underpreparedness varied across routes. *Caseload and Daily Procedures* was identified by 13 bachelor's-route, 18 master's-route, and four TSEC participants. Transition to Independent Teaching was more frequently identified among bachelor's-route participants, with 14 responses reflecting this area compared with eight master's-route and one TSEC participant. *Instructional Planning and Differentiation and Collaboration and Communication* were represented within all three routes, even though both areas also appeared among

participants' preparation strengths. This variation reflected differences in individual preparation experiences rather than a single experience shared by all participants within a route.

Assessment and Progress Monitoring was identified as an area of underpreparedness by 11 bachelor's-route, five master's-route, and five TSEC participants. *Behavior and Crisis Response* was less frequently identified overall but was represented within each route. Across these areas, participants often described responsibilities they had observed, discussed, or practiced only in limited ways before becoming independently responsible for them.

Taken together, the cross-route findings showed that preparation strengths and areas needing greater emphasis were not defined solely by certification route. Participants within each route described different levels of readiness across specific responsibilities. Across routes, however, their descriptions repeatedly distinguished between responsibilities they had opportunities to perform with guidance and feedback and responsibilities they had primarily observed or encountered only after assuming the full role of a special education teacher.

Bandura's Sources of Self-Efficacy in Preparation Experiences

Participants' accounts of preparation experiences were also examined through Bandura's (1997) four sources of self-efficacy: mastery experiences, vicarious experiences, verbal persuasion, and physiological or affective states. For example, *Instructional Planning and Differentiation* identified what a participant felt prepared or unprepared to do, while the Bandura coding helped describe how the preparation experience may have contributed to that sense of readiness.

The four sources were not mutually exclusive. A participant could describe performing a task, observing a mentor, receiving feedback, and feeling confident or anxious within the same response. For that reason, the source codes were treated as overlapping features of participants'

preparation experiences rather than separate categories of participants. The analysis is presented across certification routes rather than repeating the bachelor's, master's, and TSEC structure used in the Best Prepared and Least Prepared sections.

Table 4.10 Bandura Source Codes by Certification Route

Bandura Source	Bachelor's n (%)	Master's n (%)	TSEC n (%)	Total n
Mastery Experiences	42 (93.3)	39 (86.7)	10 (66.7)	91
Physiological or Affective States	24 (53.3)	24 (53.3)	5 (33.3)	53
Verbal Persuasion	25 (55.6)	20 (44.4)	7 (46.7)	52
Vicarious Experiences	20 (44.4)	10 (22.2)	6 (40.0)	36

Note. Bandura source codes were not mutually exclusive. A participant could be represented in more than one source when the written response reflected multiple preparation experiences. Percentages are based on the number of participants within each certification route.

As shown in Table 4.10, mastery experiences appeared most frequently in the written responses, followed by physiological or affective states, verbal persuasion, and vicarious experiences. The frequencies describe the presence of these sources within participants' written responses and should not be interpreted as ratings of certification-route quality. More importantly, participants' descriptions showed that the four sources frequently operated together rather than independently. Practice was often accompanied by observation, feedback, and an emotional response to the experience.

Mastery Experiences

Mastery experiences appeared in 91 participant records and were the most frequently identified source of self-efficacy in the written responses. Participants described performing responsibilities during student teaching, internships, coursework, previous employment, and on-

the-job experiences. These responsibilities included delivering instruction, differentiating lessons, managing classroom routines, collecting and interpreting data, supporting behavior, communicating with other professionals, and participating in special education procedures.

The relationship between mastery experiences and readiness became especially visible when participants' Best Prepared and Least Prepared responses were considered together. Participants commonly described confidence in responsibilities they had performed repeatedly before Day 1. In contrast, responsibilities that had primarily been discussed or observed were more likely to be accompanied by uncertainty once the participant became independently responsible for performing them.

Finley's responses provide a useful example. Classroom management and small-group instruction were described as areas of readiness because both had been practiced during clinical experiences. Progress monitoring was different. Although data collection had been discussed during preparation, Finley had not been responsible for maintaining progress-monitoring information for multiple students over time. The difference was not simply whether the responsibility had appeared in preparation; it was the extent to which Finley had actually performed it.

A similar pattern appeared in the master's-route responses. Taylor described confidence using assessment data because graduate coursework required repeated analysis of formal and informal results, and the internship included participation in data meetings where instructional decisions were made. Taylor explained feeling confident because there had been practice "making instructional decisions instead of simply collecting data." That experience differed from difficult IEP conversations, which Taylor had observed but had not typically led.

Mastery experiences were therefore task specific. Performing one important part of the special education role did not automatically produce confidence in another. A participant could have substantial instructional experience and still have limited experience writing an IEP, leading a meeting, supervising paraprofessionals, interpreting an evaluation, or managing a caseload. The written responses consistently reflected these differences within individual participants.

The route differences in Table 4.10 should be read within that context. Mastery experiences were coded in 42 bachelor's, 39 master's, and 10 TSEC participant records. These frequencies reflect what participants described in the survey rather than the total amount of experience available within a certification route. Some TSEC participants, for example, entered special education with previous teaching, paraprofessional, or other professional experiences and described those experiences as part of their preparation for particular responsibilities.

Across routes, mastery was most meaningful when participants had done enough of the responsibility to understand what successful performance required. The written responses did not suggest that one attempt automatically created readiness. Instead, confidence was commonly associated with opportunities to perform a responsibility, encounter challenges, make adjustments, and perform it again.

Vicarious Experiences

Vicarious experiences appeared in 36 participant records and were reflected in descriptions of watching mentors, cooperating teachers, supervisors, specialists, and other professionals perform responsibilities. Participants described observing instruction, classroom routines, behavior supports, IEP meetings, family communication, collaboration, assessment processes, and special education procedures.

Observation often provided participants with an initial model of what professional practice looked like. Riley, for example, described a mentor modeling relationship-building strategies before gradually allowing Riley to take the lead. Gavin similarly described working with a behavior specialist who modeled interventions before allowing those strategies to be implemented during the internship. In these experiences, observation did not stand alone. It served as a bridge to later performance.

The Least Prepared responses showed what could happen when that bridge stopped at observation. Participants sometimes described seeing a responsibility performed without having an opportunity to perform it themselves. Riley had observed IEP meetings but had not facilitated one. Hayden had observed evaluations but had not written complete reports or interpreted assessment results. Taylor had attended meetings while a mentor handled more difficult family conversations.

These experiences were valuable because participants were able to see how experienced professionals approached the work. However, several participants described continued uncertainty when observation was not followed by an opportunity to attempt the responsibility themselves.

The distinction was especially visible in the program-improvement recommendations. Participants did not generally recommend eliminating observation. Instead, they wanted observation to become the beginning of a progression. They wanted to watch an experienced educator, attempt part of the responsibility, receive guidance, and gradually assume a larger role.

Vicarious experiences therefore appeared to be most useful in participants' descriptions when they were connected to later participation. Seeing how the work was done provided a

model. Performing the work afterward gave participants an opportunity to determine whether they could carry out the responsibility themselves.

Verbal Persuasion

Verbal persuasion appeared in 52 participant records through descriptions of coaching, encouragement, correction, discussion, and performance feedback. Participants described professors, mentors, cooperating teachers, specialists, and supervisors explaining why a strategy worked, reviewing candidate performance, identifying needed changes, and providing reassurance as participants assumed greater responsibility.

The written responses suggested that feedback was especially meaningful when it was connected to an authentic performance. Quinn described practicing accommodations and modifications and receiving consistent professor feedback on how those adaptations could be improved. Gavin described a behavior specialist modeling interventions and then providing opportunities to practice them. Taylor described a mentor discussing assessment results after benchmark assessments and using those conversations to connect data to instructional decisions.

In these examples, verbal persuasion was more than praise. The participant had completed or attempted a responsibility, and another person helped interpret the performance. Feedback provided information about what had been done successfully, what needed to change, and what should happen during the next attempt.

Avery's experience with IEP preparation provides the opposite example. Avery had written an IEP during preparation but reported that the document was not reviewed and corrected. Instead, the feedback was that the district would later teach how it wanted IEPs written. The experience technically included an attempt at the task, but Avery was left without

clear information about whether the performance had been successful or what needed improvement.

That distinction helps explain why practice and feedback appeared so closely connected throughout the participants' recommendations. Practice without meaningful feedback could leave participants uncertain about the quality of their performance. Feedback without an opportunity to perform the responsibility could remain abstract. Participants most often described confidence when they had an opportunity to attempt authentic work and receive information that helped them improve the next attempt.

The same relationship appeared in recommendations for future preparation. Participants asked for mentor feedback while leading portions of meetings, review of IEPs and evaluation reports, coaching during internships, and sustained mentoring while assuming new responsibilities. Their recommendations reflected a desire not simply to be told that they were ready, but to receive feedback that helped them understand why their performance was or was not successful.

Physiological and Affective States

Physiological and affective states appeared in 53 participant records. Participants described confidence, comfort, nervousness, anxiety, stress, fear, uncertainty, and feeling overwhelmed. These emotional responses often appeared alongside descriptions of what participants had or had not experienced during preparation.

Positive emotional responses were frequently connected to familiar responsibilities. Participants who had repeatedly practiced instruction, classroom routines, collaboration, or behavior supports described feeling confident or comfortable when those responsibilities became

their own. The work was not necessarily described as easy, but it was familiar enough that participants believed they had a way to approach it.

Negative emotional responses appeared frequently when responsibility exceeded previous experience. Avery's description of IEP preparation provides one of the clearest examples. Limited practice and the absence of corrective feedback were followed by substantial stress and anxiety when IEP responsibility became real. Riley described anxiety about leading an IEP meeting and answering parent questions after having observed meetings without facilitating them. Finley described feeling overwhelmed while trying to manage progress-monitoring information across multiple students while also teaching. Rowan described worry about responding appropriately to aggression after completing student teaching without experiencing a major behavioral crisis.

These responses did not indicate that anxiety itself caused lower self-efficacy or that confidence alone demonstrated adequate preparation. Instead, participants' emotional descriptions provided information about how they interpreted their readiness for specific responsibilities. Feeling calm or confident often followed familiarity and supported practice, while stress and uncertainty commonly accompanied responsibilities that participants believed they had not practiced sufficiently.

The four sources were therefore closely connected within the written responses. A participant might first observe a mentor perform a responsibility, attempt the responsibility with supervision, receive corrective feedback, and then describe greater confidence during a later attempt. Another participant might observe the same responsibility without performing it and later describe anxiety when expected to complete it independently.

Viewed together, the four sources provide a way to understand the preparation experiences participants had already described in their own words. The best- and least-prepared findings identified the responsibilities participants felt ready or insufficiently prepared to perform. The source coding described the experiences surrounding those perceptions. The recommendations presented later identify changes participants believed would strengthen preparation.

Supplemental COVID-19 Item

The survey included a supplemental item asking participants whether the COVID-19 pandemic affected any part of their preparation or certification experience. This item was included to provide context because participants completed their preparation within a period that could include pandemic-related disruptions. COVID-19 was not part of either research question and was not treated as a primary explanatory variable in the study.

Table 4.11 COVID-19 Preparation Impacts by Certification Route

Response or Impact	Bachelor's	Master's	TSEC	Total
Reported impact (Yes)	9	5	0	14
No reported impact	36	40	15	91
Reduced field experiences	7	4	0	11
Remote or online coursework	4	3	0	7

Fourteen of the 105 participants reported that COVID-19 affected some aspect of their preparation, while 91 reported no effect. Nine of the participants reporting an effect completed a bachelor's route and five completed a master's route. No TSEC participant reported a COVID-related preparation impact.

Among participants who reported an impact, reduced or altered field experiences were most common. Participants described canceled observations, reduced opportunities to work with students in person, or changes in how clinical experiences were completed. Remote or online coursework and broader pandemic-related disruptions were also reported.

The COVID responses provide useful context for understanding the experiences of a small portion of the sample, particularly when participants described limited opportunities for in-person observation or clinical practice. However, most participants did not report a COVID-related impact, and the major patterns identified in the Best Prepared, Least Prepared, and Program Improvement responses were present across participants who did and did not report pandemic effects. COVID-19 was therefore retained as supplemental context rather than used as a primary explanation for the RQ2 findings.

Recommended Program Improvements

Participants were also asked to recommend one change that could improve preparation for future special education teachers. This question gave participants an opportunity to move beyond identifying what had worked or what had been missing in their own preparation and describe what they believed future teachers should experience differently. Their recommendations were closely connected to the responsibilities discussed in the Best Prepared and Least Prepared sections. Participants frequently returned to responsibilities they had felt ready to perform because they had practiced them, as well as responsibilities that created uncertainty because their preparation had provided observation or information without comparable opportunities to assume responsibility.

The recommendations were organized into five broader patterns as shown in Table 4.12: practice with the complete IEP and legal process; clinical experiences that more closely reflect

the actual job; opportunities to practice collaboration, communication, and professional leadership; preparation for specialized and high-stakes responsibilities; and sustained mentoring, feedback, and supported responsibility. These recommendations did not generally call for preparation programs to simply add more coursework or requirements. Participants were more specific. They wanted future teachers to have opportunities to perform the work while knowledgeable support was still available.

Table 4.12 Five Themes in Participants' Recommended Program Improvements

Theme	What Teachers Were Asking For
Practice the Complete IEP and Legal Process	Opportunities to write and revise IEPs, develop measurable goals, complete documentation, understand timelines, participate in meetings, and practice the complete legal and procedural process.
Make Clinical Experience Look More Like the Actual Job	Clinical experiences with progressively greater responsibility for caseloads, deadlines, documentation, scheduling, service coordination, and responsibilities beyond lesson delivery.
Practice Collaboration, Communication, and Professional Leadership	Practice communicating with families and teams, leading portions of meetings, coordinating services, supervising paraprofessionals, handling difficult conversations, and making shared decisions.
Prepare for Specialized and High-Stakes Responsibilities	Guided practice with assessment, evaluation reports, progress monitoring, behavior plans, de-escalation, crisis response, and other specialized responsibilities that may not naturally occur during field placements.
Provide Sustained Mentoring, Feedback, and Supported Responsibility	Ongoing coaching, modeling, review, and corrective feedback while candidates or beginning teachers gradually assume greater responsibility, with support timed to the structure of the certification route.

Across the five themes, teachers rarely asked programs to simply add more information. Their comments were more concrete. They wanted opportunities to perform the work, receive feedback, and carry increasing responsibility while support was still available. The discussion

below follows those five themes and uses participants' own words to show what those recommendations looked like in practice.

Theme 1: Practice the Complete IEP and Legal Process

The strongest recommendation centered on IEP development and legal compliance, but participants' recommendations extended beyond learning how to complete an IEP form. They described a process that included reviewing student information, developing measurable goals, completing documentation, understanding timelines, participating in meetings, communicating with families and other professionals, and understanding what happens before and after the meeting. Their recommendations suggested that learning individual pieces of the IEP process did not necessarily prepare them to understand how those pieces came together once they became the person responsible for the process.

Avery's experience provides one of the clearest examples. Avery had entered the classroom feeling prepared to establish routines and expectations, an area that had received substantial attention during preparation. The experience with IEPs was very different. Avery reported having viewed only one IEP and written one during preparation. The written IEP was not reviewed and corrected. Instead, Avery recalled being told, "You will learn how your district wants you to write your IEPs." Once the responsibility became real, the limited preparation carried consequences beyond simply feeling unsure about paperwork:

> "During my preparation program I only viewed 1 IEP and only wrote 1 IEP. The IEP I drafted was not reviewed and corrected, rather a comment was given "You will learn how your district wants you to write your IEPs." This lack of knowledge and understanding of how to perform my job left me feeling extremely stressed and anxious. My lack of preparation almost resulted in me not accepting a job in special education."

Avery's recommendation followed directly from that experience: candidates should "participat[e] in the whole IEP process" and then hold mock meetings. The important part of the recommendation was whole. Avery had technically been exposed to an IEP and had technically completed an IEP-writing assignment. What was missing was the opportunity to have the work reviewed, understand whether it was correct, revise it, connect the written document to the meeting, and experience how the different responsibilities fit together.

Riley described a related gap from a different position. Riley had observed IEP meetings during student teaching but had never facilitated one or been responsible for explaining evaluation results to parents. That distinction became important when the responsibility shifted from observing another professional to being expected to communicate the information personally. Riley described feeling anxious about answering parent questions and explaining legal requirements and wished for more experience developing measurable goals. The recommendation was therefore specific: "I would recommend requiring teacher candidates to participate in more IEP meetings and allowing them to practice leading at least one meeting before graduation."

Riley was not asking for more chances to attend more meetings because meetings had already been observed. The recommendation was to change the candidate's role within the meeting. Watching an experienced teacher answer a difficult question provides a model; answering the question with a mentor sitting beside the candidate creates a different preparation experience. The same concern appeared in master's-route responses. Taylor had attended several meetings but described the mentor as the person who typically handled more difficult conversations with families. Taylor recommended allowing candidates to facilitate portions of IEP meetings while receiving mentor feedback. That recommendation did not require turning the

entire meeting over to an intern. Instead, responsibility could be divided into manageable pieces, with the candidate assuming part of the professional role while support remained available.

TSEC participants described the issue from yet another position because some were already employed while learning these responsibilities. Cameron's recommendation was direct: "Provide additional training focused specifically on writing IEPs and completing special education documentation." For an employment-based teacher, the opportunity for supported practice may not occur before Day 1 in the same way it can during student teaching. The recommendation therefore points toward support that occurs while the responsibility is already becoming part of the teacher's job.

Across routes, the recommendation was remarkably consistent even when the timing of preparation differed. Participants wanted future special education teachers to do more than recognize the components of an IEP. They wanted them to write, revise, explain, participate, lead, and receive feedback while someone experienced was still available to help. Their responses suggest that the gap was not simply a lack of information about IEPs. It was a lack of sufficient responsibility for the process before the legal responsibility became their own.

Theme 2: Make Clinical Experience Look More Like the Actual Job

The second theme concerned what candidates actually do during clinical experiences. Participants did recommend longer or additional field experiences, but their explanations showed that time alone was not the central concern. A candidate could spend many hours in a classroom while still having limited responsibility for the work that occurs beyond lesson delivery. Participants wanted clinical experiences to reflect more of the complete special education role.

Finley expressed this directly by recommending that programs "include longer field experiences where teacher candidates manage all responsibilities instead of only teaching

lessons.” The recommendation grew out of an experience in which classroom management and small-group instruction had been practiced repeatedly, while managing progress-monitoring data across multiple students had not. Once Finley became responsible for both teaching and the systems surrounding teaching, the difference became apparent:

> “We learned about collecting data in college, but I didn't have enough opportunities to actually manage progress monitoring for multiple students over several weeks. I felt overwhelmed trying to keep track of everyone's data while also teaching. Time management was another area I struggled with during my first semester.”

This account helps clarify what participants meant when they asked for field experience that looked more like the actual job. Finley had not entered the classroom without preparation. Classroom management had been practiced. Small-group instruction had been practiced. Data collection had been discussed. The difficulty emerged when several responsibilities had to occur at the same time and over time.

That distinction also appeared in participants’ descriptions of caseload management. Parker recalled discussing timelines in graduate coursework but not being responsible for tracking every deadline during the internship. Once Parker became responsible for a full caseload, keeping the pieces organized became overwhelming. Parker's recommendation was practical: “Allow interns to manage a small supervised caseload before graduation.”

A small supervised caseload provides a middle ground between observation and full responsibility. The candidate does not need to assume the mentor teacher’s complete caseload. Instead, a limited number of students could require the candidate to monitor deadlines, communicate with team members, maintain documentation, prepare for meetings, coordinate

services, and continue providing instruction. The mentor remains available to review the work, identify mistakes, and help the candidate understand what needs to happen next.

Other participants described the same problem in more everyday language. Emerson observed that "managing the paperwork and deadlines was more difficult than teaching," while Reese recommended that preparation programs "actually instruct…on the day-to-day things you need to know and will be using every day." These comments point toward an important feature of special education preparation: preparing someone to teach students and preparing someone to manage the complete role are related, but they are not identical.

Participants were therefore not simply requesting more clinical hours. They were asking programs to examine what candidates are responsible for during those hours. Their recommendations called for clinical experiences in which responsibility expands gradually, from teaching lessons, to managing student information, to participating in meetings, to tracking deadlines, to coordinating services, and eventually to managing a limited portion of the complete role with supervision.

Theme 3: Practice Collaboration, Communication, and Professional Leadership

The third theme concerned the professional interactions that surround special education services. Participants did not describe collaboration simply as getting along with colleagues or communicating regularly. Their recommendations focused on situations in which the special education teacher must explain, coordinate, lead, supervise, advocate, or navigate disagreement.

Taylor's experience illustrates the distinction. Taylor had attended IEP meetings during preparation, so the difficulty was not unfamiliarity with meetings themselves. The mentor, however, typically handled the more difficult conversations with families. Taylor described wanting to communicate clearly while also supporting families through emotional discussions.

The recommendation was to “provide teacher candidates opportunities to facilitate portions of IEP meetings while receiving mentor feedback.” That recommendation again places the candidate between observation and independence. The mentor does not disappear. Instead, the candidate begins to occupy the professional role while the mentor remains available to support the interaction and provide feedback afterward.

Casey described a similar issue involving paraprofessionals. During preparation, Casey had worked alongside paraprofessionals but had not been responsible for assigning duties or providing feedback because the cooperating teacher retained those responsibilities. Once Casey became the classroom teacher, the professional relationship changed. Casey was no longer simply another adult working in the room but the person expected to provide direction. The lack of experience was particularly uncomfortable because some paraprofessionals had considerably more classroom experience than the beginning teacher.

That experience led Casey to recommend greater attention to leadership and communication skills. The issue was not whether Casey knew how to collaborate. It was whether preparation had provided an opportunity to lead adults professionally. Remy extended the same idea to service coordination by recommending opportunities for candidates to “coordinate services for a small group of students during internships.” Coordination requires more than observing professionals working together. It places responsibility on the special education teacher to make sure communication occurs, services align, information reaches the appropriate people, and responsibilities do not fall through the cracks.

Across these recommendations, participants were asking preparation programs to recognize that collaboration changes when the candidate becomes the special education teacher within the team. Observing a parent conversation is different from explaining information to the

parent. Working beside a paraprofessional is different from supervising one. Attending a meeting is different from leading part of it. Being present when services are coordinated is different from being responsible for making sure coordination occurs. Participants wanted opportunities to cross those boundaries gradually, while a mentor could still model, observe, intervene when necessary, and provide feedback afterward.

Theme 4: Prepare for Specialized and High-Stakes Responsibilities

Some responsibilities cannot be guaranteed during a traditional field placement. A student teacher may never encounter a behavioral crisis. A complicated evaluation may not occur during the semester. A difficult manifestation determination, an aggressive student, or an unusually challenging eligibility meeting cannot be scheduled simply because a candidate needs practice. Participants nevertheless described the consequences of encountering these responsibilities for the first time after becoming independently responsible for them.

Rowan's experience with crisis response illustrates the problem. Rowan had completed student teaching without experiencing a major behavioral crisis. That absence was understandable; a preparation program cannot manufacture an authentic crisis. But when Rowan considered the possibility of a student becoming aggressive, the lack of experience produced uncertainty:

> "Fortunately, I never experienced a major behavioral crisis during student teaching, so I didn't have much practice responding to those situations. I worried that I wouldn't know how to respond appropriately if a student became aggressive."

Rowan recommended additional preparation in behavior de-escalation. The recommendation does not mean candidates should be placed in unsafe situations simply to gain experience. Instead, it raises the question of how preparation can provide meaningful rehearsal when

authentic experience cannot be guaranteed. Quinn described a similar concern with functional behavior assessment and behavior intervention planning. The process had been introduced, but the opportunity to carry out the complete responsibility in a field setting had been limited. In this type of situation, case-based practice, simulation, guided analysis, and feedback can provide a bridge between knowing the steps of a process and attempting to use them when a real student presents a complex need.

Assessment responsibilities produced the same concern. Participants described gathering assessment information or observing evaluations while having limited responsibility for interpreting results or writing complete reports. Hayden explained that evaluations had been observed but there had not been an opportunity to help write the reports or interpret assessment results. The concern was not simply whether the report could be completed; Hayden worried about whether the information would be accurate and legally appropriate.

Phoenix recommended "guided practice writing evaluation reports using real case examples." That recommendation offers one solution to the unpredictability of clinical placements. Programs cannot guarantee that every authentic situation will occur while a candidate is present, but they can provide structured opportunities to reason through realistic cases, make decisions, produce professional documents, explain those decisions, and receive feedback.

The participants' recommendations therefore did not require preparation programs to reproduce every possible special education situation. They asked programs to anticipate responsibilities that are both important and difficult to guarantee during field experience. Simulations, case studies, guided problem solving, role-play, and supervised practice cannot completely reproduce the pressure of a real crisis, evaluation, or legal decision. They can,

however, help ensure that the real situation is not the teacher's first meaningful attempt at responding.

Theme 5: Provide Sustained Mentoring, Feedback, and Supported Responsibility

The final theme ties the other recommendations together. Participants were not generally asking programs to give candidates greater responsibility and then leave them alone to figure it out. They described a process in which responsibility increases while support remains available.

This was particularly visible among TSEC participants because employment and preparation could occur at the same time. A beginning teacher might already have responsibility for students while still learning the specialized systems surrounding special education. In that situation, the timing of mentoring becomes especially important. Hollis recommended that programs "continue providing mentor support throughout the entire first year instead of ending it after the first few months." The recommendation recognizes that many special education responsibilities do not appear during the opening weeks of school. Annual reviews, reevaluations, progress reports, compliance deadlines, difficult meetings, and changing student needs unfold across the year. A teacher may appear to be functioning successfully in September while still not having encountered responsibilities that will become significant later.

Sage made the recommendation even more task specific: "Provide additional mentoring focused specifically on progress monitoring and documentation." The request was not simply for encouragement or a mentor whose name appeared on a district form. Sage wanted support connected to the work that was actually creating uncertainty. The same principle appeared differently in preservice routes. Bachelor's-route participants often wanted opportunities to assume more responsibility before graduation. Master's-route participants described internships in which selected professional responsibilities could gradually become theirs. TSEC participants

sometimes needed that supported responsibility to continue after employment because they were already doing the job while learning parts of it.

This difference matters because the three certification routes do not necessarily need identical structures. A bachelor's candidate may be able to practice leading part of an IEP meeting during student teaching. A master's candidate may be able to manage a small supervised caseload during an internship. A TSEC teacher who already has a caseload may need an experienced mentor to review an upcoming IEP, examine documentation, observe a meeting, or provide feedback after the responsibility has been attempted. The structure changes, but the participants' request remains remarkably similar: do not remove the support at the moment responsibility becomes real.

Summary of Recommended Program Improvements

Taken together, the five themes tell a larger story than a list of changes preparation programs could make. Participants were not asking preparation programs to become longer or more demanding simply by adding assignments, courses, or clinical hours. They were asking programs to examine the relationship between what candidates know, what candidates have seen, and what candidates have actually been responsible for doing.

The teachers wanted to write the IEP before the IEP was entirely theirs. They wanted to participate in the meeting before they were expected to lead one independently. They wanted to manage part of a caseload before every deadline depended on them. They wanted to practice difficult professional conversations before navigating them without support. They wanted opportunities to work through assessment, behavior, documentation, and other specialized responsibilities while someone experienced was still available to review the work and help them improve.

Their recommendations also showed that more experience was not necessarily the same as better preparation. What mattered in many responses was what happened *during* the experience. Observation provided a model, but participants often wanted an opportunity to attempt the responsibility themselves. Practice provided experience, but participants described greater value when someone reviewed the performance and provided meaningful feedback. Responsibility contributed to readiness, but participants did not ask for responsibility without support.

Across the five themes, the teachers' voices repeatedly returned to a progression that can be seen throughout their recommendations: observe the work, participate in the work, attempt the work, receive feedback, repeat the work, and gradually assume greater responsibility for the work. For preservice candidates, much of that progression can occur before graduation. For employment-based teachers, portions of it may need to continue during the first year of teaching.

The recommendations therefore point beyond the amount of preparation teachers receive to the depth of responsibility they experience during preparation. Participants frequently described feeling prepared for responsibilities they had been allowed to perform with support and less prepared for responsibilities they had primarily observed, discussed, or encountered only after becoming independently responsible for them. Their recommendations were, in many ways, an argument for giving future special education teachers a safer place to learn the complete work before the complete work becomes theirs.

Chapter Summary

This chapter presented findings concerning reported teacher self-efficacy and preparation experiences among recently prepared Alabama special education teachers who completed bachelor's-level, master's-level, or TSEC certification routes. Research Question 1 addressed

differences in reported self-efficacy across certification routes. Research Question 2 addressed participants' descriptions of preparation strengths, areas needing greater emphasis, experiences reflecting Bandura's four sources of self-efficacy, and recommendations for program improvement.

Research Question 1 showed a consistent certification-route pattern across the TSES domains of Student Engagement, Instructional Strategies, and Classroom Management. Bachelor's-route participants reported significantly lower self-efficacy than both master's-route and TSEC participants in each domain. Master's-route and TSEC participants did not significantly differ from one another. The overall TSES composite produced the same pattern. These findings identified an association between certification route and reported self-efficacy within the study sample but did not establish that certification route caused those differences.

Research Question 2 described participants' perceptions of their preparation for special education responsibilities. Table 4.13 summarizes selected patterns within the written responses across certification routes, including preparation strengths, needs, experiences, and recommendations. These descriptive comparisons identify patterns within participants' accounts rather than statistically tested differences between routes.

Table 4.13 Summary by Certification Route

Preparation Pattern	Bachelor's	Master's	TSEC
Best-Prepared Emphasis	Instructional Planning and Differentiation; Classroom Management and Routines	Instructional Planning and Differentiation; Collaboration and Communication; Student Relationships and Advocacy; Assessment and Progress Monitoring	Instructional Planning and Differentiation; Collaboration and Communication; Student Relationships and Advocacy; Classroom Management and Routines

Preparation Pattern	Bachelor's	Master's	TSEC
Least-Prepared Emphasis	IEP Development and Legal Compliance; Transition to Independent Teaching; Caseload and Daily Procedures	IEP Development and Legal Compliance; Caseload and Daily Procedures; Instructional Planning and Differentiation; Collaboration and Communication	IEP Development and Legal Compliance; Assessment and Progress Monitoring; Caseload and Daily Procedures
Notable Experience Pattern	Preparation frequently described through coursework, practicum experiences, and student teaching	Preparation frequently connected coursework with internships, data use, collaboration, and supervised professional practice	Prior or concurrent professional experience frequently contributed to readiness while specialized special education responsibilities were learned
Program Improvement Emphasis	Greater IEP practice; fuller clinical responsibility; collaboration and professional communication	Greater responsibility during clinical experiences; IEP practice; collaboration and professional leadership	Sustained mentoring and feedback; IEP, assessment, and documentation support

Instructional Planning and Differentiation was the most frequently identified preparation strength within each certification route. Participants described opportunities to plan, adapt, deliver, or refine instruction with students. Bachelor's-route participants described coursework, practicum placements, and student teaching. Master's-route participants described graduate coursework and internships, including collaboration and data use. TSEC participants sometimes described prior or concurrent professional experience that contributed to their perceived readiness. Other strengths included classroom routines, student relationships and advocacy, collaboration and communication, behavior support, assessment, and IEP responsibilities, with frequencies varying across routes.

IEP Development and Legal Compliance was the most frequently identified area needing greater emphasis within each route. Participants described uncertainty about completing IEPs, managing documentation and timelines, participating in meetings, and assuming responsibility for the complete process. Other frequently identified needs included *Transition to Independent Teaching* among bachelor's-route participants, *Caseload and Daily Procedures* among master's-route participants, and *Assessment and Progress Monitoring* among TSEC participants. Across these accounts, participants distinguished between exposure to a responsibility and opportunities to perform it themselves.

Several task categories appeared in both the Best Prepared and Least Prepared responses. *Instructional Planning and Differentiation, Collaboration and Communication, Assessment and Progress Monitoring,* and *IEP Development and Legal Compliance* were described as strengths by some participants and as preparation needs by others. This overlap reflected differences in the experiences participants described within the same task category. It did not indicate contradictory coding or mean that every participant identified the same responsibility as both a strength and a need.

Bandura's (1997) four sources of self-efficacy provided a framework for describing the experiences surrounding perceived preparedness. Mastery experiences appeared most frequently, while vicarious experiences, verbal persuasion, and physiological or affective states were also evident. The sources often occurred together within an account. Participants described observing experienced educators, attempting responsibilities, receiving feedback, and becoming more confident or comfortable through repeated performance. Other accounts described stress, anxiety, or uncertainty when independent responsibility began before participants believed they had received sufficient opportunities to practice.

Participants' recommendations were organized into five themes: *Practice the Complete IEP and Legal Process; Make Clinical Experience Look More Like the Actual Job; Practice Collaboration, Communication, and Professional Leadership; Prepare for Specialized and High-Stakes Responsibilities;* and *Provide Sustained Mentoring, Feedback, and Supported Responsibility*. Across these themes, participants requested opportunities to undertake authentic responsibilities while supervision, feedback, and assistance remained available. The recommendations described changes participants believed would improve preparation; the study did not test the effectiveness of those changes.

The supplemental COVID-19 item provided additional context. Fourteen participants reported a pandemic-related effect on preparation, most commonly involving reduced or altered field experiences. Most participants did not report such an effect. COVID-19 was therefore reported as supplemental context rather than treated as a primary explanation for the findings.

The written responses addressed all four subquestions of Research Question 2 by identifying preparation strengths and needs, describing experiences associated with perceived preparedness, and recommending improvements. A recurring distinction concerned learning about professional responsibilities, observing others perform them, and performing them with support. Chapter 5 discusses the RQ1 statistical findings and the RQ2 descriptive findings within their respective scope, drawing on Bandura's (1997) self-efficacy theory and the literature reviewed in Chapter 2. It also presents implications for preparation and induction, limitations of the study, and directions for future research.

Chapter 5 - Discussion, Conclusions, and Recommendations

Introduction

This study examined teacher self-efficacy across three initial certification routes among recently prepared Alabama special education teachers and asked what those teachers identified as preparation strengths and areas needing greater emphasis. The Teacher Sense of Efficacy Scale (TSES; Tschannen-Moran & Hoy, 2001) measured perceived capability in Student Engagement, Instructional Strategies, and Classroom Management. Written survey responses provided descriptive accounts of preparation and recommendations for future teachers. The findings call for attention to two related questions: how capable teachers believe they are in broad teaching domains and what reported having practiced in the specialized work they must perform.

The chapter interprets the route comparisons, the task-specific accounts of readiness, and the five program improvement themes reported in Chapter 4. It then connects those themes to professional preparation standards and proposes implications for Alabama preparation, district induction, and state policy. These implications are recommendations drawn from a voluntary, nonexperimental sample; they are not estimates of the effects of a proposed policy.

Discussion of Major Findings

Certification Route and Reported Self-Efficacy

Among 105 participants (45 bachelor's, 45 master's, and 15 Temporary Special Education Certificate [TSEC]), the bachelor's group reported significantly lower TSES scores than each of the other groups in Student Engagement, Instructional Strategies, and Classroom Management. The supplementary overall score followed the same pattern. The TSEC means were descriptively highest, but TSEC and master's scores did not differ significantly. Chapter 4 reported domain effect sizes of $\eta^2 = .220$, .217, and .216, respectively. These comparisons

describe reported capability in this sample; they do not establish that a certification pathway caused the differences.

Bandura (1997) described efficacy beliefs as judgments about capability in particular circumstances. Differences in opportunities to perform classroom work could matter, but the study did not systematically measure prior teaching, paraprofessional work, assignment, or mentoring. Some TSEC participants described experience acquired before or while pursuing certification. Their accounts suggest possible explanations for future study, not an explanation established by these data. Selection into pathways and unequal group sizes also limit interpretation.

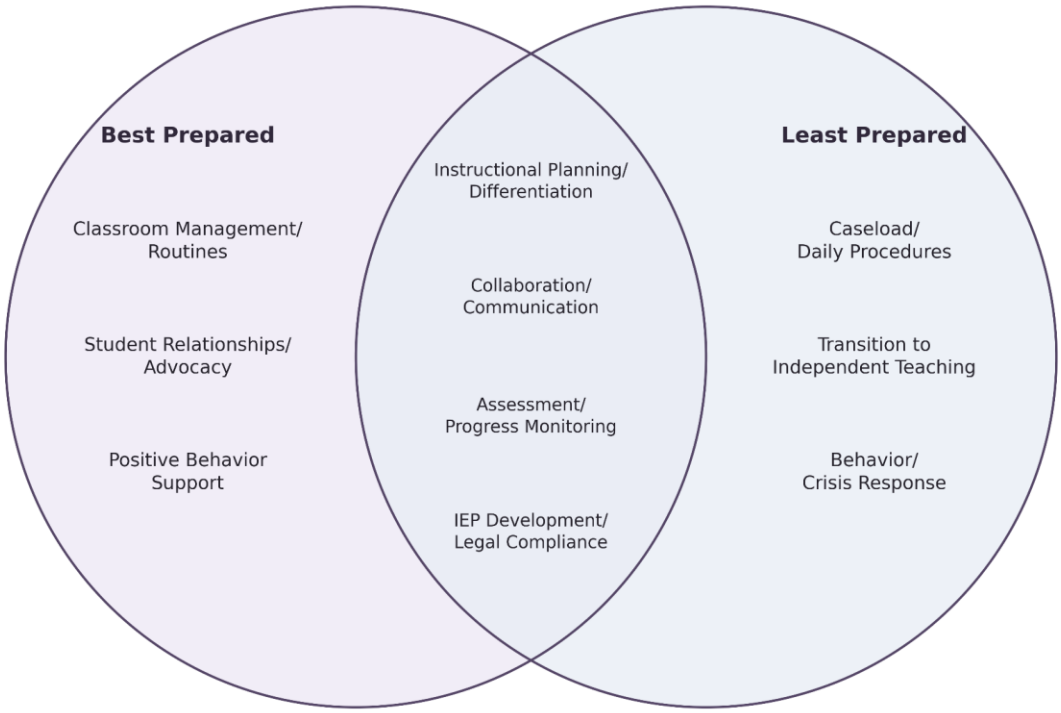
General Teaching Efficacy and Specialized Readiness

Instructional Planning and Differentiation was the clearest shared best-prepared area, whereas *IEP Development and Legal Compliance* was the most frequently identified least-prepared area within each route. The TSES captures engagement, instruction, and classroom management. It does not directly assess the ability to develop a legally sound IEP, interpret an evaluation, manage documentation timelines, lead a meeting, or coordinate a caseload. Teachers could report strong broad teaching efficacy and still identify specialized tasks they did not feel ready to perform. TSEC participants illustrate this distinction, with high descriptive TSES means alongside reported needs in IEP work, assessment, and documentation.

The overlap in Chapter 4's best- and least-prepared task categories deserves equal attention. *Instructional Planning and Differentiation, Collaboration and Communication, Assessment and Progress Monitoring, and IEP Development and Legal Compliance* occurred on both sides. These are categories across participants, not evidence that each individual gave contradictory accounts. A category can contain a teacher who revised a real IEP with a mentor

and another who encountered only a classroom exercise. The difference is in the work and support available to that person, rather than in the name of the course or topic.

Figure 5.1 Overlap Between Best and Least Prepared Task Themes



Note. The overlap identifies task categories appearing in both sets of responses across participants. It does not indicate that the same individuals identified each area as both a strength and a need.

Supported Practice and the Full Special Education Role

Mastery experiences were coded in 91 participant records, physiological or affective states in 53, verbal persuasion in 52, and vicarious experiences in 36. These codes were not mutually exclusive and should not be compared as if they measured the causal power of each source. In participants' accounts, observation could precede an attempt, feedback could follow it, and comfort or anxiety could change as the teacher repeated the task. Bandura's (1997) sources help interpret that sequence without turning the written accounts into a test of the theory.

The most consequential distinction in the accounts was often between participating in a task and bearing responsibility for its completion. Teaching a lesson could support instructional efficacy while leaving the teacher with little firsthand evidence of being able to convene a meeting, complete an IEP, or manage deadlines. Where an authentic event did not occur during placement, guided cases and simulation could offer practice and feedback. They would complement, rather than establish equivalence with, real responsibility.

The least-prepared accounts also named assessment documentation, collaboration, behavior support, caseload procedures, and the transition to independent teaching. These responsibilities call for judgment across instruction, communication, and legal processes. Their breadth helps explain why supported practice must address the full role rather than lesson delivery alone.

Recommendations for Preparation and Support

The recommendations preserve the five themes participants identified. Each proposal specifies an opportunity to perform work, a person who can review it, and a way to revisit it. Programs and districts would need to judge feasibility within their own placements, staffing, and legal responsibilities.

Practice the Complete IEP and Legal Process

Preservice teachers could benefit from practicing a connected IEP cycle using appropriately protected or simulated records: interpret available information, draft present levels and measurable goals, prepare documents and timelines, participate in meeting preparation, and revise work after supervisor feedback. Participation in an actual meeting should occur when appropriate and permitted. Participant accounts emphasized the gap between recognizing the

parts of an IEP and completing the process. Supervisors could assess the quality of the finished work and the revisions, while retaining legal oversight of real student records and decisions.

This recommendation responds to the repeated identification of IEP Development and Legal Compliance as the least-prepared area across routes. It also connects assessment, instructional planning, collaboration, and ethical practice rather than teaching the IEP as an isolated form. Practice with a complete task, followed by correction and another attempt, offers the kind of mastery information Bandura (1997) described. The professional role described by Brownell et al. (2010) and McLeskey and Brownell (2015) likewise requires teachers to integrate instructional and legal responsibilities; the Council for Exceptional Children (CEC, 2020) preparation standards give programs a basis for documenting that integrated practice.

Make Clinical Experience Look More Like the Actual Job

Clinical placements could give candidates supervised responsibility for more than lesson delivery. A documented progression could include scheduling, service coordination, progress data, documentation, family communication, and a manageable portion of caseload work. Candidates and mentors could identify what was observed, attempted, repeated, and completed with feedback. This makes the work behind the classroom visible before Day 1. The progression should be matched to route and placement: a teacher already employed under TSEC needs timely coaching on work already assigned, while a preservice candidate can assume responsibility gradually within a placement.

This recommendation concerns the substance of clinical experience as well as its duration. A placement may offer many hours in a classroom but few chances to carry a specialized responsibility through completion. Preparation research emphasizes connecting coursework to authentic practice and attending to clinical quality (Darling-Hammond, 2017;

Ronfeldt et al., 2018). The Council for the Accreditation of Educator Preparation (CAEP, 2022) addresses clinical partnerships and practice; programs and districts could use that connection to examine which responsibilities candidates actually perform, who reviews their work, and which experiences need to continue into induction.

Practice Collaboration Communication and Professional Leadership

Candidates could benefit from rehearsing family communication, co-planning, meeting facilitation, and coordination with related service providers and paraprofessionals. Modeling and observation remain valuable when followed by a chance to lead part of a meeting, draft communication, respond to a case, and receive precise feedback. Such opportunities reflect the relationships and professional judgments teachers described, including difficult conversations that a placement may not naturally provide.

The written responses presented collaboration as work teachers must do, not merely a setting in which they observe others. Mentor modeling can show how an experienced educator approaches a conversation, while specific feedback on the candidate's own attempt can support revision (Bandura, 1997; Fives & Buehl, 2016). The CEC (2020) standards also identify collaboration as part of beginning special educator practice. Programs could document supervised communication and meeting participation while protecting families' privacy and ensuring that qualified staff retain responsibility for formal decisions.

Prepare for Specialized and High-Stakes Responsibilities

Special education teacher preparation programs may consider using supervised cases for evaluation reports, progress monitoring, behavior planning, de-escalation, and crisis decisions, then use authentic practice when available and appropriate. Cases can reveal what a candidate would document, when they would seek help, and how they would follow local procedures.

Rehearsal cannot substitute for district training or a trained team in an actual emergency. Its value is that a beginning teacher has already reasoned through a realistic responsibility and received correction before the first independent encounter.

Some of these events cannot be guaranteed during a practicum, which makes deliberate rehearsal especially useful. Guided scenarios allow candidates to explain their choices, receive feedback, and recognize when a decision requires another professional or a district procedure. Bandura's (1997) framework helps explain why attempted performance and feedback may matter more to perceived readiness than exposure alone. Assessment, learning environments, and instruction in the CEC (2020) standards provide relevant preparation areas, while research on special education working conditions underscores the demands teachers face once they assume the role (Bettini et al., 2019; Billingsley et al., 2020).

Provide Sustained Mentoring Feedback and Supported Responsibility

Support aligned with the annual cycle of special education work provides guidance as responsibilities arise throughout the year. A mentor who reviews an IEP draft, prepares a teacher for a meeting, checks progress data, and discusses an emerging caseload issue can give feedback at the point of need. The TSEC route especially illustrates why mentoring cannot be confined to an orientation before employment; responsibilities may begin while preparation continues. Support would be beneficial to graduates of traditional programs after placement ends. A mentor needs time, access to the actual work, and clarity about when to refer legal or technical questions to qualified district staff.

Participants' recommendations placed continued support alongside preparation, because the full range of responsibilities may unfold only after a teacher begins work. Induction research has described the value of assistance for beginning teachers (Ingersoll & Strong, 2011), and

special education mentoring literature attends to guidance on the role's technical and interpersonal demands (Lohmann & Boothe, 2022). Mentoring can combine observation, feedback, and supported performance in Bandura's (1997) terms. The study did not test a mentoring model; it supports asking programs and districts how teachers receive help at the moment unfamiliar work becomes their responsibility.

Broader Implications of the Findings

The five recommendations describe changes to preparation and support suggested by participants' accounts. The findings also have implications for self-efficacy theory, Alabama preparation programs, districts and schools, and state policy. Each implication concerns a different decision or responsibility; none represents an intervention tested by this study.

Implications for Self-Efficacy Theory

The findings do not test or extend Bandura's (1997) theory. They illustrate how the four sources of self-efficacy can operate within special education preparation and reinforce the task-specific nature of efficacy beliefs. Participants could describe successful instruction while remaining uncertain about IEP compliance, assessment documentation, meeting leadership, or crisis response. This pattern is consistent with efficacy judgments being tied to particular tasks and domains (Bandura, 1997; Tschannen-Moran & Hoy, 2001).

The four sources could converge around one responsibility: a candidate might observe a mentor, attempt a task, receive specific feedback, and feel less anxious as the task becomes familiar. Their frequency in written responses does not establish the causal importance of one source over another. Timing also matters as a question for future study: employment-based candidates may assume responsibilities while still completing supervised preparation. These data

cannot determine whether that timing produced the route differences (Cross & Billingsley, 2021; Sindelar et al., 2010).

Implications for Alabama Educator Preparation Programs

Participants' accounts suggest value in reviewing how coursework and clinical experiences prepare candidates for specific responsibilities within the special education role. Instructional Planning and Differentiation was a shared preparation strength, while IEP Development and Legal Compliance was the most frequently identified area of underpreparedness within each certification route. Programs could examine how the opportunities supporting instructional readiness might extend to specialized responsibilities. Research on clinical preparation supports connecting coursework with repeated application in authentic settings (Brownell et al., 2010; Darling-Hammond, 2017; Ronfeldt et al., 2018).

Alabama preparation programs can review clinical experiences by responsibility as well as by hours. A program could map where candidates observe, practice, receive feedback, repeat, and assume supervised responsibility for IEPs, assessment, collaboration, behavior support, progress monitoring, and caseload work. This review would make visible both the opportunities available to candidates and the work they actually completed before independent teaching. It could also identify responsibilities that require guided cases or simulations because they do not consistently arise during a placement.

The Council for Exceptional Children's (CEC, 2020) initial preparation standards address legal and ethical practice, assessment, instruction, and collaboration. The Council for the Accreditation of Educator Preparation (CAEP, 2022) addresses clinical partnerships and practice. Programs could use these standards to examine evidence of candidate performance and revision while adapting supervised opportunities to each route and placement. This is a proposed review

of practice, not a finding that every Alabama program currently omits these experiences. The purpose is to examine how preparation expectations become opportunities for candidates to perform professional responsibilities with support.

Implications for Alabama Districts and Schools

Participants' concerns about caseload management, daily procedures, and the transition to independent teaching suggest that support remains important after teachers enter their assigned roles. Districts and schools can examine whether current induction extends beyond general new-teacher orientation to address special education responsibilities. A beginning special educator may understand IEP principles yet need guidance with local software, timelines, scheduling, documentation, and district procedures. Sustained mentoring and organizational support matter for beginning teachers, especially when workload and role demands are substantial (Ingersoll & Strong, 2011; Bettini et al., 2019; Billingsley et al., 2020).

An assigned mentor can review actual work when it arises, including a draft IEP, meeting preparation, progress data, or a caseload question. Support aligned with the annual cycle of special education work would provide guidance as teachers encounter responsibilities throughout the year. Districts could examine whether mentors have relevant special education expertise, protected time, and clear responsibilities. Such support also requires clarity about which decisions must be handled by qualified district personnel. For teachers working while completing an employment-based route, mentoring may need to begin alongside paid responsibility rather than after preparation ends (Cross & Billingsley, 2021; Lohmann & Boothe, 2022).

Participants' recommendations also raise considerations for professional learning. Districts could organize learning opportunities around responsibilities teachers identify as challenging, including assessment procedures, professional communication, intensive behavior

support, and documentation. Opportunities to examine cases, rehearse conversations, review work, and receive feedback could complement information-based training. The present study did not evaluate these approaches, but participants' accounts provide a basis for reviewing whether existing support is accessible, role-specific, and available when teachers need it.

Implications for Alabama State Policy

Alabama can examine common expectations for supported performance across certification routes without requiring every route to follow the same schedule. Multiple pathways serve different candidates, while shortage conditions can place teachers into substantial responsibility quickly (McLeskey et al., 2018; Sutcher et al., 2019). Participants across routes identified IEP Development and Legal Compliance as an area needing greater emphasis. This shared concern raises a question about how preparation expectations are translated into documented opportunities for supervised performance across pathways.

A state review could consider evidence of supervised work on core special education tasks and the capacity of districts and programs to support employment-based candidates. Relevant resource considerations include mentor availability, time for feedback, access to appropriate clinical placements, and coordination between preparation providers and employing districts. These are proposals drawn from teacher reports, not demonstrated effects of a policy change. The findings do not establish that one certification route requires replacement or that a single preparation structure would meet every candidate's needs.

The special education preparation rule requires coursework, key assessments, and field experiences but does not expressly say that every candidate must draft and revise a complete IEP under supervision before program completion (Ala. Admin. Code r. 290-3-3-.24, 2025). That observation concerns the wording of the statewide rule; individual programs may already require

more. The CEC (2020) standards address legal and ethical practice, assessment, instruction, and collaboration, and CAEP (2022) addresses clinical practice. In light of participants' IEP accounts, Alabama and its preparation programs could examine whether every candidate has a documented opportunity to complete a connected IEP case, receive feedback, and revise the work before independent responsibility. De-identified case materials or a supervised simulation could support that review while preserving student confidentiality and keeping responsibility for students' legal plans with authorized personnel.

Limitations

The study's findings should be interpreted in light of several limitations related to recruitment, sample size, research design, and self-reported data. These limitations define the scope of the conclusions while allowing the study to contribute evidence about reported teacher self-efficacy and perceived preparation among the participating Alabama special education teachers.

Participation was voluntary, and recruitment occurred through district contacts, professional networks, social media, and participant sharing. This approach created the possibility of self-selection bias, which occurs when participation is related to the characteristics or experiences being studied (Bethlehem, 2010). Teachers with particularly positive or negative preparation experiences may have been more motivated to respond, although the study could not determine whether this occurred or in which direction it might have affected the findings. Recruitment through several channels provided opportunities to reach teachers across certification routes, but it did not establish a representative sample. The results therefore describe the participating teachers and offer patterns for further investigation rather than population estimates for all recently prepared Alabama special educators.

The survey also invited participants to describe both areas of best preparedness and areas of least preparedness. This structure provided opportunities to identify successful preparation experiences alongside unmet needs, rather than framing certification programs exclusively through strengths or shortcomings. Participants could therefore describe different degrees of preparedness across responsibilities within the same program. Although this balanced prompting did not eliminate self-selection bias, it supported a more complete account of the participating teachers' preparation experiences.

The final sample included 105 participants, below the planned balanced-design target of 159. Group sizes were also unequal, with 45 bachelor's-route participants, 45 master's-route participants, and 15 TSEC participants. The smaller TSEC group warrants particular caution because its estimates are less precise. Nevertheless, the analyses identified a consistent pattern across all three TSES domains: bachelor's-route participants reported significantly lower efficacy than both other groups. This consistency supports discussing the observed pattern within the sample, while the nonsignificant master's–TSEC comparisons should not be interpreted as proof that those groups were equivalent.

The cross-sectional, nonexperimental design identified associations rather than causal effects. Participants were not randomly assigned to certification routes, and prior school-based experience, teaching assignment, program characteristics, and mentoring quality were not systematically measured or statistically controlled. Some of these experiences appeared in the written responses, but their contribution to the quantitative differences could not be established. The study nevertheless addressed its comparative purpose by documenting differences in reported efficacy and identifying preparation strengths and needs that participants associated with their experiences.

The TSES measured perceived capability in Student Engagement, Instructional Strategies, and Classroom Management rather than observed teaching performance or specialized compliance skills. This measurement boundary is consistent with the study's focus on self-efficacy. The open-ended responses complemented the scale by describing perceived preparation for responsibilities such as IEP development, assessment, collaboration, and caseload management. Together, the measures offered a broader account of teachers' perceptions while supporting a clear distinction between perceived capability and demonstrated competence.

The written responses relied on retrospective accounts of preparedness on Day 1 and did not permit follow-up probing. Later teaching experiences may have influenced participants' recollections, and the amount of detail provided varied. However, the survey prompts gave participants a common reference point and asked them to connect a professional task with preparation experiences and feelings of readiness. These accounts addressed Research Question 2 and its subquestions and provided descriptive context for the TSES findings. They were not intended to establish why the statistical route differences occurred.

Finally, fourteen respondents reported some COVID-related disruption to their preparation. These responses were retained as supplemental context because the study did not systematically measure the timing or severity of those disruptions. Although the main preparation patterns extended beyond respondents who reported COVID-related impacts, the pandemic's contribution could not be isolated. Including these accounts acknowledged an important feature of some participants' preparation without treating it as an explanation established by the study.

Within these boundaries, the study contributes an Alabama-specific comparison of reported self-efficacy and a detailed account of the preparation responsibilities teachers viewed

as strengths or needs. The findings provide a basis for reviewing opportunities for supported practice and for developing more focused studies of preparation and induction.

Future Research

Future research can build on the observed certification-route differences and participants' descriptions of preparation without assuming that route membership caused differences in self-efficacy. Studies focused on preparation experiences, school-based support, and policy implementation could clarify which opportunities teachers encounter, how those opportunities vary, and how they relate to confidence and demonstrated practice.

Future Research on Educator Preparation Programs

A larger Alabama sample with more balanced representation across bachelor's, master's, and TSEC routes could test whether the route pattern observed here recurs. Future surveys could record prior teaching and paraprofessional experience, assignment type, years in schools, mentoring access, and the specific clinical tasks candidates performed. These measures would help distinguish route membership from experiences that may differ within each route. More detailed information about coursework and clinical placements could also support examination of variation among programs within the same pathway.

Longitudinal research could follow candidates from preparation through the first year and into later years. Repeated TSES scores would show how reported efficacy changes, while records of IEP meetings, assessment cycles, caseload work, and mentor feedback would identify the responsibilities teachers encountered between measurements. This design could examine whether the timing of supervised practice relative to independent responsibility matters. It would also reduce reliance on teachers reconstructing their preparedness on Day 1 years later. Such

observations would clarify change over time; stronger designs and careful adjustment would still be needed before attributing change to a certification route.

Future studies could also examine specialized readiness alongside the TSES. Knowledge measures, supervised work samples, and observations could assess understanding and performance in IEP development, legal procedures, collaboration, and assessment. A validated special education task-specific efficacy measure could capture perceived capability in those responsibilities. Using these forms of evidence together would help distinguish what teachers know, what they believe they can do, and what they demonstrate in practice.

A future mixed methods study could intentionally integrate quantitative measures with interviews or focus groups to give teachers' voices a fuller role in understanding preparation. In the present study, participants' written accounts described responsibilities and preparation experiences that broad TSES scores alone could not capture. Follow-up conversations could explore what teachers mean when they describe observing, practicing, or assuming responsibility for a task and why the same task appeared in both best- and least-prepared accounts. Researchers could use quantitative results to guide participant selection and interview questions, then integrate the findings to examine how teachers' accounts help interpret patterns in reported efficacy. This approach would also allow teachers to clarify their recommendations and describe meaningful preparation in their particular roles.

Future Research on Districts, Schools, and Mentoring

Participants' repeated references to mentoring warrant closer examination of how school-based support is organized and experienced. Future studies could document mentors' special education expertise, preparation for mentoring, caseloads, availability, and frequency of contact with beginning teachers. Researchers could also distinguish between an assigned mentor and the

support teachers actually receive. These measures would allow examination of mentoring as a set of experiences rather than simply whether a mentor was present.

Studies could investigate how mentoring follows the annual cycle of special education responsibilities. For example, researchers could examine whether beginning teachers receive guidance before their first IEP meeting, evaluation report, progress-reporting deadline, or difficult family conversation. Interviews and mentoring records could identify whether support is proactive, available only when requested, or provided after a problem occurs. This would help clarify how the timing and content of support relate to teachers' perceived readiness and performance.

School and district contexts also merit attention. Assignment type, caseload demands, administrative support, staffing, and access to other special educators may shape both teachers' responsibilities and their opportunities to obtain assistance. Future studies could examine these conditions alongside certification route and prior experience. Longitudinal mixed methods designs would allow researchers to follow changes in confidence and practice while using teachers' accounts to understand differences in support across settings.

Programs and districts could also evaluate changes such as a supervised IEP cycle or extended role-specific mentoring. An evaluation could document what participants actually completed, the feedback they received, how consistently the approach was implemented, and whether perceived readiness and observed performance changed. Comparison groups or other appropriate design features could strengthen conclusions about the contribution of the support. Teacher retention and student outcomes would require separate measures and sufficient follow-up.

Future Research on Policy

Future policy research could examine how Alabama's preparation and induction expectations are developed, interpreted, and implemented across institutions and districts. Reviews of policy documents, program requirements, and implementation practices could clarify where expectations are shared and where local approaches differ. Interviews with preparation faculty, district leaders, mentors, and beginning teachers could provide additional perspectives on how those expectations operate in practice.

Research could also examine the resources needed to implement expectations for supervised performance and sustained mentoring. Relevant considerations include mentor time, funding, coordination between institutions and districts, and access to appropriate practice opportunities. Documenting these conditions would help distinguish the presence of a written requirement from the opportunities and support candidates actually receive. Particular attention could be given to employment-based pathways, where preparation and independent classroom responsibilities may occur concurrently.

Finally, evaluations of policy changes could examine implementation alongside outcomes. Researchers could investigate whether changes are associated with differences in documented practice opportunities, mentoring access, specialized knowledge, reported efficacy, or demonstrated performance. Analyses would need to account for prior experience, assignment, program characteristics, and district conditions. Such research could provide evidence about feasibility and outcomes before a proposed support becomes a broad policy expectation.

Conclusion

The statistical result is clear within this sample: bachelor's-route participants reported lower self-efficacy in engagement, instruction, and management than master's-route and TSEC participants. The written accounts add a different kind of finding. Teachers across routes could name things they were ready to do and, in the same professional role, tasks for which they had never carried enough supported responsibility to feel ready. IEP and legal work were the clearest shared gap. Their recommendations asked for a fuller experience of the job, with a knowledgeable other beside them to model, review, and correct the work.

What stays with me in these accounts is the moment a responsibility becomes the teacher's own. "Day 1" was the point participants were asked to remember, but preparation needs do not disappear after the first day. Even by year five, a teacher may encounter a meeting, evaluation, or crisis for which earlier experience gave little guidance; this study did not measure readiness at year five, and I do not claim that its participants remained unprepared then. I do take seriously what their Day 1 accounts ask of us: help should be available when a responsibility first arrives and as the work changes.

We can respond by making supported performance visible across preparation and induction. A future special education teacher should have a chance to draft the IEP, discuss the assessment, communicate with the team, manage a piece of the caseload, hear what needs correction, and try again. Alabama's programs, districts, and state partners can use the teachers' accounts to ask where those chances already exist and where they end too soon. The obligation is to help teachers learn the work while help is still within reach, so they can meet their responsibilities to students and families with growing competence and confidence.

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Appendix A- Teacher Sense of Efficacy Survey

Section 1- Informed Consent

You are invited to participate in a research study titled Teacher Self-Efficacy of Alabama-Prepared Special Education Teachers: A Quantitative Examination of Certification Route Differences. This project was approved on 03/09/2026 by Kansas State University's Institutional Review Board (IRB-13652).

Purpose of the Study: My name is Cody Bowers, a doctoral student in the Department of Curriculum and Instruction at Kansas State University. The purpose of this study is to examine whether teacher self-efficacy differs among special education teachers who completed their initial preparation at Alabama state-approved educator preparation programs through different certification routes (e.g., traditional bachelor's programs, master's-level programs, or TSEC certification pathways). Teacher self-efficacy refers to teachers' beliefs in their ability to effectively engage students, implement instructional strategies, and manage classroom environments following completion of their preparation program.

Procedures: If you choose to participate, you will be asked to complete an online survey consisting of demographic questions about your certification pathway, followed by the Teacher Sense of Efficacy Scale (TSES). The TSES includes questions that ask you to rate your beliefs in your ability to effectively engage students, implement instructional strategies, and manage classroom environments. You will also be asked to respond to open-ended questions about areas in which your preparation program strengthened your teaching and areas that could have better prepared you for your role as a special education teacher. The survey is expected to take approximately 10 minutes to complete. Your participation is entirely voluntary, and you may choose not to answer any question that makes you uncomfortable or stop participating at any time without penalty.

Anticipated Risks and Benefits: The risks associated with this study are minimal. Some questions may prompt reflection on whether your preparation program adequately prepared you for your role as a special education teacher, which could cause minor discomfort. To reduce this risk, you are encouraged not to name specific universities or individuals in your responses. There are no direct personal benefits for participating in this study. However, the findings may benefit future special education teachers by helping teacher-preparation programs, districts, and policymakers better understand areas of strength and need in teacher preparation across career stages.

Extent of Confidentiality: Your responses will be collected anonymously. No identifying information such as your name, email address, school, or district will be collected, and responses cannot be linked back to you. Identifiers will be removed from the identifiable private information, and, after such removal, the information could be used for future research studies or distributed to another investigator for future research studies without additional informed consent. The survey will be administered through Qualtrics, a secure online platform. All data will be stored in password-protected electronic files and will be accessible only to the research team.

Participation: Participation in this study is completely voluntary. Choosing not to participate or choosing to withdraw after starting the survey will not affect your employment, professional standing, or relationship with Kansas State University or any school district. By clicking "I agree to participate" and proceeding to the survey, you indicate that you are at least 18 years old, that you have read and understand this information, and that you voluntarily agree to participate in this study.

Contact Information: If you have questions about this research, you may contact the researcher, Cody Bowers (cbowers@ksu.edu), or the Principal Investigator, Dr. Michael Lawson, at Kansas State University (mlawson1@ksu.edu). If you have questions about your rights as a research participant or wish to speak with someone not directly involved in the study, you may contact the Committee on Research Involving Human Subjects at Kansas State University: Lisa Rubin, Chair, 203 Fairchild Hall, Manhattan, KS 66506, (785) 532-3224, rubin@ksu.edu, or Brad Woods, Associate Vice President for Research Compliance, comply@ksu.edu.

Section 2 – Screening and Demographics

* Did you complete your initial special education teacher preparation program at an Alabama state-approved college or university?

- ◯ YES
- ◯ NO

In what year did you complete your initial special education certification or degree?

2021

*

What route did you use for your initial SPED certification?

- ◯ Bachelor's Degree
- ◯ Master's Degree
- ◯ Temporary Special Education Certificate (TSEC)
- ◯ Other (please specify)

Section 3 – Survey

* Teacher Sense of Efficacy Survey

Instructions: Please indicate your opinion about each of the questions below by marking any one of the nine responses in the columns on the right side, ranging from (1) "None at all" to (9) "A Great Deal" as each represents a degree on the continuum. Please respond to each of the questions by considering the combination of your current ability, resources, and opportunity to do each of the following in your present position.

	1– None at all	2	3– Very Little	4	5– Some Degree	6	7– Quite A Bit	8	9– A Great Deal
1. How much can you do to get through to the most difficult students?	◯	◯	◯	◯	◯	◯	◯	◯	◯
2. How much can you do to help your students think critically?	◯	◯	◯	◯	◯	◯	◯	◯	◯
3. How much can you do to control disruptive behavior in the classroom?	◯	◯	◯	◯	◯	◯	◯	◯	◯
4. How much can you do to motivate students who show low interest in school work?	◯	◯	◯	◯	◯	◯	◯	◯	◯
5. To what extent can you make your expectations clear about student behavior?	◯	◯	◯	◯	◯	◯	◯	◯	◯
6. How much can you do to get students to believe they can do well in school work?	◯	◯	◯	◯	◯	◯	◯	◯	◯
7. How well can you respond to difficult questions from your students?	◯	◯	◯	◯	◯	◯	◯	◯	◯
8. How well can you establish routines to keep activities running smoothly?	◯	◯	◯	◯	◯	◯	◯	◯	◯
9. How much can you do to help your students value learning?	◯	◯	◯	◯	◯	◯	◯	◯	◯
10. How much can you gauge student comprehension of what you have taught?	◯	◯	◯	◯	◯	◯	◯	◯	◯
11. To what extent can you craft good questions for your students?	◯	◯	◯	◯	◯	◯	◯	◯	◯
12. How much can you do to foster student creativity?	◯	◯	◯	◯	◯	◯	◯	◯	◯
13. How much can you do to get children to follow classroom rules?	◯	◯	◯	◯	◯	◯	◯	◯	◯
14. How much can you do to improve the understanding of a student who is failing?	◯	◯	◯	◯	◯	◯	◯	◯	◯

15. How much can you do to calm a student who is disruptive or noisy?	◯	◯	◯	◯	◯	◯	◯	◯	◯
16. How well can you establish a classroom management system with each group of students?	◯	◯	◯	◯	◯	◯	◯	◯	◯
17. How much can you do to adjust your lessons to the proper level for individual students?	◯	◯	◯	◯	◯	◯	◯	◯	◯
18. How much can you use a variety of assessment strategies?	◯	◯	◯	◯	◯	◯	◯	◯	◯
19. How well can you keep a few problem students form ruining an entire lesson?	◯	◯	◯	◯	◯	◯	◯	◯	◯
20. To what extent can you provide an alternative explanation or example when students are confused?	◯	◯	◯	◯	◯	◯	◯	◯	◯
21. How well can you respond to defiant students?	◯	◯	◯	◯	◯	◯	◯	◯	◯
22. How much can you assist families in helping their children do well in school?	◯	◯	◯	◯	◯	◯	◯	◯	◯
23. How well can you implement alternative strategies in your classroom?	◯	◯	◯	◯	◯	◯	◯	◯	◯
24. How well can you provide appropriate challenges for very capable students?	◯	◯	◯	◯	◯	◯	◯	◯	◯

Section 4- Open Ended Questions

1. Think back to when you completed your initial special education preparation/certification route and were about to start Day 1 as a special education teacher. (REQUIRED)
    1. What is one thing you felt you were BEST prepared to do in your job on Day 1?
    2. What experiences in your preparation/certification route helped you believe you were ready to perform that task on Day 1?
    3. How did those experiences influence how confident, comfortable, or stressed you felt about performing that task on Day 1?
2. If anything, what else did you feel you were BEST prepared to do on Day 1? What made you feel that way? (OPTIONAL)

SECTION BREAK

3. Think back to when you completed your initial special education preparation/certification route and were about to start Day 1 as a special education teacher. (REQUIRED)

a. What is one thing you felt you were LEAST prepared to do in your job on Day 1?

b. What experiences in your preparation/certification route helped you believe you were not fully ready to perform that task on Day 1?

c. How did those experiences influence how confident, comfortable, or stressed you felt about performing that task on Day 1?

4. If anything, what else did you feel you were LEAST prepared to do on Day 1? What made you feel that way? (OPTIONAL)

SECTION BREAK

5. What is *at least* one change you would recommend to your preparation or certification program that would better support future special education teachers in feeling capable and prepared to perform their job? (REQUIRED)
6. Were any parts of your preparation/certification route affected by the COVID-19 pandemic (e.g., coursework delivery, early field experiences, student teaching)? (REQUIRED)

a. Yes

b. No

If yes, please explain. (OPTIONAL)

Appendix B- IRB Approval

KANSAS STATE UNIVERSITY | Office of Research Integrity, Compliance and Security

TO: Michael Lawson
Curriculum and Instruction

Proposal Number: IRB-13652

FROM: Lisa Rubin, Chair
Committee on Research Involving Human Subjects

DATE: 03/09/2026

RE: Proposal Entitled, "Teacher Self-Efficacy of Alabama-Prepared Special Education Teachers: A Quantitative Examination of Certification Route Differences."

The Committee on Research Involving Human Subjects / Institutional Review Board (IRB) for Kansas State University has reviewed the proposal identified above and has determined that it is EXEMPT from further IRB review. This exemption applies only to the proposal - as written – and currently on file with the IRB. Any change potentially affecting human subjects must be approved by the IRB prior to implementation and may disqualify the proposal from exemption.

Based upon information provided to the IRB, this activity is exempt under the criteria set forth in the Federal Policy for the Protection of Human Subjects, **45 CFR §104(d), category: Exempt Category 2 Subsection ii.**

Certain research is exempt from the requirements of HHS/OHRP regulations. A determination that research is exempt does not imply that investigators have no ethical responsibilities to subjects in such research; it means only that the regulatory requirements related to IRB review, informed consent, and assurance of compliance do not apply to the research.

Any unanticipated problems involving risk to subjects or to others must be reported immediately to the Chair of the Committee on Research Involving Human Subjects, Office of Research Integrity, Compliance and Security (ORICS), and if the subjects are KSU students, to the Director of the Student Health Center.

Electronically signed by Lisa Rubin on 03/09/2026 10:43 PM ET