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Evidence-Based Practices and Teacher Practice

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EVIDENCE-BASED PRACTICES AND TEACHER PRACTICE

by

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DEDICATION

This work is dedicated to my family who have supported me all along the way. To my husband Brad, thank you for keeping the faith in me during this process. To my son Charlie who has grown with this work and to my sweet dog Spanky who always was willing to sit with me during long hours. I love you all

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.

ABSTRACT

The use of evidence-based practices (EBPs) by special education teachers is still inconsistent. Additionally, special education teachers often have little knowledge of high-quality indicators of research that identify specific EBPs proven effective for designated populations of students with disabilities. Teacher preparation during college programs (i.e., pre-service) and training from districts (i.e., in-service) can certainly play an important role in introducing EBPs to special education teachers. In pre-service and in-service training, observation, feedback, and coaching experiences can help to ensure the acquisition of skills and implementation of EBPs into daily teaching. In this study, I investigated special education teachers' experiences with training on EBPs, both pre-service and in-service, to determine if teachers' report a greater degree of implementation of EBPs into daily instructional practice when training has been provided and if opportunities for observation, coaching, and feedback have influenced the use of these proven practices.

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LIST OF ABBREVIATIONS

CEC ..... Council for Exceptional Children

CEEDAR ..... Collaboration for Effective Educator Development, Accountability, and Reform

EBP ..... Evidence-Based Practice

ESSA ..... Every Student Succeeds Act

FAPE ..... Free Appropriate Public Education

IEP ..... Individual Education Program

IDEA ..... Individuals with Disabilities Improvement Act

LEA ..... Local Education Agency

MTSS ..... Multi-Tiered Systems of Support

NCLB ..... No Child Left Behind

OSEP ..... Office of Special Education Programs

PRR ..... Peer Reviewed Research

RTI ..... Response to Intervention

SBR ..... Scientifically Based Research

SDI ..... Specially Designed Instruction

SEA ..... State Education Agency

SLD ..... Specific Learning Disability

SWPBS ..... School-Wide Positive Behavior Support

CHAPTER 1
INTRODUCTION

The Birth of Special Education

For students with disabilities, the journey from educational access to education success has been an evolutionary process. In 1975, the doors of access to public education opened with the signing of Education for All Handicapped Children Act (EAHCA). Prior to 1975, millions of adults and children with disabilities were institutionalized, excluded from public schools, or educated in inappropriate settings (OSEP, 2019). With the passage of the EAHCA, eligible students with disabilities were afforded rights and access to special education on a federal level for the first time. The law set forth specific requirements in educating students with disabilities that remain constant today. Subsequent amendments to the EAHCA moved the law from a focus on access to a focus on outcomes (Yell, 2019).

Access

The EAHCA provided access by guaranteeing a free appropriate public education (FAPE) to eligible students with disabilities; this legislation required that individualized special education and related services be provided to all eligible students with disabilities. In addition to protecting students' rights to a FAPE, the EAHCA also guaranteed the rights of their parents to participate meaningfully in the special education process

involving their child (IDEA, 2004). Financial assistance from the federal government was promised to state and local agencies to provide education to students with disabilities (OSEP, 2019). In later years, access was expanded to more students through the addition of programs that were established for children ages 3-21.

Accountability

Over the next 20 years, changes to the EAHCA increased access for students with disabilities and added the layer of accountability (USDE, 2010). In 1986, for example, amendments to the EAHCA (P.L. 99-457) extended the scope of the law's programs and services down to age three and added new services for young children from birth to three. In the 1990 reauthorization, the EAHCA was renamed the Individuals with Disabilities Education Act, or IDEA (OSEP, 2019).

To support services for students with disabilities 14 years of age and older, the IDEA amendments in 1997 required that states include transition goals and services in student's IEPs to assist them to transition to postschool life (34 CFR §300.1(a) 20 U.S.C. 1400(d)(1)(A)). Other amendments to IDEA during this time focused attention on the effectiveness of special education. In fact, the 2004 amendments to the IDEA were titled the Individuals with Disabilities Education Improvement Act. In these amendments, the law shifted from an emphasis on access to an emphasis on accountability and developing special education programming based on research proven practices (Yell, 2019).

The reauthorization of 2004 also modified the methods used to identify students with specific learning disabilities (SLD) by allowing states to let school districts determine the presence of SLD by using a response to intervention (RTI) framework

(OSERS, 2010). Specifically, the Code of Federal Regulations for the IDEA required that states "must permit the use of a process based on the child's response to scientific, research-based intervention" (34 C.F.R. § 330.309).

Based on components of the No Child Left Behind (NCLB) Act of 2001, RTI was expanded beyond a procedure mandated solely for identification purposes to an approach that promoted the use of scientifically based research (SBR) to determine appropriate interventions for students. The NCLB focused on the need to apply research to practice (Tilly, et al., 2008; Sugai & Horner, 2009). Interventions that are supported by peer-reviewed research are included in the language within IDEA (2004) and NCLB (2001), although there is no specific mention of RTI (Tilly, et al., 2008; Sugai & Horner, 2009).

The structure of the RTI approach included systematic delivery of SBR interventions based on data. An RTI framework used a multiple tiered structure where intensity of the instructional interventions used in the tiers increased as necessary to meet students' needs. Moreover, the implementation of programming was monitored to ensure fidelity of the applied intervention (Sugai & Horner, 2009). This enforced the use of high-quality practices to for the education of all students, including those with disabilities.

Research-based practices that demonstrate positive results for all students have been required as part of accountability in education legislation (Spaulding, 2009). Under NCLB, lawmakers recognized the need for policy changes to increase the achievement for all students, especially groups falling below expectations due to unalterable attributes including race, socio-economic status, disability, and English-language learners (NCLB,

2001). In addition to accountability expectations, provisions were included in NCLB that required the implementation of SBR for reading instruction in the early grades (NCLB, 2001). In the IDEA amendments of 2004, Congress also supported the use of research proven interventions in developing special education programs for students with disabilities. Rather than using the term SBR, the IDEA used the term peer-reviewed research, a component of SBR in NCLB. Although NCLB and IDEA used different terminology, both laws addressed the need for research-based instruction. By requiring PRR in the IDEA, it was believed that the use of such practices would result in an increase in student achievement (Kretlow & Helf, 2013).

In December of 2015, Congress reauthorized the Elementary and Secondary Education Act in the Every Student Succeeds Act (ESSA). ESSA continued to set high expectations for student achievement and included the term "evidenced-based" multiple times (ESSA, 2015; Sharp, 2016). This legislation required evidence-based interventions to be used by state education agencies (SEAs) and local education agencies (LEAs) to facilitate school improvement (Sharp, 2016). The ESSA continued the emphasis on promoting high expectation for all students, including students with disabilities, through participation in assessments that align with state achievement standards. In addition, the requirement for special education teachers to have designated qualifications for teaching students with disabilities was included (USDE, 2019).

Equitable Outcomes & High-Quality Educational Opportunities

In March 2017, the US Supreme Court addressed issues of what constitutes educational benefit under the FAPE mandate of the IDEA in *Endrew F. v. Douglas*

County School District RE-1(hereinafter *Endrew*). Specifically, the *Endrew* ruling, written by Chief Justice John Roberts, required that students' IEPs be reasonably calculated to enable the student to make progress appropriate in light of his or her circumstances (Yell & Bateman, 2017).

The *Endrew* case went beyond the previous landmark decision that addressed FAPE in *Board of Education of the Hendrick Hudson Central School District v. Rowley*, (1982). The *Rowley* decision was based on academic achievement of Amy Rowley, a student with a hearing impairment. In the case, the Supreme Court and established a "two-pronged" approach used by courts to determine the provision of FAPE (Yell & Bateman, 2017). This approach focuses on two questions: (1) were the EAHCA's procedures followed, and (2) was an appropriate IEP developed that enabled for the student to receive educational benefits (Yell, 2019). The *Endrew* ruling clarified educational benefit by defining it as specially designed instruction (SDI) calculated to enable a student to make progress in both academic and functional skills (e.g., behavioral needs). Thus, progress was required for school districts to provide FAPE for students receiving services under the IDEA (Yell & Bateman, 2017). The mandate set forth by the court for a "*more than de minimis*" educational benefit for students with disabilities calls for more effective instructional strategies and progress monitoring measures to ensure positive outcomes and increased academic and functional outcomes for students with disabilities (Yell & Bateman, 2017).

In addition to using data to make informed program decisions for students with disabilities, a high-quality of professional practice provides a framework for the

systematic delivery of (SDI). This includes use of formative assessments to monitor student progress toward IEP goals (Council of Chief State School Officers (CCSSO), 2019). Evidence-based practices (EBPs) are proven practices, supported by empirical evidence, that are likely to produce desired results for designated students when implemented with fidelity (Cook, et al., 2015). In the field of special education, standards that define high-quality, EBPs exist. This evidence exists in both single-subject research and group experimental and quasi-experimental studies (Cook, Tankersley, Cook, & Landrum, 2008). As researchers continue to develop EBPs, special education teachers are charged with providing instruction to students with disabilities based on meaningful research evidence (CEC Interdivisional Research Group, 2014).

Teacher Preparation

To provide educational programs to students with disabilities that enable them to make progress, teachers should be trained on how to best provide instruction using EBPs. As early as the 1950's, the federal government enacted legislation to allocate funds to train special education teachers (Yell, 2019). In 1970, the Education of the Handicapped Act (EHA) provided states greater ability to expand program options for students with disabilities and provided institutions of higher education with funds to initate and maintain programs to train special education teachers (Yell, 2019). Additionally, Part D of the IDEA includes funding for both state personnel funds for prefessional development and grant funds available to institutions of higher education aimed at presevice professional training programs. These discretionary grants focus on providing assistance to states for the systematic improvement of teacher training and preparation for staff to

provide services for students with disabilities and to prepare teachers of students with disabilities (Yell, 2019). The effort to adequately and appropriately prepare educators to meet the needs of students with disabilities has been recognized as a way to improve outcomes for these students (CCSSO, 2019).

The Council for Exceptional Children (CEC) is a professional organization that works to support professional ethical prinicples, practice standards, and professional policies in the field of special education (CEC, Code of Ethics, 2015). The CEC developed professional learning and initial training standards for special educators in the area of teacher preparation (CEC, Code of Ethics, 2015). These standards align with the legislative mandates to offer rigorous instruction to students with disabilities using EBPs.

The initial preparation standards for special education teachers include domains that address the understanding of the whole child, the affect of individual disabilities on learning, preparing a supportive learning environment based on knowledge of curriculum content, assessment, and instructional planning and strategies (CEC, Code of Ethics, 2015). The preparation standards also address the importance of the special educator's need to develop effective colloaboration skills with others and highlight the responsbility for continued learning for advancement of the field (CEC, Code of Ethics, 2015). The Office of Special Education Programs (OSEP) of the U.S. Department of Education is an agency that supports teacher prepartion and development through grants that fund National Centers such as the Center for Collaboration for Effectve Educator Development, Accountability, and Reform (CEEDAR) Center and the National Center on Intensive Intervention (NCII). The work of these organizations, CEC and the CEEDAR

Center, have helped further define the needs for teacher preparation in the field of special education.

In order to address needs of preservice teachers, the CEC and the CEEDAR Center have developed a document that includes high-leverage practices that can be used to improve instruction at the elementary and secondary level (Riccomini, Morano, & Hughes, 2017). This publication, *High Leverage Practices in Special Education* (2017), identifies essential instructional components necessary for training of special education teachers within teacher preparaion programs. High-leverage practices are research based instructional practices that can be applied across a variety of content areas and are proven to elicit increased engagement and learning for students (Riccomini, Morano, & Hughes, 2017). By infusing high-leverage practices into the curriculum for teacher preparation programs, special education teacher candidates can begin to navigate the complexities of delivering specially-designed instruction that is tailored to meet the unique needs of special education students (Riccomini, Morano, & Hughes, 2017).

Rationale for the Study

Many terms are used to describe successful instruction, including, (a) best practices, (b) recommended practices, (c) research-based practices, (d) SBR, and (e) EBPs. When EBPs are defined in relation to education, it means that a practice must be supported by significant, reliable research that produces meaningful results for the intended group (Cook & Cook, 2011; Cook, et al., 2015). After a practice has been recognized as evidence-based, which includes reproduction with fidelity in a classroom setting, the practice provides a greater probability that intended results will be produced;

thus, it is crucial that the steps for each EBP are clearly delineated (Cook & Cook, 2011). However, it is common for teachers to incorrectly identify classroom practices not based on EBPs as an effective intervention. This is because they often rely, not on research, but their experience with the intervention or practice, personal beliefs, or reliance on expert advice (Cook & Cook, 2011).

To ensure effective implementation, explicit training must be provided to teachers on the correct use of EBPs (Kretlow & Helf, 2013). When training and follow-up are unavailable, the result may be that teachers loosely adhere to the correct procedures or may not be implemnting EBPs at all. Additionally, teachers may be supplementing these procedures with personally-constructed activities instead of using the correct EBPs (Kretlow & Helf, 2013). Effective professional development opportunities for teachers should include active learning opportunities over multiple hours, collaboration among peers, and formative observation and feedback session (Kretlow & Helf, 2013; Sun, Penuel, Frank, Gallagher, & Youngs, 2013; Zirkel & Rose, 2009).

In a recent report, the CCSSO, noted that expectations for high standards of equity and quality should be set for students with disabilites from the top down (CCSSO, 2019). The CCSSO (2019) identified leaders from state, district, and school levels as having the opportunity to change policies and practices to increase outcomes for students with disabilities. According to the report *"It is imperative that both special education teachers and general education teachers are fully prepared and supported to teach, monitor, and support students with disabilities by implementing evidence-based instruction and practices with fidelity"* (CCSSO, 2019, p.14)*."* The CCSSO (2019)

recommended that teachers receive direct training through coordinated efforts during teacher preparation programs that provide many opportunities for practice and feedback on performance. Efforts in better preparing teachers before they enter the classroom can help school districts focus on professional development and coaching to refine and improve effectiveness of practices utilized by special educators (CCSSO, 2019).

Further investigation by the CEC in a 2019 survey reported that identified teacher perceptions of system level support for special education teachers (CEC, 2019). The results of this report indicated that special education teachers identified supports such as coaching and communities of practice as less prevalant in districts (<30%) than consultation with colleagues and in-service professional development, which were rated as evident around 50% of the time (CEC, 2019). These inconsistencies show that special education teachers lack a complete system of supports to develop and refine effective instruction; allowing for interpretations and deviations from proven practices. The CEC survey points out there have been several factors identified as limiting the inclusion of evidence-based practices within daily classroom instruction delivered by special education teachers.

Over the years, the research-to-practice gap has been studied and the barriers that inhibit implementation of EBPs have been identified. Such barriers include constraints related to time, personnel, and/or training (Cook & Odom, 2013). Another identified component negatively affecting implementation fidelity is the lack of continual coaching and constructive observational feedback, which is critical to teachers' effective use of EBPs (Cook & Odom, 2013; Greenwood & Abbott, 2001). To develop effective special

education teachers who are able to provide high-quality instruction to students with disabilities, leaders at the university and district levels must establish systems that develop competencies for teachers that combat challenges faced by special education teachers (CCSSO, 2019). Thus, this study seeks to investigate the level of knowledge, use, and training special education teachers receive regarding the daily incorporation of evidence-based practices during instruction for students with disabilities.

Statement of the Problem

The primary problems that inhibit the incorporation of EBPs into effective instructional practice for special education teachers include insufficient training for teachers in procedures and application of EBPs (Cook & Cook, 2011) and the lack of established systems to support high-quality special education practices (CCSSO, 2019). Other relevant factors include teacher understanding of special education challenges, such as choosing effective interventions to design individualized instruction (Riccomini, Morano, & Hughes, 2017), and a limited implementation of available evidence-based practices (Cook, et al., 2014).

In summary, the need for and applicable use of EBPs has been identified, but there are still inconsistencies and deficits in implementing EBPs with students with disabilities. Using proven practices increase the likelihood of success for students with disabilities; however, the barriers, inluding lack of time, training, and personnel, in making EBPs part of teachers' repitoires hinders progress. After special education teachers exit college programs, are districts prepared to support their implementation of

EBPs? In what ways are teachers being provided continous professional development by districts to support high-quality special education instruction and IEP development? This study seeks to address these questions.

Purpose of the Study

The purpose of this study is to examine use of EBPs within daily instructional practice as reported by special education teachers. Sub-components of the investigation include teacher training on the use and application of EBPs and district expectations for implementation. This study investigates special education teachers knowledge of EBPs by examining their self-reported understanding and experience identifying proven EBPs. It also examines district provided supports for implementation as identified by district-level special education administrators. The findings from this study will be useful in determining what high-quality professional practices special education teachers self-identify as using in their specially-designed instruction, and it will identify district supports that assist special education teachers in implementating EBPs. The study is guided by the following research questions:

1. To what extent do special education teachers report having been trained in EBPs in their teacher preparation programs?
2. To what extent do special education teachers report having received training on EBPs from the district where they are employed?
3. To what extent do school district special education administrators report providing training in EBPs to teachers?

4. To what extent do school district special education administrators report providing coaching to special education teachers regarding their implementation and use of EBPs?
5. To what extent do school district special education administrators report providing observational feedback to special education teachers regarding their performance on implementation and use of EBPs?
6. To what extent do special education teachers report they are implementing EBPs?
7. What barriers do special education teachers identify that hinder the implementation of evidence-based practices

CHAPTER 2

LITERATURE REVIEW

The purpose of this dissertation is to determine the knowledge and use of EBPs by current in-service special education teachers. The use of a scientific approach to determining effective methodology in the field of special education is necessary to improve outcomes for students with disabilities (Cook & Cook, 2011; Greenway, McCollow, Hudson, Peck, & Davis, 2013; CCSSO, 2019). However, due to lack of training for special education teachers and a limited library of recognized EBPs, the implementation of these practices in daily instruction is not common practice (Riccomini, Morano, & Hughes, 2017).

This chapter provides a review of the literature that outlines the development of EBPs in the field of special education, including how high-quality indicators in special education research help define EBPs in the areas of reading and behavior. The role of teacher professional development and training for special education teachers on the acquisition and implementation of EBPs in classroom is also explored (Collins, Sweigart, Landrum, & Cook, 2017).

Evolution of Proven Practices

The importance of using proven practices for students with disabilities was recognized by the federal government through legislative actions, including language in the IDEA, NCLB Act of 2001, and ESSA of 2015. IDEA requires the use of "peer-reviewed research," in the development of students' special education programs (34

C.F.R. § 300.320[a][4]). The term SBR was used in NCLB Act of 2001. There are differences in these terms and how they apply to accepted practices. The IDEA does not clearly define what constitutes a practice as peer-reviewed research (PRR). The definition from the Department of Education provided in the commentary section of the 2006 regulations to the IDEA include that it as research that is accepted in a peer-reviewed journal or approved by an independent panel of experts through a comparatively rigorous, objective, and scientific review (34,71 C.F.R. §.46664 (2006). What exactly constitutes PRR therefore was left up to the field of education to clarify.

Scientifically based research clearly defines research expectations for methods, data collection and analysis, validity across observers, and includes approval by peer review (Zirkel & Rose, 2009). This final peer reviewed component is the only part mentioned in IDEA. ESSA includes the term 'evidence-based' multiple times within the law (Williamson, et al., 2018). It refers to how stakeholders should evaluate interventions based on four levels of evidence (U.S. Department of Education, 2016). These four levels include strong evidence, moderate evidence, promising evidence, and demonstrates a rationale (U.S. Department of Education, 2016). The term evidence-based practices (EBPs) has evolved from this as the preferred term of special education researchers (Schalock, Verdugo, & Gomez, 2011).

The terms SBR, PRR and EBPs are not terms that can be used synonymously. There has been consensus between researchers on the approach and components necessary to define EBPs, but implementation into daily teaching is still inadequate (Cook, Tankersley, & Landrum, 2009; CEC, 2014; Williamson, et al., 2018).

Educators continue to use practices from unproven resources, such the internet, collaboration with colleagues, and social media (Travers, 2017; Williamson, et al., 2018). Although there is no guarantee that an EBP will result in progress for an individual student with a disability, there is evidence to support that using proven EBPs with fidelity will more likely produce positive outcomes for students with disabilities (Cook, Tankersley, Cook, & Landrum, 2008; CEC, 2014). It is important for the field of special education to identify and communicate EBPs so special educators can use effective approaches to reviewing practices for use with students who require special education.

Table 2.1 provides a brief description of the accepted standard definitions from the field for what determines an evidence-based practice. These definitions are from the designs of single-subject research (Horner, et al., 2005), and group experimental and quasi-experimental research (Gersten, et al., 2005). These works are recognized as the standards for research review in the field of special education to identify evidence-based practices (Cook, Tankersley, Cook, & Landrum, 2008). The mutual elements that are present in these definitions include the concepts of type, quality, and quantity. It is notable is that the definitions indicate that the greater the number of experimental studies that were conducted within high-quality standards, the greater the confidence in a practice being an effective intervention (Cook, Tankersley, Cook, & Landrum, 2008). The components that delineate the quality of experimental research involve the elements of study design and delivery. Cook, Tankersley, & Landrum (2009) referred to this as methodological rigor and noted that there are essential features for research studies to be considered of high quality. These features also support decreasing the research to practice gap by seeking to clarify procedures for replication in the classroom by teachers.

In 2014, the Council for Exceptional (CEC) released a report that also identified standards for EBPs. The report acknowledged the previous works of Gersten (2005), Horner (2005), and their collegauges, as guidance for recognizing quality indicators for both single-subject and group comparison experimental designs (CEC, 2014). The CEC report also addresses five classifications of effects of an EBP based on the overall ability of the practice to elicit a desired outcome on the targeted audience (CEC, 2014). The intent of this report was to distinguish between studies that meet criteria to produce EBPs and to form a sytem of classifying EBPs based on intended effects on a specific population.

Table 2.1 Accepted Definitions of EBPs in the field of Special Education

Source	Definition of Evidence-Based
Single-Subject research	A practice that is (a) operationally defined, (b) the context which the practice will be used is defined, (c) the practice is implemented with fidelity; (d) results from single-subject research document the practice to be functionally related to change in the dependent measure, and (e) the experimental effects are replicated across a sufficient number of studies, researchers, and participants to allow confidence in the findings (Horner, et al., 2005)
Group Experimental and Quasi-Experimental Research	A practice where there are (a) at least four acceptable quality studies, or two high quality studies that support the practice and (b) the weighted effect size is significantly greater than zero (Gersten, et al., 2005)

Characteristics of Evidence-Based Practices

Evidence-based practices are based on research-proven interventions of high-quality (Cook & Cook, 2011; Cook, et al., 2015). High-quality indicators also assist special education teachers with application within typical classroom environments. This

means that research must adhere to specific criteria that can be replicable and demonstrates relationships of causality (Gersten, et al., 2005; Horner, et al., 2005; Cook, et al., 2015). EBPs also are practices that are experimental in research nature and which must demonstrate a direct effect on a learner based on systematic implementation and manipulation of an independent variable (Gersten, et al., 2005; Horner, et al., 2005). For an EBP to be proven effective, there must be a significant effect that is based on valid measures (Gersten, et al., 2005; Horner, et al., 2005). The following is specific information based on the recognized field standards for identifying an EBP; including elements that indicate a high-quality study. The elements of EBPs are shown in Figure 2.1.

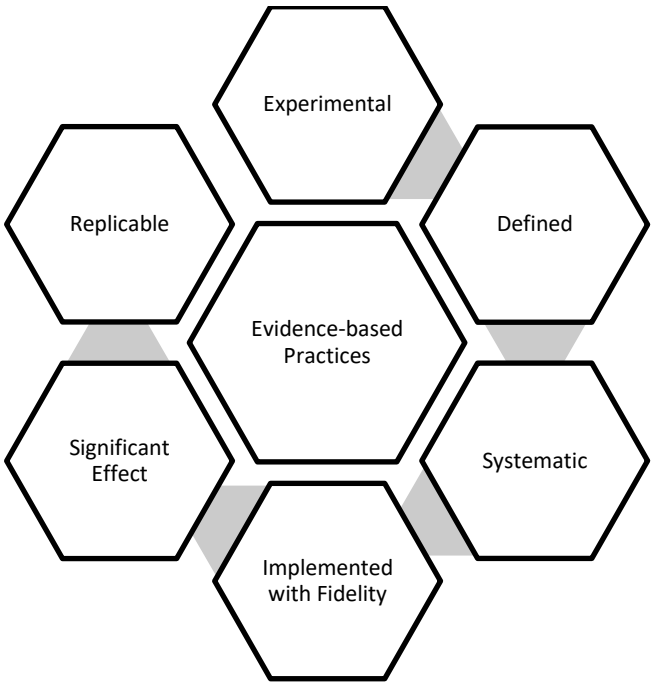

Figure 2.1 Elements of EBPs

Experimental

To be considerd an EBP, a study must be experimental; in other words, it must demonstrate a measurable outcome for a subject or group of subjects for which applied intervention(s) (Cook, et al., 2015). The methodolgy within a study is important when reviewing if an intervention has met high-quaility indicators applicable to determining EBPs. High-quality incidators include components of a study's design.

In 2005, researchers Gersten and Horner published separate works related to how both single-subject research, group experimental and quasi-experimental research are methods that result in a practice being determined evidence-based. Key factors of experimental research include the purposeful manipulation of an independent variable to determine casual effects or relationships (Gersten, et al., 2005; Horner, et al., 2005). For group experimental research, larger samples are collected from a defined population with random assignment of subjects to experimental and control groups (Gersten, et al., 2005). In quasi-experimental research, the study may not include a control group where in single-subject research, few participants are involved and the individual acts as the control. Measures related to the effect of the intervention are taken before the intervention is applied and then at various intervals to capture changes after each intervention phase (Horner, et al., 2005). The single-subject, group experimental and quasi-experimental research methodologies allow researchers to target special education populations in low and high incidence areas of disabilities.

Defined Participants

In experimental studies, clear specifications for study components are essential high-quality indicators. Descriptions of participants and settings allow for replication

based on the clarity and detail provided to determine the contexts of the learner characteristics and environment (Gersten, et al., 2005; Horner, et al., 2005). A central component to single-subject research, group experimental and quasi-experimental research is the selection of participants who are similar in area of disability. Additionally, the researcher must provide information on how particpants were selected, and specific, relevant details about the particular characteristics of participants that identify why they were included in the study (Gersten, et al., 2005; Horner, et al., 2005). The clear description of participants increases the possibility that if an intervention is applied correctly to the same population, similar results will be produced.

Systematic Process

The intervention under investigation in a research study must be clearly described (Gersten, et al., 2005; Horner, et al., 2005). Researchers must include specific information, including materials used, steps for delivery of the intervention, and required procedures (Gersten, et al., 2005; Horner, et al., 2005). This component may later become the basis for a practioner's lesson structure or the system for delivering direct instruction to a student or group of students. The benefits of a systematic process include replication by others to produce same results for the same population. A systematic process also allows for fiedlity of implementation to be easy as each step is defined (Cook et al.; 2015).

Implementation with Fidelity

After the intervention has been defined, the researcher must clearly specify process and the steps that has been used in the intervention. A clear delineation of the steps in implementing the intervention is necessry in order for teachers to correctly apply

the intervention as intended. Implementation fidelity allows researchers to determine a link between the intervention and effect on the participant(s) of a study (Gersten, et al., 2005; Horner, et al., 2005).

Significant Effect

Significant effect means based on analysis of data from a research study, there is statistical evidence that the applied experiment produced considerable desirable outcomes based on targeted population (Cook, et al., 2015). Effect size is a quanitative measure of an experimental effect. In 1988, Cohen established a methodical approach to determining the significance of an effect size; offering the following based on statistical analyses: 0 is equal to no effect, with small as 0.2, moderate as 0.5, and large as 0.8 or greater (Gersten, et al., 2005). The threshold of 0.4 or higher was set to demonstrate a minimum level of significance in the field of education (Gersten, et al., 2005). Cohen's model is only one example as there are other acceptable measures of effect size guidelines that can be used to determine statistical significance (Cook, et al., 2015).

Replicable Results

The relevance of an EBP lies in a practitioner's ability to replicate the intervention under similar conditions in their daily classroom instruction. EBPs are considered valid when the systematic application from various independent researchers is able to produce the intended result (Gersten, et al., 2005; Horner, et al., 2005; Council for Exceptional Children, 2014). This is important for special education teachers who use diagnotistic assessments to align intervention strategies to develop specially-designed instruction for students with disabilities.

Summary

In summary, in order for a practice to be determined as evidence-based, it is essential that indicators of quality be present and effective results are documented over multiple research studies. The establishment of practices that are evidence-based provides a basis for developing effective instruction that seeks to produce positive outcomes for students with disabilities through students' individual education programs (IEPs) (Vaughn & Swanson, 2015). Special education personnel need knowledge and skills in specific strategies to target the instructional needs of students in academic (Sayeski, Gormley Budin, & Bennett, 2015) and functional areas (Zaheer, et al., 2019). Training and implementation for special education professionals is essential for understanding and implementing EBPs (Sayeski, Gormley Budin, & Bennett, 2015, Zaheer, et al., 2019). For this study, I highlight evidence-based practices that have been identified in the areas of reading and behavior.

Evidence-Based Practices

Evidence-based practices in the areas of reading and behavior assist educational teams in developing and implementing research proven interventions that can be assessed and monitored based on defined performance expectations (Sugai & Horner, 2009). Because special education students have varied needs, it is important for special education teachers to have the tools to address the individual needs of students (McLeskey, et al., 2017). The instruction, training, and implementation of EBPs for reading and behavior provide special educators with systematic approaches to improving outcomes for students with disabilities (McLeskey, et al., 2017). The following sections define specific evidence-based practices in the areas of reading and behavior.

The role of response-to-intervention (RTI) and school-wide positive behavioral supports (SWPBS) has promoted the use of EBPs within multi-tiered systems of support (MTSS) in schools nation-wide (Sugai & Horner, 2009). In the area of special education, RTI specifically addresses the identification of students with specific learning disabilities (SLD) by determining how their performance is affected when instruction is provided that is rooted in SBR (Sugai & Horner, 2009). The interventions that are designated as scientifically based are delivered to students based on a continuum that considers factors related to intensity (e.g., frequency, duration) and is reviewed for effectiveness by using defined problem-solving protocols to make individual instructional decisions (Sugai & Horner, 2009). SWPBS also use a problem-solving protocol when applying and reviewing interventions in behavior (Sugai & Horner, 2009).

Students with the most significant behavioral needs require intensive interventions. Sugai and Horner (2009) asserted that the implementation of behavioral interventions will lead to positive changes throughout each tier of support within the MTSS framework. Behavioral interventions can be successfully applied in school-wide settings, classroom settings, non-classroom settings within the school. In a SWPBS framework, multiple tiers of behavior support are provided in which the intensity of supports provided to students are increased to meet students' needs. Thus, if a student does not respond to intervention at one tier, he or she may be moved to another tier with more intensive behavioral support (Sugai & Horner, 2009). Like the approach to academic intervention in RTI framework, behavioral interventions within a SWPBS framework are centered on a systematic review and application of available data that is consistently monitored for effectiveness (Sugai & Horner, 2009).

Behavior

The MTSS approach to SWPBS recognizes the need to teach student skills in social-emotional/behavior just as academic skills are taught to students (Sugai & Horner, 2009)**.** Instruction follows a tiered continuum of intensity based on how a student responds to the intervention provided (Tilly, Harken, Robinson, & Kurns, 2008). Similar to evidence-based approaches in reading, behavior skills need to be assessed, taught, and monitored to review a student's progress (Sugai & Horner, 2009; Tilly, Harken, Robinson, & Kurns, 2008). Behavior skills have also been categorized based on the following areas: (a) creating structure and predictability, (b) promoting positive classroom environment, (c) using effective instructional strategies, and (d) assessments and data-based decision making (Zaheer, et al., 2019).

Students with disabilities can benefit from instructional strategies presented at each tier on the continuum, including universal, targeted, and individualized interventions (Zaheer, et al., 2019). Systems of SWPBS seek to implement evidence-based practices for all students and provides a problem-solving protocol to identify and address those students who require additional supports (Sugai & Horner, 2009). In a typical three-tiered system, each tier is designed to provide student support based on need (Gandhi, Scala, Vaughn, Danielson, & Stelitano, 2015). Tier one provides instruction to all students, and tiers two and three provide additional supports to those students who do not respond to interventions at previous tiers (Gandhi, et. al, 2015). Evidence-based practices exist at all three tiers to match needs of students (Zaheer, et al., 2019). A summary of evidence-based practices in behavior related to the identified categories is included in Table 2.2.

Table 2.2: Evidence-Based Practices in Behavior within a MTSS framework

Area	Research Recognized Components
Creating Structure and Predictability	• Structured Physical Environments • Established Routines • Active Supervision
Promoting Positive Classroom Climate	• Positive Classroom Expectations • Positive Reinforcement Systems
Using Effective Instructional Strategies	• Explicit Instruction • Opportunities to Respond • Performance Feedback
Assessment & Data-Based Decision Making	• Screening & Progress Monitoring • Function-Based Assessment • Data-Based Decision Making

(Zaheer, et al., 2019)

Reading

In 2000, the National Reading Panel released its seminal report *TEACHING CHILDREN TO READ: An Evidence-Based Assessment of the Scientific Research Literature on Reading and Its Implications for Reading Instruction*. This report continues to be recognized for its influence in promoting direct instruction based on five areas of reading: (1) phonemic awareness, (2) phonics, (3) fluency, (4) vocabulary, and (5) comprehension (NICHD, 2000). The report identified specific skills that are essential for the development of early reading skills but did not review effective teaching methods related to these skills (NICHD, 2000). Since the publication of this report, many researchers conducted research to identify EBPs in each of the five areas of reading.

Early intervention is recognized as a key factor in addressing deficits in reading skills for students in kindergarten through third grade, specifically difficulties related to phonological skills (Wanzek & Vaughn, 2007; Harn, Basaraba, Chard, & Fritz, 2015).

Wanzek and Vaughn (2007) reported that effectiveness of interventions was increased when methods of teaching reading included reduced group size, longer duration of implementation provided at a lower grade level, and weekly frequency of at least 30 minutes for four sessions of reading instruction. In order to provide interventions that target individual student needs, educators must understand the skills within each area of reading. Instruction in reading should address the development of language comprehension and word recognition skills through systematic methods that are intentional in ensuring students acquire foundational knowledge to become fluent readers (Hougen, 2012). Harn, et al. (2015) noted a link between behavior problems and reading difficulties as related to deficits with attention. The skills within each area of reading and the evidence-based practices that align with effective instruction for these skills are captured in Table 2.3.

Table 2.3: Evidence-Based Practices in the 5 areas of Reading

	Area	Skills	Research Recognized Practices
Language Comprehension - Word Recognition	Phonemic Awareness	• Listening Skills • Rhyme & Alliteration • Segmentation-sentence, syllable • Blending	Systematic & Explicit Instruction
	Phonics	• Decoding • Word Study	
	Fluency	• Reading with expression • Using prosody • Using appropriate phrasing	
	Vocabulary	• Understanding meaning of words in	

		listening, speaking, reading, & writing	
	Comprehension	• Predicting • Making inferences • Asking & answering inferential questions • Synthesizing	

(Hougen & Smartt, 2012)

There is agreement that an explicit and systematic approach to instruction in the areas of reading is required for instruction to be effective (Learning Point Associates, 2004). To clearly define, a systematic approach to instruction should be planned in a logical sequence that scaffolds skills and includes purposeful practice to assist students in reaching mastery of skills (Learning Point Associates, 2004). During the instructional progression, student progress must be monitored through assessments that measure student progress toward the specific skills taught (Learning Point Associates, 2004). To be explicit, the purpose of instruction, or skill, must be clearly specified to the learner. Additionally, teacher should model the application of skill to the learner (Learning Point Associates, 2004). A teacher's ability to provide effective instructional strategies in reading may also depend on the coordinated use of effective classroom management of behavior that allows for more engagement with the academics and increases time on task for learning (Garwood, Vernon-Feagans, & Family Life Project Key Investigators, 2017).

School administrators, special education teachers, and general education teachers are the primary implementers of interventions for students within a MTSS approach (Zaheer, et al., 2019). To narrow the scope of EBPs in the areas of reading and behavior,

this study focuses on the instructional practices that are present for both reading and behavior and how teachers receive training and continued professional development for these practices.

Teacher Training and Professional Development

Given the responsibility to provide meaningful, educational experiences for students with disabilities, special educators need to be able to identify and implement EBPs (Kretlow & Helf, 2013). When paired with professional knowledge and a data-based approach to instructional design, special education teachers should choose EBPs that directly support identified student needs. Training is essential to developing this level of knowledge and skill for special education teachers (Kretlow & Helf, 2013).

Kretlow and Helf (2013) asserted that training for teachers in the use of EBPs should include a minimum of 14 hours on direct instruction in the practice and be followed by support of a peer who conducts observations and provides feedback focused on improving the fidelity of implementation of EBPS. By offering experiences that are sustained over time, the likelihood that new practices will replace current practices is increased (Sun, Penuel, Frank, Gallagher, & Youngs, 2013). Trainings for teachers are most effective when such training involves activities that include dynamic learning, student discussions based on data, and direct connections to content and skills (Sun, Penuel, Frank, Gallagher, & Youngs, 2013).

In the area of EBPs, teacher training should include collaborative experiences that provide multiple opportunities for pre-service and in-service teachers to practice effective skills and strategies under supervision that emphasizes on fidelity of implementation (Kretlow & Helf, 2013). Implementation science has designed a way to systematically

introduce EBPs as determined by research into everyday learning environments (Cook & Odom, 2013). Through distinct phases, research is translated into practice with recognition and attention to a variety of factors that influence implementation (Cook & Odom, 2013).

Cook and Odom (2013) noted that "Implementation is the critical link between research and practice" (p. 138). Implementation science provides a systematic and deliberate approach to connect evidence-based research practices with daily classroom use (Cook & Odom, 2013). The core strategies to the successful implementation of evidence-based practices include training experiences at both the pre-service and in-services levels, as well as consultation and coaching opportunities that are ongoing witihin the initial implementation stage (Cook & Odom, 2013, Freeman, Miller, & Newcomer, 2015). Full implementation of an evidence-based practice occurs when the practice is demonstrated with fidelity by the practitioner (Freeman et al., 2015). The additional elements of implementation science included in the competency drivers are training and coaching, which provide actions and means to convey knowledge and skills to teachers who will be implementing the evidence-based practice (Freeman et al., 2015).

Coaching & Observational Feedback

The purpose of training is to provide introductory information to a group regarding a specific practice (Freeman et al., 2015). Direct training in the use of EBP is necessary to establish understanding of the presented practice (Kretlow et al., 2012). Knight (2007) noted that teachers reported that most training that did not include supports for implementation, such as coaching and collaboration. Effective implementation of an EBP, however, is more likely to occur when instruction in the EBP includes supplemental

opportunities (Kretlow et al., 2012). Coaching is a supportive process that assists teachers in the application of an evidence-based practice (Freeman et al., 2015). This is achieved through collaborative relationships that focus on embedding the new strategy into daily practice through guided and reflective practice (Freeman et al., 2015). Kretlow, Cooke, and Wood (2012) investigated teacher attitudes toward coaching and reported that teachers placed value on coaching because their individual needs were addressed which increased teachers' confidence in implementing EBPs. Researchers have identified effective practices have been identified in coaching that promote improvement of teacher practice (Pierce & Buysse, 2017).

Coaching strategies are most effective when presented after teachers have been given instruction on an EBP through content-focused training (Pierce & Buysse, 2017). Additionally, the establishment of a trusting relationship between the teacher and the coach is critical to the success of a coaching experience (Pierce & Buysse, 2017). A positive relationship allows for the teacher and coach to collaborate as equals in the improvement process (Knight, 2007; Pierce & Buysse, 2017). Effective coaching strategies include observation, modeling, and performance feedback (Pierce & Buysse, 2017).

Through direct experiences, coaches can support teachers based on agreements developed around a common goal motivated by improvement in outcomes for students (Knight, 2007). When teachers implement a particular EBP, coaches should conduct observations to determine a teacher's current level of use of a designated practice (Pierce & Buysse, 2017). A coach may also use modeling to demonstrate an evidence-based technique, showing the teacher exactly how this looks within the classroom (Knight,

2007; Pierce & Buysse, 2017). Coaches also use data from observations to give teachers feedback on their use of an EBP (Knight, 2007; Pierce & Buysse, 2017).

Performance feedback is a practice coaches may use with teacher partners that gives the coach an opportunity to provide specific data to the teacher on his or her implementation of an EBP (Pierce & Buysse, 2017). Performance feedback allows the coach to deliver information collected from an observation to the teacher that is "specific, positive, timely, and corrective" (Pierce & Buysse, 2017, p.6). By giving teachers exact information in a positive manner, coaches can pinpoint the effect of the EBP on students while acknowledging effective components of a teacher's practice (Pierce & Buysse, 2017). If a teacher's implmentation of an EBP is not accurate, corrective feedback may be used to improve the teacher's performance (Pierce & Buysse, 2017). Feedback has been shown to be most effective when provided as soon as possible after a coach completes an observation (Pierce & Buysse, 2017). By creating a relationship where coaches and teachers are partners, discussions on improving practice based on observations, modeling, and performance feedback allow the focus to be on increasing teacher effectiveness (Pierce & Buysse, 2017).

Teacher Perspectives on the Implementation of EBPs

Researchers have identified the perceptions of teachers as possible factors in limiting or sustaining the implementation of EBPs (Wehby et al., 2010). The areas affected by teacher perceptions are (a) willingness to implement, (b) adherence to fidelity, and (c) impact of the intervention (Wehby, et al., 2010). When teachers are allowed to choose an intervention, they are more likely to implement the intervention, adhere to procedural strategies, and sustain the practices over time (Wehby, et al., 2010).

Kretlow and Helf (2013) reported that teacher perceptions regarding the ability of self and students, time available for the implementation of an intervention, and degrees of instructional independence area also are factors that contribute to increased fidelity of implementation. In addition, teachers typically are not participants in program adoptions or may lack the skills necessary to evaluate programs or interventions to determine if they are based on empirical evidence (Kretlow & Helf, 2013).

Special educators have reported that barriers to the implementation of EBPs in daily classroom instruction include (a) inability to see benefit for their students, (b) time constraint limits, and (c) desire to meet group needs over individual needs (Greenway et al., 2013). Teachers who were not involved in selecting EBPs reported not using all program components or supplementing curriculum materials (Kretlow & Helf, 2013). Another barrier reported by teachers is the lack of resources for implementing EBPs (Kretlow & Helf, 2013).

Professional Expectations

The field of special education places significant demands on educators. State and federal regulations define compliance expectations based on IDEA to ensure a free appropriate public education (FAPE) for students with disabilities. Special education teachers must understand grade-level content standards and EBPs that meet the specific needs of individual students. The demands of teaching, scheduling services, attending meetings, and planning for instruction is immense and leaves teachers little time for additional training. In response to these demands, professional organizations, such as the CEC, offer standards that support the education of students with disabilities and provide

guidance for special education teachers. This guidance includes a code of ethics that contains several principles directly related to the use of EBPs. They are:

1. Maintaining challenging expectations for individuals with exceptionalities to develop the highest possible learning outcomes and quality of life potential in ways that respect their dignity, culture, language, and background.
2. Maintaining a high level of professional competence and integrity and exercising professional judgement to benefit individuals with exceptionalities and their families.
3. Using evidence, instructional data, research, and professional knowledge to inform practice. (Council for Exceptional Children, 2015)

By setting high professional standards for special education teachers, CEC recognized that teachers have a responsibility to use EBPs to maximize outcomes for students with disabilities.

Purpose of study

The goal of providing effective instruction to all students with disabilities for them to (a) receive a FAPE that enables them to make progress and to (b) be involved in and access the general education curriculum are the main purpose of special education. In efforts to achieve this goal, researchers have identified practices with proven results for learners; however, a breach between the research and practice worlds still exists. It is important to use best practices for educating professionals on implementing EBPs and beginning instruction in proven methodologies during pre-service training. Does teacher training actually provide special education teachers with knowledge and experince with research-based practices? This study seeks to investigate that question by analyzing the

quantity and quality of training provided to special education teachers based on the effective components of (a) explict training with active learning opprotunities offered over time, (b) peer collaboration, and (c) observation and feedback that promote positive outcomes for students with disabilities.

The purpose of this study is to examine the extent that in-service teachers received instruction and feedback on the implementation of EBPs during their teacher preparation programs. This study also seeks to determine the extent to which in-service special education teachers report training and follow-up on use of evidence-based practices provided within their districts. To address these purposes, the research questions guiding this study are:

1. To what extent do special education teachers report having been trained in EBPs within their teacher preparation programs?
2. To what extent do special education teachers report having received training on EBPs from the district where they are employed?
3. To what extent do school district special education administrators report providing training in EBPs to teachers?
4. To what extent do school district special education administrators report providing coaching to special education teachers regarding their performance on implementation and use of EBPs?
5. To what extent do school district special education administrators report providing observational feedback to special education teachers regarding their performance on implementation and use of EBPs?

6. To what extent do special education teachers report they are implementing EBPs?
7. What barriers do special education teachers identify that hinder the implementation of EBPs?

CHAPTER 3

METHODOLOGY

The purpose of this study was to examine the use of EBPs during daily instructional practice of special education teachers. To identify the extent of their level of knowledge of EBPs, this study sought to identify training that special education teachers have received on EBPs from teacher preparation programs and the district where they are employed. In addition, an investigation of the supports special education teachers have received to aide in their implementation of EBPs was included. To reiterate, the following research questions directed the study:

1. To what extent do special education teachers report having been trained in EBPs in their teacher preparation programs?
2. To what extent do special education teachers report having received training on EBPs from the district where they are employed?
3. To what extent do school district special education administrators report providing training in EBPs to teachers?
4. To what extent do school district special education administrators report providing coaching to special education teachers regarding their performance on implementation and use of EBPs?
5. To what extent do school district special education administrators report providing observational feedback to special education teachers regarding their performance on implementation and use of EBPs?

6. To what extent do special education teachers report they are implementing EBPs?
7. What barriers do special education teachers identify that hinder the implementation of EBPs?

To best answer these questions, I sought input directly from practicing special education teachers and special education district administrators to determine the knowledge and use of EBPs within daily instruction for students with disabilities. I developed a survey for respondents to provide information on their professional characteristics (e.g., certification, experiences) and the training in and use of EBPs. The questionnaire contained two sections that include demographics about the respondent and a main section asking participants to indicate their knowledge, experience, and use of best instructional practices in special education. Survey questions for teachers or district special education administrator populated based on their self-identified role.

The demographic section collected information on the personal/professional characteristics of respondent (i.e., length of time teaching, type of degree earned, means of certification, professional status, district training on best practice, university preparation on best practice, etc.). This information was used to determine if characteristics of respondents, such as how certification was achieved, would affect implementation of EBPs.

Section 2 contained statements about each best practice identified from the literature, requested the respondent to indicate the extent to which that person had knowledge of the practice, and used the practice. These best instructional practices focused on evidence-based practices in reading and behavior that have shown to be effective with producing desired results for populations of students with disabilities. This

section of the survey was directed based on if the respondent identified themselves as a special education teacher or a special education district administrator. Survey questions varied based on training received or training provided based on the role of the respondent.

Statement of Purpose

The purpose of this survey was to collect data from in-service special education teachers from public school districts in South Carolina to determine the use of EBPs. To validate/cross-check information that was self-reported by participating teachers, special education district administrators were surveyed to determine (a) observation of teachers' use of EBPs in classrooms, (b) training on EBPs provided to district teachers by the school district, and (c) amount of support provided by district staff to special education teachers in implementing EBPs.

Development of the Survey

A survey research design was the methodology used for data collection for this study. The survey methodology was chosen to accurately sample the target population and to provide comparisons based on characteristics of the respondents (Fowler, 2014). A survey design also allowed for respondents to self-administer, provided an ease of access and anonymous reporting to elicit thoughtful answers to survey questions (Floyd, 2014). Survey questions were all be closed questions to allow respondents to complete the survey easily and quickly. Moreover, survey methodology allowed clear comparisons between respondents' answers to be made, and statistical analysis of respondents' data (Johnson & Morgan, 2016). This survey used only close-response survey items to

maintain focus on issues regarding EBPs and created opportunities for statistical comparisons across groups of respondents (Johnson & Morgan, 2016).

Identification of Item Content

For this study, a survey instrument was developed to target South Carolina special educators based on certification pathway and on training and support received on the use of EBPs. The first step in developing this survey was conducting a thorough review of the literature on EBPs, with a focus on identifying, training, and implementing EBPs. I searched for the key terms *evidence-based practices*, *special education teacher preparation*, *coaching*, *implementation of evidence-based practices*, and *evidence-based practices in reading* and *behavior.* The Educational Resources Information Center (ERIC) database was used to locate resources. The research topics were identified and corresponding questions are included in Table 3.1.

Table 3.1 Survey Questions

Research Topic	Source	Survey Questions
Teacher Training	Gersten, et al., 2005; Horner, et al., 2005; Kretlow & Helf, 2013; McLeskey, et al., 2017; Sugai & Horner, 2009	Teacher preparation programs: • Provided instruction on how to find an evidence-based practice (EBP) for specific students, ex. Students with Specific Learning disabilities or Intellectual Disabilities. • Given directions on how to use materials and instructional procedures for implementing various EBPs with students. • Had the opportunity to practice delivering an intervention with a student. District: • Provides training for me on how to teach students with disabilities. • Provides training that includes hands-on activities • Offers training face-to face. • Offers virtual training. • Provides training on how to use data for instructional planning. • Offers professional development experiences for teachers more than 14 hours each year. • Provides training experiences that involve discussions related to student data.

		• Provides training that directly connects to the content and skills I need to teach.
EBPs	Hougen & Smartt, 2012; McLeskey, et al., 2017; Sugai & Horner, 2009; Zaheer, et al., 2019	Provided (by district or teacher preparation program) training on EBPs for both Reading and Social/Emotional/Behavior: • Systematic Instruction • Explicit Instruction • Opportunities to Respond • Performance Feedback • Screening & Progress Monitoring • Data-Based Decision Making
Coaching and Observational Feedback	Kretlow & Helf, 2013; Sun, Penuel, Frank, Gallagher, & Youngs, 2013, Greenwood & Abbott, 2001	As a practicing special education teacher: • Was observed by my supervising professor during my pre-service teaching experiences with students • Received feedback from my supervising teacher regarding my performance when providing instruction to students. • Have access to an instructional coach within my building that works with me. • Have access to an instructional coach in my district specific to supporting special education teachers. • Receive support from a special education teacher coach. • Have been supported special education teacher coach more than 2 times this school year. • Received 2 or more observations during my instruction by building or district personnel. • Given feedback on my instruction within 2 days or less following an observation. • My observer pointed out specific instructional strategies or EBPs that I used during an observation of my teaching.
Implementation	Cook, Tankersley, & Landrum, 2009; Travers, 2017	• I find teaching resources from Internet sites or social media. • I get ideas for my teaching from other teachers. • I use the provided teacher program manuals to plan and deliver my daily lessons. • I often am given the opportunity to help choose district programs for use in my classroom. • I am encouraged to provide input to district leaders about concerns I have with using instructional materials or programs.

		• My students consistently show progress to my direct instruction lessons. • I have been using many of the same programs/resources for over 3 years. • I regularly assess students for progress toward their goals. • I have the resources I need to provide instruction to my students. • I am confident with the strategies I am using to provide instruction to my students.
Barriers	Cook & Odom, 2013; Greenway, McCollow, Hudson, Peck, & Davis, 2013; Kretlow & Helf, 2013; Wehby, Maggin, Johnson, & Symons, 2010	• I enjoy trying new things with my students. • I like using a scripted instructional program. • I am open to new ideas learned from professional development experiences. • It is easy for me to stick to my daily schedule. • I have enough time to deliver the instruction that my students need. • Making sure each student is meeting his/her goals is a priority. • I deliver each part of the provided instructional program. • I use additional resources from other sources (Internet, social media, and colleagues) to supplement my instruction for students.

After the topics were identified and potential questions created, I then determined which questions would be presented to special education teachers and those that would be presented to special education administrators. Next, I created stems for each survey question and added the items that corresponded to each. These were arranged by the categories of teacher training, EBPs, coaching and observational feedback, implementation, and barriers.

Content Validation

A content review of the initial survey was completed to examine the content validity of the item pool. Using a Delphi Method approach, local experts in the field of special education were asked to review the survey instrument based on questions regarding the content. Experts in special education were identified as having experience

in provision and supervision of training, instruction and programs that support effective teaching practices and improved outcomes for students with disabilities. For the content review in this research study, special education district level leaders, special education personnel at state colleges and universities, and certified staff members in the Office of Special Education Services of the SC Department of Education were included. Based on expert feedback, the survey was adjusted to define responses and represent EBPs in Reading and behavior more clearly. Specifically, answer options for respondents decreased from five options to four, combining *never* and *few* response options into just the response of *never* with the description as less than three opportunities or occasions. For the EBPs in Reading and behavior, the words 'Reading' and 'social-emotional/behavioral' were added to practices that related to each of these areas.

Pilot Test

After changes were made based on the content review, a pilot test was conducted with a small group of practicing special education teachers to elicit feedback on clarity and interpretation of survey items. Within one school district, three teachers at each academic level- elementary, middle, and high school, were sent the survey to complete. Upon completion, these respondents were asked to submit additional feedback on the survey instrument.

The survey was then revised based on input and data gathered during the review process. The changes based on pilot test included adding numbers to define response options and removing short answer question options. The final survey was entitled 'Evidence-Based Practices in Special Education' and can be found in Appendix A.

Survey Design

Sections

The final survey had two sections. The first was the demographic section in which I collected information on the personal/professional characteristics of respondent (i.e., length of time teaching, type of degree earned, means of certification, professional status, district training on best practice, university preparation on best practice). In this section, respondents chose one answer for individual items for these items (questions 1-10). The answer choices for each item were determined based on defining characteristics of each respondent for comparison during analysis across groups.

Beginning with question 11, respondents were presented with questions related to the topics of EBPs, implementation, training, coaching and observational feedback, and barriers. Each item presented a choice on a Likert scale, with 4 clearly defined answer options. These options are never, sometimes, often, and frequently.

A four-option scale was chosen to increase reliability through defining subjective answer choices and to provide a way to relate answers among respondents (Fowler, 2014). The response options represented a frequency measure for analysis and the scale remained consistent throughout the survey to maintain the respondent's engagement with the survey and for ease of completion (Johnson & Morgan, 2016). A four- choice answer option was chosen to measure the quality of the experiences reported by respondents (Johnson & Morgan, 2016). The answer choices were assigned a numerical value from zero to three, with *never* equal to zero, *sometimes* equal to one, *often* equal to two, and *frequently* equal to three. These values were used to calculate the mean for item responses.

The second section contained statements about each “best practice” statement identified from the literature and required the respondent to indicate the extent to which that person had knowledge of the practice and used the practice. The same answer options for scale responses were used in this section to maintain consistency. These best instructional practices focused on EBPs in reading and behavior that have shown to be effective with producing desired results for populations of students with disabilities.

This section of the survey was directed based on if the respondent identifies themselves as a special education teacher or a special education district administrator. Survey questions varied by training received or training provided based on the role of the respondent.

Participants

The target population for this study was teachers of students with disabilities, serving students ages 3-21, in SC public schools. Due to typical deficits in academic and functional areas, the needs of students determined eligible for special education under the various categories of disabilities outlined in the Individuals with Disabilities Education Act (IDEA) require direct services from a special education teacher. Based on the IDEA statues Section 1412 (a) (14) (c), the education of a student with a disability must be provided by a certified special education teacher (2019). My goal for this study was to use the method of census sampling to collect information from the population of special education teachers in SC. (Lavrakas, 2008). Census sampling would allow me to send the survey out to all special education teachers and special education administrators in the state. I was not able to complete a census sample due to several reasons, including

reduced access to special educators with COVID-19 closures to state conference events and denial of research requests from several large SC school districts.

In SC, there are several pathways to special education teacher certifications that deem someone qualified to teach students with disabilities in eligible categories of disabilities. For this study, all teachers identified as eligible to teach students with disabilities in SC were the target population within the survey frame. Since all educators are provided access to email within their school districts, each participant that received the survey had an equal opportunity to respond.

Recruitment Procedures

The primary recruitment procedure for survey participants was contact with special education directors in SC. An email request, containing information about this study and the survey link was sent to each state director for dissemination to special education teachers in their individual districts. In addition to this, survey participants were recruited through contact with various state technical assistance and teacher support agencies with request to send this survey to their email subscribers. These included the Transition Alliance of South Carolina (TASC), the South Carolina Preschool Inclusion Project (SCPI), the Center for Educator Recruitment, Retention, and Advancement (CERRA), and the South Carolina Association for Positive Behavior Supports (SC-APBS). The South Carolina chapter of the Council for Exceptional Children (SC CEC) was contacted for this survey distribution to the current membership pool within this organization. This survey was sent at intervals that align with the beginning of the Spring instructional period. The survey link was featured in the monthly newsletters for TASC, SCPI, and SC-APBS. The SC CEC posted the survey on their social-media platform.

There was no response from CERRA. The survey was administered through the aforementioned cites and direct distribution; however, it is not possible to estimate the number of teachers or administrators received the survey as some may have appeared on the same lists. A response rate is unknown.

Data Analysis

To summarize and describe the data to determine the use of EBPs when compared to the influence of factors that include training and support, the survey items were analyzed using an ANOVA (analysis of variance) investigation. The ANOVA was used to determine is there was a difference between groups based on the survey items.
The target population that was examined includes in-service special education teachers in SC that was divided into two groups by certification level and district location. For the group traditional and non-traditional, the traditional group represented teachers who obtained certification through college preparation programs. The non-traditional group represented teachers who received certification through international programs or approved SC alternative pathways to certification, such as the Program for Alternative Certification for Educators (PACE) program and Teach for America. In the area of district location, there were three groups. The district locations for the three groups were urban, suburban, and rural.

Variables

The independent variable for the survey items of teacher training on EBPs was teacher certification type/level. District location was the independent variable for survey items related to in-service training received in EBPs, and support for implementing EBPs.

These were the predictors of change that were believed to influence the dependent variables in this study. These variables are further described in the following paragraphs.

The demographic characteristics of survey respondents, specifically certification type/level, was defined in this study using the SC acceptable certification categories for providing instruction to students with disabilities. The certification categories are included in Table 3.2.

Table 3.2: SC Certifications Eligible to Teach Special Education

Certification Type/Level	Description
Traditional certification	Earned through the completion of an approved college preparation program and a valid SC teacher license issued in one of the identified certification categories of the state.
Non-Traditional certification	Alternative certification: A candidate who has earned a bachelor's degree, has passed a state and federal background check, has passed the Praxis exam for grade and subject they plan to teach, and is working under a provisional certificate issued through an approved state program, including the following: a. Program of Alternative Certification for Educators (PACE) b. Teach for America International certification: Teacher earned teaching licensure from program outside the United States and currently holds a valid SC license based on certification reciprocity.

A research data request was submitted to the SC Department of Education to obtain the number of special education teachers working within the state who have been certified using alternative paths to special education certification. This information is

included in Table 3.3. The demographic information collected from survey participants was used to disaggregate data in section two to determine if responses varied by demographic subgroup.

Table 3.3: 2019-2020 Alternative Routes Certificates in Special Education Areas

	PACE	**Teach for America**
Special Education: Emotional Disabilities	152	N/A
Special Education: Learning Disabilities	3	1
Special Education: Multi-categorical	7	14
Total	**162**	**15**

The second independent variable in this study focused on the training a special education teacher reported having received as it relates to identifying EBPs in both reading and social/emotional/behavioral skills. Survey questions investigated the extent teachers reported they were provided directions on how to implement EBPs, including materials to use, specific procedures, and opportunities to practice and receive feedback on the use of an EBP during a teaching experience. The study reviewed how training was provided, including face-to-face, virtual, collaborative (includes time to discuss information with colleagues), and/or hands-on/interactive experiences.

The final independent variable was the support special education teachers received to promote the implementation of EBPs. The areas investigated within the survey included coaching and observational feedback. Survey participants were asked to respond on their access to an instructional coach, either within their building or to district staff dedicated to special education. Activities related to support also included observational feedback, specifically the degree of observations and feedback a special education teacher experienced over the past academic year related to a specific EBP.

Based on the independent variables listed above, it was projected that each may influence the changes to the dependent variable of implementation of EBPs by special education teachers. Through a review of the literature, implementation of EBPs was found to be influenced by a teacher's knowledge of EBPs, the sources teachers utilize to choose teaching strategies/methods, and a special education teacher's use of EBPs in daily classroom instruction. Survey questions explored the extent to which teachers report implementing a strategy with fidelity, used progress monitoring to measure effectiveness of a strategy, and their level of confidence in applying an EBP in reading or social/emotional/behavioral skills.

The electronic questionnaire was only sent out to in-service Special Education teachers and district administrators in SC. It is recognized that potential extraneous variables exist which may be limitations to the study approach. Since this survey captured the self-report of special education teachers in SC, it relied on the honesty of respondents. To allow for respondents to provide truthful answers, no personally identifiable information was collected, and participants were informed that responses to the survey were voluntary and anonymous. It is possible the perceived barriers may influence survey results. To identify these, a section in the survey included questions to identify the presence of these barriers. These barriers were (a) perception of no benefit for students, (b) time constraint limits, (c) desire to meet group over individual needs, (d) lack of choice in instructional programming, and (e) inadequate resources available to implement EBPs.

The level of measurement for outcome on the dependent variable included nominal-level variables. Since the samples were taken from the same group of survey

participants, the levels of measurement used was repeated measures ANOVA (analysis of variance). When using a one-way ANOVA, there are some assumptions and limitations. It was assumed that the sample collected was taken from a normally distributed population where each sample was taken independent of the other samples. Since this is assumed, the null hypothesis is that there was no difference between the groups and equivalence in the means in the sample. When a difference was noted at an alpha level of 0.05, an inference regarding the group was made.

Visual representations of data included bar graphs and a box plot to represent correlations between groups. Table 3.4 outlines each research question with corresponding survey items, analysis methods, and if applicable, visual presentation of results.

Table 3.4: Survey Analysis Plan

Research Question	Survey Item	Analysis Methods	Methods of Presentation
1. To what extent do special education teachers report having been trained in EBPs within their teacher preparation programs?	Item level data for items 12-20.	ANOVA <u>Independent Variable:</u> Certification Type <u>Dependent Variable:</u> Implementation of EBPs	Table; bar graph
2. To what extent do special education teachers report having received training on EBPs from the district where they are employed?	Items 21-29	ANOVA <u>Independent Variable:</u> Training <u>Dependent Variable:</u> Implementation of EBPs	Table; box plot
3. To what extent do school district special education administrators report	Item 52-61	Mean <u>Independent Variable:</u>	Table

	providing training in EBPs to teachers?		Training <u>Dependent Variable:</u> Implementation of EBPs	
4.	To what extent do school district special education administrators report receiving coaching to special education teachers regarding their performance on implementation and use of EBPs?	Items 38-51	Mean <u>Independent Variable:</u> Support <u>Dependent Variable:</u> Implementation of EBPs	Table
5.	To what extent do school district special education administrators report providing coaching and observational feedback to special education teachers regarding their performance on implementation and use of EBPs?	Item 62-67	Mean <u>Independent Variable:</u> Support <u>Dependent Variable:</u> Implementation of EBPs	Table
6.	To what extent do special education teachers report they are implementing EBPs?	Items 30-37	Mean <u>Independent Variable:</u> Certification Type <u>Dependent Variable:</u> Implementation of EBPs	Table
7.	What barriers do special education teachers identify that hinder the implementation of EBPs?	Item 11 a-r	ANOVA Mean	Table

CHAPTER 4

RESULTS

The purpose of this study was to examine the use of EBPs during daily instructional practice of special education teachers. Because the correct use of EBPs has improved outcomes for students with disabilities, it is important to investigate the implementation of EBPs (Riccomini, Morano, & Hughes, 2017). In this study, the extent of teachers' knowledge of EBPs was examined. In this study, I also investigated the training teachers received on EBPs from teacher preparation programs and the in-service training from the school district where they were employed. Finally, I investigated the supports special education teachers received to promote their implementation of EBPs. The following research questions directed the study:

1. To what extent do special education teachers report having been trained in EBPs in their teacher preparation programs?
2. To what extent do special education teachers report having received training on EBPs from the district where they are employed?
3. To what extent do school district special education administrators report providing training in EBPs to teachers?
4. To what extent do school district special education administrators report providing coaching to special education teachers regarding their performance on implementation and use of EBPs?

5. To what extent do school district special education administrators report providing observational feedback to special education teachers regarding their performance on implementation and use of EBPs?

6. To what extent do special education teachers report they are implementing EBPs?

7. What barriers do special education teachers identify that hinder the implementation of EBPs?

The survey was available for participants from the beginning of January 2021 until the end of February 2021. A total of 168 surveys were emailed directly to the special education contacts for each school district as identified by the SCDE and a total of 684 were sent directly to special education teachers as identified from staff lists on individual district websites. Distribution lists for SC CEC, SCPI, and TASC were not available for reporting on the response rate of survey recipients.

A total of 105 responses were received during the 6-week timeline that the survey was open. From an initial data screening, there were nine respondents who did not identify themselves as either a special education teacher or an administrator of special education. These nine responses were removed from the study. This left 96 respondents that were used in the data analysis. There were no incomplete survey responses. Based on the low number of responses, it cannot be assumed that this sample is representative of the intended population.

Demographics

In the demographic section of the survey, I collected information on respondents' professional characteristics including their role (teacher/administrator), type of

certification (traditional/non-traditional), level of education (highest degree earned), location of teacher training program (in/out of SC, international), level of students currently serving (preschool, elementary, middle, high), disability categories served, school/district geographic setting (urban, rural, suburban), and number of years of professional service. Additional information on respondents' characteristics included their ethnicity and current method of instruction (virtual, hybrid, in-person). Table 4. 1 represents results in this section for both special education teachers and administrators. The location of respondents work setting was also captured in participant demographics. Locations were defined as urban, suburban, or rural and is included in Figure 4.1.

Table 4.1: Demographics of Respondents

	Special Education Teachers		Special Education Administrators	
		% Of total respondents		% Of total respondents
Category	n		n	
Professional Role	83	86.4	13	13.5
Certification				
Traditional	77	80.2	13	13.5
Non-Traditional	6	6.3	0	0
Highest Degree Earned				
Bachelors	11	11.4	0	0
Masters	61	63.5	7	7.2
Educational Specialist	7	7.2	1	1
Doctoral	4	4.1	5	5.2
Location of Teaching Training Program				
In SC	50	52	11	11.5
Out of SC, in US	29	30.2	2	2.1
Outside US	4	4.2	0	0
Level of Students Currently Served				
Preschool	8	8.3	0	0
Elementary	35	36.5	3	3.1
Middle	17	17.7	0	0
High	23	23.9	0	0
District	0	0	10	10.4
Setting of School/district				
Rural	39	40.6	6	6.3
Urban	9	9.4	2	2.1
Suburban	35	36.5	5	5.2
Years of Professional Service				

	0-10	37	38.5	0	0
	11-20	25	26	4	4.2
	21+	21	21.9	9	9.4

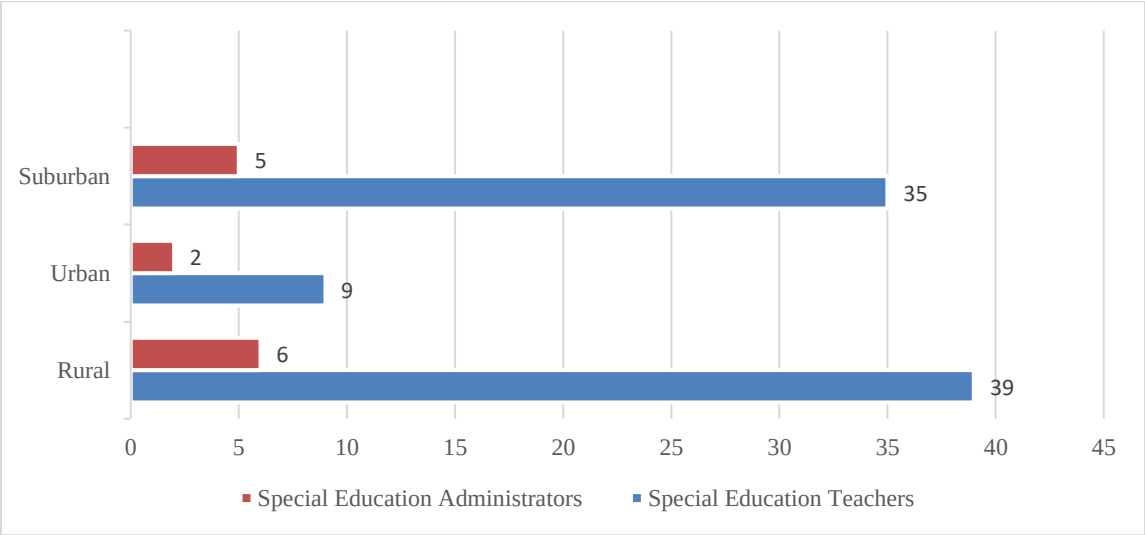

Figure 4.1 District location of respondents

Based on the district locations, most respondents were from rural and suburban school districts. The district location information shows that urban special education teachers and administrators may have had less access to complete the survey.

Research Question One

To what extent do special education teachers report having been trained in EBPs in their teacher preparation programs?

The frequency of training opportunities received during teacher preparation programs was investigated with the survey item numbers 12-20 which asked special education teachers to select the number of opportunities they received during teacher training that (a) provided them instruction on how to find an EBP specific to student disability, (b) gave them directions on how to use materials and instructional procedures

for implementing various EBPs with students and (c) provided them the opportunity to practice delivering an intervention with a student. The survey presented respondents with a Likert scale and nine statements to gain information about the frequency of training opportunities related to various components of understanding, implementing, and receiving feedback on the use of EBPs within their teacher preparation programs. The defined response choices were *never*, *sometimes, often*, and *frequently*.

For statistical analysis, the response choices for the scale were assigned the values of 0 (*never)*, 1 (*sometimes)*, 2 (*often*), and 3 (*frequently*). After the mean and standard deviation were calculated for each item, the opportunities were ranked from most to least opportunities received. A total of 83 responses to all survey items were included in this section. Results are included below in Table 4.2. In Appendix B, Table B.1 reports the frequencies of responses for each item based on survey scale.

Table 4.2 Teacher Preparation Programs and EBPs

Survey Item	Group Mean (SD)
20. I received training on how to establish positive classroom expectations and reinforcement systems for students.	2.26 (0.93)
18. I received direct instruction on how to assess and progress monitor students.	2.12 (0.96)
19. I received training on how to provide explicit instruction, including providing students opportunities to respond and receive feedback on their performance.	2.04 (0.93)
17. I received direct instruction on how to provide *systematic instruction*.	1.92 (0.92)
16. I received direct instruction on how to provide *explicit instruction* to students.	1.91 (0.97)
13. I was able to practice the use of EBPs within teaching experiences with students.	1.91 (0.91)

15. I had the opportunity to practice implementing an EBP with a student.	1.85 (0.91)
14. I was given directions on how to use instructional procedures for implementing various EBPs with students.	1.78 (0.90)
12. I was provided instruction on how to find an EBP to meet the specific need of the student for academic, functional, and social emotional areas.	1.73 (0.90)

The data were disaggregated to determine if there was a statistically significant difference between those special education teachers who received their certification from a traditional certification program (n=77) or a non-traditional certification program (n=6). First, responses were separated by certification area and a mean was established for each item. These results can be found in Table 4.3 and displayed in Figure 4.2.

Table 4.3: Training in Teacher Preparation Programs

Survey Item	Mean Traditional	Mean Non-Traditional	Difference between Means (Traditional minus non-traditional)
12. I was provided instruction on how to find an EBP to meet the specific need of the student for academic, functional, and social emotional areas.	1.72	1.83	-0.11
13. I was able to practice the use of EBPs within teaching experiences with students.	1.89	2.16	-0.27
14. I was given directions on how to use instructional procedures for implementing various EBPs with students.	1.76	2.00	-0.24
15. I had the opportunity to practice implementing an EBP with a student.	1.88	1.50	0.38

16. I received direct instruction on how to provide explicit instruction to students.	1.94	1.50	0.44
17. I received direct instruction on how to provide systematic instruction.	1.93	1.83	0.10
18. I received direct instruction on how to assess and progress monitor students.	2.14	1.83	0.31
19. I received training on how to provide explicit instruction, including providing students opportunities to respond and receive feedback on their performance.	2.03	2.16	-0.13
20. I received training on how to establish positive classroom expectations and reinforcement systems for students.	2.25	2.33	-0.08
Mean items 12-20	1.95	1.87	0.08

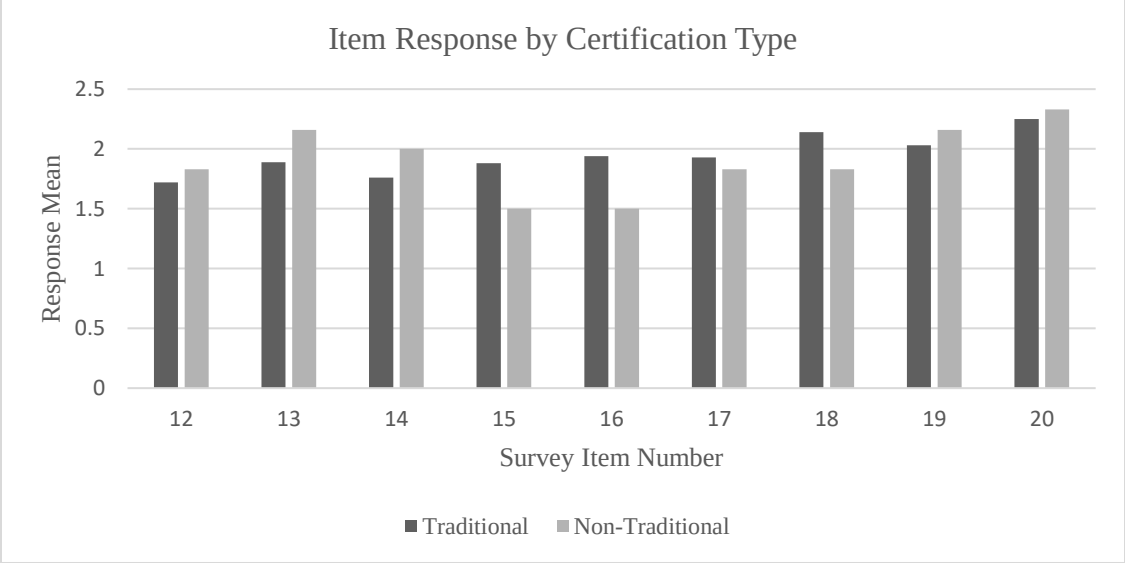

Figure 4.2 Item Response mean for Certification Type

A one-way ANOVA that was conducted to determine variance between certification type, traditional or non-traditional, and training respondents reported as received on the implementing of EBPs during their teacher training programs. The p-value was 0.69, which is not less than 0.05 ($p<.05$) level for the two certification types [$F(1,16) = 0.15$], $p = 0.69$. In other words, there is not sufficient evidence to report the existence of variance between the groups of traditional and non-traditional certifications. Table 4.4 shows the results of the one-way ANOVA.

Table 4.4 Certification Type and Experiences with EBPs

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	0.01	1	0.01	0.16	0.69	4.49
Within Groups	0.90	16	0.06			
Total	0.90	17				

Next, an independent-samples t-test was conducted to compare reported training in EBPs during preparation programs for special education teachers who received certification through a tradition program and those who received their certification through non-traditional programs. The results are displayed in Table 4.5.

Table 4.5 Training in EBPs and Certification Type

	Traditional	*Non-Traditional*
Mean	1.95	1.87
Standard Deviation	0.15	0.29
t Stat	0.82	
P(T<=t) one-tail	0.21	

There was not a significant difference in the scores for traditional certification ($M=1.95$, $SD=0.15$) and non-traditional certification ($M=1.87$, $SD=0.28$) conditions; $t(20) =0.82$, $p = 0.21$. These results suggest that there is no significant difference between

special education teacher preparation program type for certification and training provided in EBPs.

Research Question Two

To what extent do special education teachers report having received training on EBPs from the district where they are employed?

To determine the frequency of training opportunities received by all respondents based on their in-service experiences, survey items 21-29 asked special education teachers to identify the number of opportunities they received in their districts of employment for training on how to teach students with disabilities and the use of student data for instructional planning, with connections to content and necessary skills. Teachers were also asked to report on how training opportunities were delivered in their districts, including face-to-face or virtual, and with opportunities for hands-on and discussion activities.

The survey presented respondents with a Likert scale and seven statements to gain information about the frequency of training opportunities related to various components of understanding, implementing, and receiving feedback on the use of EBPs within their teacher preparation programs. The number of defined response choices were *never*, *sometimes, often,* and *frequently*.

Response choices for the four-point Likert items were then assigned a numerical value to calculate a mean and standard deviation for each item and were separated into categories based on teacher identified district locale- urban, suburban, or rural. These values were *never* (0), *sometimes* (1), *often* (2), and *frequently* (3). The opportunities were ranked from most to least opportunities received. A total of 83 responses to all

survey items were included in this section. Results are included below in Table 4.6. In addition, a one-way ANOVA was conducted to compare the effect of district location on training provided in EBPs as reported by special education teachers within their district of employment. The respondents were separated into suburban (n=35), urban(n=9), and rural(n=39) categories and a mean with standard deviation was calculated for each item. The results are included in Table 4.7.

Table 4.6 Implementation of EBPs in Districts

Survey Item	Group Mean n=83	Suburban (SD) n=35	Urban (SD) n=9	Rural (SD) n=39
29. I received training on how to establish positive classroom expectations and reinforcement systems for students.	1.66	1.46 (0.95)	2.00 (1.12)	1.69 (1.00)
21. I was provided training on how to teach students with disabilities	1.61	1.45 (1.01)	1.56 (1.33)	1.74 (0.94)
24. I received training on how to use data for instructional planning/decision making.	1.57	1.34 (0.97)	2.00 (1.12)	1.72 (0.94)
25. I was provided training experiences that involve discussion related to student data.	1.57	1.40 (0.98)	1.89 (1.27)	1.67 (0.81)
28. I received training on how to provide explicit instruction, including providing students opportunities to respond and receive feedback on their performance.	1.50	1.26 (1.07)	2.00 (1.12)	1.62 (0.99)
26. I was provided training that directly connects to the	1.49	1.40 (0.91)	1.67 (1.12)	1.54 (0.97)

content and skills I need to teach.				
27. I received direct instruction on how to conduct screening and progress monitoring for students.	1.40	1.09 (1.04)	1.78 (1.09)	1.62 (1.09)
22. I was offered training face-to-face on EBPs.	1.39	1.17 (1.04)	1.89 (1.05)	1.41 (0.97)
23. I was offered virtual training on EBPs.	1.39	1.23 (1.00)	1.19 (1.09)	1.26 (1.09)

Based on the mean of the responses by the group, training in the general areas of classroom climate and knowledge of disabilities were most frequently reported by special education teachers as provided by their district of employment, and training in EBPs was reported as offered the least by districts.

The results of a one-way ANOVA compared the effect of district location on training provided in EBPs as reported by special education teachers within their district of employment. The results of the one-way ANOVA revealed a statistically significant difference in district location between at least two groups ($F(2,24) = 12.87$, $p = 0.005$.

Table 4.7 District Locale and Training in EBPs

Summary						
Groups	*Count*	*Sum*	*Average*	*Variance*		
Suburban	9	11.8	1.31	0.02		
Urban	9	15.1	1.78	0.07		
Rural	9	14.27	1.59	0.03		
ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	0.98	2	0.49	12.87	0.000159	3.40
Within Groups	0.92	24	0.04			
Total	1.86	26				

To determine differences between the locations, Tukey's honest significant difference (HSD) test for multiple comparisons was completed. Based on an alpha level of .05, the Q critical level for HSD was 0.19. The post-hoc analysis showed there was a significant difference between locations for groups when mean differences compared suburban location to both urban and rural locations. There was no significant difference noted when urban location was compared to rural location. These results are reported in Table 4.8 and Figure 4.3. These results may indicate that district location affects in-service teacher training in EBPs.

Table 4.8 Differences between District Locations

Comparison	Absolute Means Difference	Q Critical Value	Significant?
Suburban vs Urban	0.46	0.19	Yes
Urban vs Rural	0.19	0.19	No
Suburban vs Rural	0.27	0.19	Yes

To display overall training result based on district local and training proved to

special education teachers on EBPs, Figure 4.3 below shows the distribution of implementation data as reported by special education teachers in various district locations. In all three groups, suburban, urban, and rural, a negative skew is noted as the mean is below the median for each group. This data suggests that most teachers reported low levels of implementation of EBPs regardless of the location of their district.

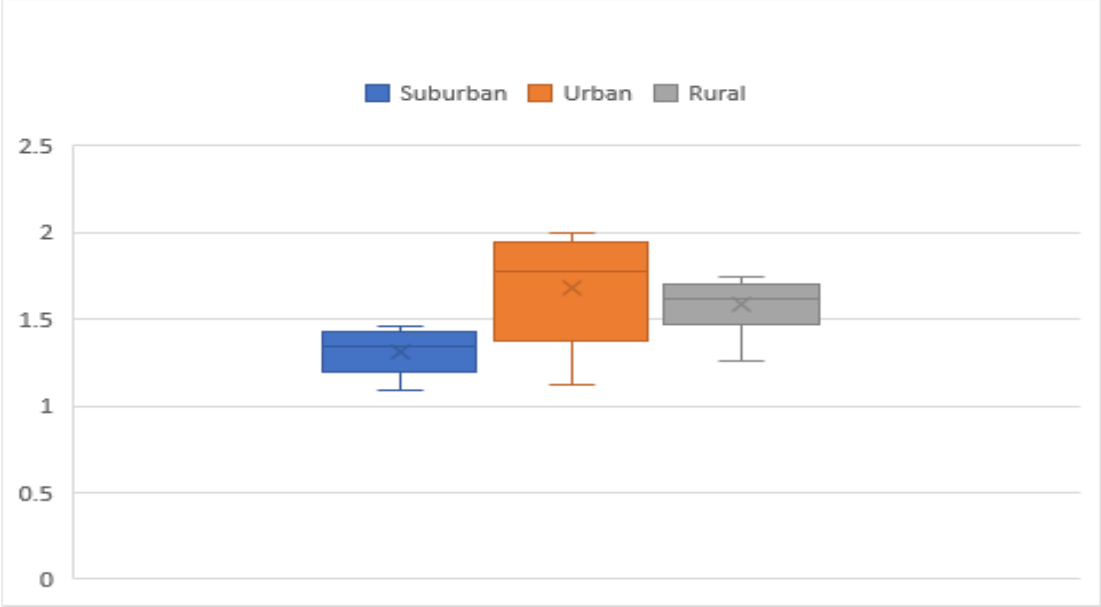

Figure 4.3 Implementation Data Distribution by District Location

Research Question Three

To what extent do school district special education administrators report providing training in evidence-based practices to teachers?

The amount of district-provided training opportunities to teachers on EBPs was collected from the survey of special education administrators who were asked to report the frequency and delivery of training opportunities related to various components of understanding and implementing EBPs within their district in the areas of reading and social/emotional/behavior skills. These questions were only populated for those who

identified themselves as special education administrators. A total of 13 responses to all survey items were included in this section.

The survey presented respondents with a Likert scale and ten statements included as item numbers were 52-61. The number of defined response choices were *never*, *sometimes*, *often*, and *frequently*.

Response choices for the four-point Likert items were then given a numerical value to calculate the mean and standard deviation for each item. These values were: *never* (0), *sometimes* (1), *often* (2), and *frequently* (3). The items were then ranked from most to least training provided. Results are included in table 4.9.

Table 4.9 District provided Training for Special Education Teachers

Special Education teachers in my district were provided training on EBPs that included:	
Survey Item	Group Mean (SD)
53. Offered virtual resources specific to EBPs in reading skills	1.92 (0.95)
52. Face-to-face sessions specific to EBPs for reading skills	1.77 (1.01)
55. Offered virtual resources specific to EBPs in social/emotional/behavioral skills	1.77 (1.01)
59. In the area of Reading: Direct Instruction on how to assess students to determine what skills they know and what skills they will need to be taught.	1.77 (0.73)
56. Direct instruction on teaching Reading skills.	1.62 (0.65)
57. Direct instruction on how to develop a positive classroom climate.	1.62 (0.65)
61. Using data to make instructional decision about specific students' needs.	1.62 (0.77)

60. In the area of Social/Emotional/Behavior: Direct instruction on how to assess students to determine hat skills they know and what skills they will need to be taught.	1.54 (0.78)
58. Direct instruction on how to actively supervise students in the learning environment.	1.46 (0.78)
54. Face-to-face sessions specific to EBPs in social/emotional/behavior skills	1.31 (0.95)

Based on a review of reported frequency of trainings, special education administrators reported the most opportunities were provided to special education teachers for virtual and face-to-face sessions in reading skills. The mean for these experiences based on method of delivery were 1.92 (virtual) and 1.77 (face-to-face) which contrasts with the responses of special education teachers, as previously reported, that noted face-to-face and virtual trainings were provided at the lowest frequency (M=1.39). This means that special education administrators reported providing training on EBPs with opportunities as *sometimes* and *often* where special education teachers responses reported training provided as *sometimes* and *never*.

Research Question Four

To what extent do special education teachers report receiving coaching regarding their performance on implementation and use of EBPs?

To determine the frequency of coaching provided to teachers on EBPs, the survey required special education teachers to provide information on the frequency of opportunities related to various components of coaching, observation, and receiving feedback on their use of EBPs within their district of employment by specialized personnel and their building administrators. Respondents were presented with eleven statements in item numbers 38-51 and questions 15 and 16. Question 15 focused on

coaching support and question 6 focused on support from the building administrator. The response options were given on a Likert scale, with the number of defined opportunities/experiences for choices as *never, sometimes, often*, and *frequently*. A total of 83 responses to all survey items were included in this section.

A mean and standard deviations for the items were calculated after responses were assigned values for statistical analysis. The numerical values for each response options were *never* (0), *sometimes* (1), *often* (2), and *frequently* (3). The opportunities were ranked from most received to least opportunities received. Results are included below in Table 4.10 and 4.11.

Table 4.10 Coaching Support for EBPs as reported by Special Education Teachers

Survey Item	Group Mean (SD)
38. I have been provided face-to-face sessions specific to using an evidence-based practice in my classroom.	1.64(1.01)
41. I have been given the opportunity to collaborate with a coach.	1.22 (1.12)
46. I see my coach as a partner in helping me to be more effective in teaching students with disabilities.	1.21 (1.23)
40. Coaching experiences that I have had directly correlate to previously provided training.	1.18 (1.06)
45. I work with a coach whom I trust and who cares about me and my students.	1.18 (1.26)
39. There is a dedicated special education instructional coach that works with me on areas specific to serving students with disabilities.	1.12 (1.19)
42. A coach has conducted instructional observations in my classroom while I am teaching.	1.02 (1.13)
44. A coach has provided me targeted feedback on my performance on implementing an EBP,	0.90 (1.09)

43. A coach has modeled an evidence-based instructional practice in my classroom.	0.63 (0.95)

Special education teachers reported that the most highly reported coaching experience that was a face-to-face session regarding use of an EBP in the classroom (M=1.64). In contrast, there was the least amount of support noted in the areas of targeted feedback (M=0.90) and modeling from a coach regarding EBPs (M=0.63).

Table 4.11 Special Education Teachers' Perceptions of Administrator Support

As a special educator teacher, the administrator(s) in my building… Survey Item	Group Mean (SD)
51. is fair and equitable in evaluating my performance	2.36 (0.85)
48. inspires my commitment to perform my best.	2.35 (0.76)
47. provides direction for the school community.	2.34 (0.74)
49. provides administrative support for my program.	2.22 (0.86)
50. supports evidence-based practices for my program	2.10 (0.91)

Special education teacher respondents reported the highest average of principal support related to general job performance (M=2.36) but the least support for EBPs in special education programs (M=2.10).

Research Question Five

To what extent do school districts special education administrators report providing observational feedback to special education teachers regarding their performance on implementation and use of EBPs?

The frequency of observation and feedback provided to special education teachers to support the implementation of EBPs within their district in the areas of reading and

social/emotional/behavior skills was collected from special education administrators in survey items 62-67. The survey presented respondents with a Likert scale and ten statements to provide information on who observed teachers (school or district-based administrator or coach) and what was observed (i.e., the implementation of EBPs in Reading or social/emotional/behavioral skills). The number of defined opportunities/experiences for these response choices were *never*, *sometimes*, *often*, and *frequently*.

The response choices for the scale were assigned values for statistical analysis and were *never* (0), *sometimes* (1), *often* (2), and *frequently* (3). A mean for the item responses was calculated and the items were ranked from most received to least received. A total of 13 responses to all survey items included in this section. Results are included in table 4.12.

Table 4.12 Implementation Support for EBPs

Special Education teachers in my district were provided support for the implementation of EBPs that included:	
Survey Item	Group Mean

	(SD)
65. Direct observation from a school-based administrator.	1.85 (0.99)
64. Direct observations from a school-based coach.	1.62 (0.96)
62. Direct observations from a district special education coach.	1.62 (1.04)
67. Feedback was provided to special education teachers specifically related to the implementation of EBPs in the area of SOCIAL/EMOTIONAL/BEHAVIORAL skills.	1.38 (0.77)
63. Direct observations from a district special education administrator.	1.31 (0.63)
66. Feedback was provided to special education teachers specifically related to the implementation of EBPs in the area of READING.	1.31 (0.75)

Special education district administrators reported that school-based administrators observed special education teachers at a higher rate (M=1.85) than school-based or special education coaches (M=1.62). The lowest rate of direct classroom observations was reported from district (M=1.31). Special education administrators reported at slightly higher frequency of feedback provided to special education teachers in social/emotional/behavior skills (M=138) than the area of reading skills (M=1.31).

Research Question Six

To what extent do special education teachers report they are implementing best practices?

The survey asked special education teachers “How often do you do the following activities in your daily practice?” They were presented with eight statements to provide information on the frequency of how often best practices were implemented during their daily instruction. The practices included in these survey items were (1) providing systematic instruction in reading skills, (2) providing explicit instruction for

social/emotional/behavioral skills, (3) scaffolding instruction, (4) assessing students, (5) providing opportunities for students to respond and (6) receive feedback, and (7) using positive reinforcement systems with students. The survey item numbers were 30-37 and response options were given on a Likert scale with the number of defined opportunities/experiences for these response choices as *never*, *sometimes*, *often*, and *frequently*.

To determine the frequency of use of best practices by special education teachers during their daily instruction, the response choices for the scale were assigned values for statistical analysis as 0=*never*, 1=*sometimes*, 2=*often*, and 3=*frequently*. A mean and standard deviations for each item was calculated. Next, the opportunities were ranked from most to least used. The results for this analysis are listed in Table 4.13. To determine if there was a difference between special education teacher responses based on program preparation type, the mean and standard deviations were also calculated for questions 30-37 based on the groups of traditional and non-traditional certifications. The results are listed in Table 4.14. A total of 83 responses to all survey items included in this section.

Table 4.13 Use of EBPs in Daily Instruction

How often do you use the following activities in your daily practice?	
Survey Item	Group Mean

	(SD)
35. Provide many opportunities for student to respond.	2.73 (0.52)
37. Utilize a positive reinforcement system that encourages student engagement based on established learning expectations.	2.71 (0.59)
33. Break down instruction into parts that presents some new materials that adds-on to previously taught skills.	2.65 (0.60)
32. Teach skills in order of simple to complex.	2.64 (0.60)
34. Regularly assess students to determine if they are responding to instruction	2.63 (0.63)
36. Provide specific feedback on student performance.	2.55 (0.61)
30. Provide Systematic Instruction for Reading Skills	2.39 (0.82)
31, Provide Explicit instruction for social/emotional/behavioral skills	2.17 (0.85)

With all responses, the results note most special education teachers reported using EBPs often within their day to provide instruction to special education students.

Table 4.14 Use of EBPs – Traditional vs. Non-Traditional Certification

Survey Item	Mean Traditional M (SD) n=77	Mean Non-Traditional M (SD) n=6	Difference between Means (Traditional

			minus non-traditional)
30. Provide Systematic Instruction for Reading Skills	2.42 (0.82)	2.00 (0.63)	0.42
31, Provide Explicit instruction for social/emotional/behavioral skills	2.13 (0.85)	2.67 (0.52)	-0.54
32. Teach skills in order of simple to complex.	2.65 (0.60)	2.50 (0.55)	0.15
33. Break down instruction into parts that presents some new material that adds-on to previously taught skills.	2.66 (0.60)	2.50 (0.55)	0.16
34. Regularly assess students to determine if they are responding to instruction	2.62 (0.63)	2.67 (0.52)	-0.05
35. Provide many opportunities for student to respond.	2.75 (0.52)	2.50 (0.55)	0.25
36. Provide specific feedback on student performance.	2.58 (0.61)	2.17 (0.75)	0.33
37. Utilize a positive reinforcement system that encourages student engagement based on established learning expectations.	2.70 (0.59)	2.83 (0.41)	-0.13

When the mean for responses for daily use of best practices was calculated by the certification type, the greatest difference between group means was shown to be in the areas of (1) providing explicit instruction in social/emotional/behavioral skills, (2) providing systematic instruction in reading skills, and (3) providing specific feedback on student performance. For these, teachers with traditional certification reported more opportunities of best practices in their daily instruction for providing systematic instruction in reading skills and providing specific feedback where non-traditionally

certified teachers reported they provided more explicit instruction in social/emotional/behavioral skills.

Research Question Seven

What barriers do special education teachers identify that hinder the implementation of EBPs?

In survey question 11, special education teachers were presented with 18 statements to provide information on what barriers teachers report regarding their professional practices. These barriers to best practice have been proven to hinder the implementation of EBPs within teachers' daily practice. Barriers that are included in these survey items include time constraints, reliance on unreliable sources for information on EBPs, and lack of involvement in decision making for curriculum. This question also contained items that have been proven to support the implementation of EBPs, such as, using program manuals, following a consistent daily schedule, and focusing on students' unique needs.

A Likert scale was given with the response choices defined as *never*, *sometimes, often*, and *frequently*. To determine the frequency of use of barriers and supports, a mean and standard deviations for the responses was calculated for each item and were divided by teacher certification- traditional and non-traditional. Finally, a difference in means was compared through the use of a one-way ANOVA. A total of 83 responses to all survey items included in this section. The results for reported barriers are listed in Table 4.15. The results for reported supports are listed in Table 4.17. ANOVA results are reported in Table 4.16 (barriers) and 4.18 (supports).

Barriers

Table 4.15 Barriers to the Implementation of EBPs

Please rate your agreement with the following statements:	Traditional Certification M(SD)	Non-Traditional certification M(SD)
I find teaching resources from Internet sites or social media.	2.16 (0.84)	1.83 (0.75)
I get ideas for my teaching from other teachers.	1.75 (0.78)	1.67 (0.52)
It is easy for me to stick to my daily schedule.	2.16 (0.95)	2.00 (0.89)
I have enough time to deliver the instruction my students need.	1.83 (0.94)	1.50 (0.55)
I use additional resources from other sources (Internet, social media, colleagues) to supplement instruction for my students.	2.61 (0.67)	2.50 (0.55)

When the means between special education teachers with traditional and non-traditional certifications were compared for use of barriers, the traditionally certified teachers reported more instances of encountering barriers. The barriers that were reported with the highest frequency were (a) using additional resources from other sources (Internet, social media, colleagues) to supplement instruction for my students (M=2.61), and (b) finding teaching resources from internet sites or social media (M=2.16). Non-traditionally certified respondents also reported the highest ratings in these two areas, but the means were lower. Using the five items related to barriers, a one-way ANOVA was conducted to compare the reported use of barriers between traditional and non-traditional certification types.

Table 4.16 Certification Type and Barriers with Implementation of EBPs

Summary				
Groups	*Count*	*Sum*	*Average*	*Variance*
Traditional	5	10.51	2.10	0.12

Non-Traditional	5	9.5	1.9	0.15		
ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	0.10	1	0.10	0.78	0.40	5.32
Within Groups	1.05	8	0.13			
Total	1.15	9				

The results of the one-way ANOVA conducted for the use of barriers by special education teachers' certification type indicated no significant difference between groups for use of barriers ([F (1,8) =0.40], p=0.40).

Supports

Table 4.17 Supports to the Implementation of EBPs

Please rate your agreement with the following statements:	Traditional Certification M(SD)	Non-Traditional certification M(SD)
I use the provided teacher program manuals to plan and deliver my daily lessons.	1.61 (0.98)	1.83 (0.75)
I am given the opportunity to help choose district programs for use in my classroom.	1.03 (1.06)	1.17 (0.98)
I am encouraged to provide input to district leaders about concerns I have with using instructional materials or programs.	1.16 (0.97)	1.33 (0.52)
I use direct instruction daily for delivery of lessons to my students.	2.65 (0.72)	2.83 (0.41)
I have been using many of the same programs/resources for over 3 years.	1.70 (1.00)	2.00 (0.89)
I assess students for progress toward their goals.	2.88 (0.36)	3.00 (0.00)
I have the resources I need to provide instruction to my students.	2.03 (0.78)	2.50 (0.84)

I am confident with the strategies I am using to provide instruction to my students.	2.43 (0.64)	2.50 (0.55)
I enjoy trying new things with my students.	2.56 (0.57)	2.50 (0.55)
I like using a scripted instructional program.	1.38 (0.95)	1.17 (0.75)
I am open to new ideas learned from professional development experiences.	2.61 (0.61)	2.17 (0.75)
Making sure each student is meeting his/her goals is a priority.	2.70 (0.56)	2.50 (0.55)
I deliver each part of the provided instructional program.	1.94 (0.86)	2.17 (0.41)

The means for reported use of supports by special education teachers with traditional and non-traditional certification show that for nine out of the thirteen statements of supports, non-traditionally certified teachers rated using supportive practices more than traditionally certified teachers. To determine if there was a statistical difference between the means of the groups, a one-way ANVOA was conducted to compare the means of the thirteen items by the traditional and non-traditional certification types.

Table 4.18 Certification Type and Supports with EBPs

Summary				
Groups	*Count*	*Sum*	*Average*	*Variance*
Traditional	13	26.68	2.05	0.40
Non-Traditional	13	27.67	2.13	0.37

ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	0.04	1	0.04	0.10	0.76	4.26
Within Groups	9.19	24	0.38			
Total	9.22	25				

For the supports to implementation of EBPs by teacher certification type, the difference was not statistically significant ([F (1,24) =0.38], p=0.76. Based on these findings, certification type, traditional or non-traditional, does not impact a special education teacher's use of supports for implementation of EBPs within daily instruction.

Summary

To determine the use of EBPS by special education teachers in SC, the results of an electronic survey were reviewed for average training provided during teacher preparation programs (pre-service) and by district of employment (in-service), experiences of receiving coaching support and observational feedback, and the use of EBPs in the areas of Reading and social, emotional, and behavioral skills. Additionally, the data were analyzed for differences based on training (pre-service versus in-service), district local (urban, suburban, rural) and certification type (traditional versus non-traditional).

Overall, the results of this study suggest teachers in SC report implementing EBPs during daily practice. In the area of training, certification training programs did not make a difference in implementation of EBPs; however, the district in which a teacher was employed did affect in-service training opportunities for special education teachers. Special educator teachers reported higher rates of support from administrators and low

experiences with coaching and feedback from special education district support staff. Finally, there was not significant difference between teacher certification and the instances of barriers and supports for the implementation of EBPs during daily instruction for students with disabilities.

CHAPTER 5

DISCUSSION

Evidence-based practices have been shown to increase positive outcomes for students with disabilities when implemented with fidelity. Therefore, it is important to review the use of and implementation of EBPs by special education teachers. Additionally, research shows that implementation of EBPs is increased when special education teachers are provided support through training and coaching and when observation and feedback are used in developing practice. The purpose of my study was to evaluate the use of EBPs during daily instructional practice by special education teachers in the state of South Carolina. This study also investigated training received as reported by special education teachers on EBPs from their teacher preparation program (pre-service) and within their district of employment (in-service).

An electronic survey was distributed to special education teachers and administrators in South Carolina. Upon review of the responses, a total of 96 surveys were used for data analysis. The survey was divided into three sections; Section 1: Demographics, Section 2: Evidence-Based Practices- Training and Supports for Special Education Teachers, and Section 3: District Level Support. All survey participants completed Section 1 and only special education teachers completed Section 2. Participants identified as special education administration completed Section 3. My discussion is organized by research questions and includes implications for practice and future research.

A major finding of this study is that training in the implementation of EBPs in SC among special education teachers is affected by pre-service versus in-service training and district location. This means that special education teacher preparation programs may offer pre-service teachers more experience and opportunities to learn about and use EBPs that affect their implementation once the teachers enter the classroom.

Survey Response Rate

According to the U. S. Department of Education ED Facts Data warehouse IDEA Part B Personnel Collection report for school year 2018-2019, South Carolina had a total of 5,569 special education teachers with 5,287.2 (94.9%) reported as fully certified and 281.9 (5.1%) reported as not fully certified. There was a total of 96 respondents to the survey for this study, which would represent approximately 0.02% of the special education teachers in South Carolina based on the U.S. data presented above. The survey low response rate is noted to have possible effect on larger overall differences between groups surveyed as well as non-response bias from non-respondents. It is difficult to say with confidence that these results truly represent the intended population. The COVID 19 pandemic restricted access to survey participants in several ways, including the cancellation of state educator gatherings, such conferences and meetings, and districts denied research requests involving sending surveys too teacher citing need to limit asks of their time. It is suggested that the results presented here be taken with caution.

Discussion of Results

Research Question One

To what extent do special education teachers report having been trained in EBPs in their teacher preparation programs?

Respondents were asked how often they received training related to understanding and implementing EBPs from their teacher preparation program. Response choices for training opportunities were *never*, *sometimes*, *often*, and *frequently*. I found that survey participants reported that most training was received in teacher preparation programs on how to establish positive classroom expectations and reinforcement system for students with an average mean of 2.26 out of 3. Additional results for pre-service training received included how to provide (a) direct instruction to assess and progress monitor students (M=2.12) and (b) deliver explicit instruction, including providing students opportunities to respond and receive feedback on their performance (M=2.04). All other items were below a mean of 2.0. These results correspond with teachers reporting five or fewer training opportunities in the areas of providing systematic and/or explicit instruction to students, practicing the use of EBPs during teaching experiences with students, using instructional procedures for implementing EBPs and finding specific EBPs to meet unique student needs in areas of academic, functional, and social emotional.

To determine if these findings varied by pre-service program pathway, I reviewed participants reported program preparation path- traditional vs. non-traditional. I found no difference in implementation of EBPs based on program preparation for certification between the groups. It is important to note that the data analysis conducted for these results was a one-way analysis of variance (ANOVA). A disadvantage to this method in this circumstance is that the ANOVA sample sizes are unequal for the groups that assessed (n=77 traditional, n=6-non-traditional).

My study supports previous research in several ways. There is extensive research indicating that students with disabilities benefit from the use of EBPs (Cook & Cook, 2011; Cook & Odom, 2013; Cook, Tankersley, & Landrum, 2009; Cook, Tankersley, Cook, & Landrum, 2008; Kretlow & Helf, 2013; Spaulding, 2009; Sugai & Horner, 2009), and there is evidence supporting the need for teacher training in EBPs (Greenwood & Abbott, 2001; Hougen, 2012; Kretlow & Helf, 2013; McLeskey, et al., 2017; Riccomini, Morano, & Hughes, 2017; Sun, Penuel, Frank, Gallagher, & Youngs, 2013). The lack of implementation of EBPs has been attributed to the research to practice gap in education (Greenwood & Abbott, 2001; Wehby, Maggin, Johnson, & Symons, 2010), inadequate training and coaching opportunities for teachers (Kretlow & Helf, 2013; Sun, Penuel, Frank, Gallagher, & Youngs, 2013), and teacher perceptions regarding abilities (of self and students), time commitments, and effectiveness of the practice (Greenway, McCollow, Hudson, Peck, & Davis, 2013; Kretlow & Helf, 2013; Wehby, Maggin, Johnson, & Symons, 2010). My findings confirm that participants *sometimes* received direct training in how to provide EBPs, had opportunities for practice and feedback regarding their use of an EBP while in their teacher preparation program. This supports the continuing gap between research to practice for use and implementation of EBPs. I suggest teacher preparation programs increase opportunities for pre-service teachers to use and receive feedback on EBPs.

I was unable to find studies that reviewed the implementation of EBPs of special education teachers based on a traditional versus a non-traditional certification path. Based on this aspect, I present new findings from my study. First, I found there was no significant difference in implementation of EBPs based on how special educators

completed their pre-service training experience. This is a beneficial finding as the field of special education is experiencing personnel shortages and gives confidence in skills for those entering the teaching profession from alternative credentialing pathways.

One limitation of my survey was the response rate. There were only 96 survey responses that were complete for data analysis, with 90 participants reporting a traditional certification preparation program and six reporting a non-traditional certification preparation program. Further research should investigate teacher preparation programs of study and curricula for both traditional and non-traditional credentialing pathways. By reviewing course syllabi, it would be beneficial to note which courses target instruction on EBPs, including the use and practice with students with disabilities and how this directly correlated to implementation for the in-service educator.

Research Question Two

To what extent do special education teachers report having received training on EBPs from the district where they are employed?

Special education teachers completed this portion of the survey and were asked a total of nine items related to the training opportunities they have experienced in their district of employment related to the identification, use, and implementation of EBPs for students with disabilities. Respondents were asked to rate number of opportunities based on the options: *never*, *sometimes*, *often*, and *frequently*. I found that special education teachers reported receiving more in-service professional learning experiences in the areas of promoting a positive classroom climate with an average mean of 1.66 out of 3. When participants responses were reviewed by reported location of district of employment, there was a significant difference noted between location for the areas suburban versus

urban and suburban versus rural, but no difference when urban was compared to rural district location. On each of the nine items related to training in EBPs, special education teachers reported low averages, M=2.00 or less, for district provided training opportunities, regardless of district location.

The findings for this question in my study links to research in teacher training. The evidence indicates the need for special education teachers to be able to identify and effectively implement EBPs, specifically related to students' needs identified by assessments and on-going progress monitoring measures (Cook & Cook, 2011; Cook, Tankersley, & Landrum, 2009; Cook, Tankersley, Cook, & Landrum, 2008; Kretlow & Helf, 2013; McLeskey, et al., 2017; Riccomini, Morano, & Hughes, 2017; Sayeski, Gormley Budin, & Bennett, 2015; Sun, Penuel, Frank, Gallagher, & Youngs, 2013). For training to be effective to sustain practice, it should include a minimum of 14 hours, be supported by coaching, and provide experiences that directly involve the review of student data with connections to content and skills (Kretlow & Helf, 2013; Sun, Penuel, Frank, Gallagher, & Youngs, 2013). The results from my study show that special education teachers in South Carolina reported training at the district level was provided, approximately three to five hours. If research has noted the need for training to include more than 14 hours, the result from my study likely indicates insufficient time is spent on developing teachers' skills in EBPs once they enter in-service teaching.

My study introduces a new avenue for research because training experiences may vary by district location- urban, suburban, and rural. Based on the participants' identification of the location of their district, there was a positive correlation between responses from special education teachers and special education administrators. Research

question three investigated how special education administrators reported training was provided to in-service special education teachers. The data analysis showed that district location of suburban negatively impacted training provided on EBPs as reported by special education teachers when compared to training reported from teachers in either urban or rural locations. For future studies, it would be important to examine what special education teachers are receiving as professional learning experiences provided by their districts of employment. What is the focus? How much time is given on the subject? Is the experience directly related to EBPs? Are teachers given opportunities to collaborate, practice, and receive feedback after training? Based on the response rate for this study, it is difficult to make inferences here.

One limitation of my study is that during the time the survey was open for input, the COVID-19 pandemic had forced many school districts to virtual learning. As educators worked remotely to provide services to students, there were less opportunities for teachers to receive professional learning via traditional models. In addition, most teachers were new to providing and receiving information from strictly virtual formats. A target for additional studies could be to investigate the impact of virtual professional and implementation of EBPs. A new area of research may also include how EBPs are implemented in the virtual learning environment.

Research Question Three

To what extent do school district special education administrators report providing training in evidence-based practices to teachers?

Only special education administrators were asked to provide answers to this survey section, which presented ten items designed to gather information on frequency

and delivery of training opportunities on EBPs that districts reported providing to special education teachers. Specifically, survey items covered what content was provided during in-service training for teachers, with focus on Reading and behavior skills, and how training was delivered to teachers, either face-to-face or virtual. Response options for each item were *never*, *sometimes*, *often*, and *frequently*. Special education administrators reported the highest average of training opportunities in EBPs were offered to special education teachers in districts as virtual resources specific to EBPs in reading skills at an average of 1.85 out of 3. This finding is higher as compared with special education teachers report of receiving virtual training experience as the lowest average for provided training by districts at an average of 1.39 out of 3.

The importance of providing training to teachers in the EBPs related to teaching Reading and behavior skills is supported by research. Critical components include providing direct instruction on a specific EBP ((Kretlow & Helf, 2013), connections to relevant student data (Sun, Penuel, Frank, Gallagher, & Youngs, 2013), opportunities for skill practice and timely feedback from coaching experiences (Cook & Odom, 2013; Freeman, Miller, & Newcomer, 2015; Knight, 2007; Pierce & Buysse, 2017). The results of my study show that the frequency of training opportunities provided for both direct instruction in Reading skills and developing a positive classroom climate was 1.77 out of 3. This represents that training was provided to special education teachers between 3-8 times which is below the level of 14 hours that has been highlighted as affecting practices. It is often difficult to provide many hours of targeted training within limited contractual calendars for special education teachers. Special education administrators

must begin to inject new ways to train special education teachers on EBPs, perhaps by new professional development delivery models.

A limitation of this survey was that only the number of times training was offered and not the amount of time for training was not captured. A typical teacher contract calendar in South Carolina is for 190 workdays, with 180 days dedicated to student instruction. A topic of future research would be to investigate how much professional development time districts are able to devote to training in EBPs for teachers. What other topics are offered? How much time are teachers able to practice skills outside of professional learning days?

Research Question Four

To what extent special education teachers report receiving coaching regarding their performance on implementation and use of EBPs?

As a practicing special education teacher, respondents that completed this section were asked to provided response options for frequency of coaching opportunities they received through experiences such as collaboration with a coach, observations and feedback from a coach, modeling of an EBP by a coach, and access to a coach with knowledge of EBPs for student with disabilities. The survey item with the highest rating was that teachers had been provided face-to-face sessions specific to using an EBP in his/her classroom. This was a mean of 1.64, which fell on the scale between *sometimes* (3-5 opportunities) and *often* (6-8 opportunities). Special education teachers reported the lowest coaching opportunities of receiving targeted feedback from a coach on performance on implementing an EBP (M=0.90) and having a coach model an EBP in his/her classroom (M=0.63).

The results of the previous research of Kertlow, Cooke, and Wood (2012) and Freeman, Miller, and Newcomer (2015) each support coaching as an impetus to the successful implementation of EBPs. Also, performance feedback has proven to assist teachers in perfecting their use of an EBP, while noting its effect on student outcomes (Pierce & Buysse, 2017). The results from this study suggest that in SC, special education teachers are receiving the support of coaching and observational feedback at a level that may not be adequate to improve and sustain the implementation of EBPs.

In contract, special education teachers did report much higher levels of administrative support, with the mean range of 2.10 to 2.36. Overall, teachers reported that school administrators were fair and equitable in evaluations of their performance, supportive of EBPs and their special education programs while motivating their commitment to do their best. Although this is encouraging to report, it is important to note that this study did not ask specifics on what ways administrators provided feedback to teachers and how often. This limitation may not accurately reflect teacher implementation of EBPs in their daily instruction.

Research Question Five

To what extent do school district special education administrators report providing observational feedback to special education teachers regarding their performance and use of EBPs?

By asking special education administrators to report how observation and feedback were provided to special education teachers in their district, I was able to capture the amount of support provided to special education teachers on use and implementation of EBPs. The results from the six items that covered who observed and in

what area, showed that school-based administrators and coaches provided the most direct observations to special educations where district special education coaches and administrators provided the least observations. In addition, feedback specifically related to the implementation of EBPs in social/emotional/behavioral skills was higher that feedback related to the implementation of EBPs in Reading skills.

The data for this question is interpreted to mean that school-based staff have more access to special education teachers, but that special education teachers may not be receiving feedback from those with expertise in providing EBPs to students with disabilities. Also, it appears that for the observations that are completed, there is greater emphasis on functional skills than academic skills. In general, observation and feedback opportunities for special education teachers were reported at or below 8 experiences. This indicates that support for implementation of EBPs for special education teachers may be lacking. An interesting focus of future research may be to study the observation and feedback experiences in more depth based on roles identified here of school and district-based support staff. How many visits of each per month? How long was each visit? What was the impact of the visit based on the feedback?

Research Question Six

To what extent do special education teachers report they are implementing best practices?

The use of EBPs is key to helping special education teachers determine supports to meet the unique needs of students with disabilities (McLeskey, et al., 2017). The focus of this question was to have special education teachers rate the frequency of use of EBPs, specifically in the areas of Reading and social-emotional/behavioral skills. The EBPs for

Reading and social-emotional/behavioral skills included the use of systematic and explicit instruction, scaffolding of instruction from simple to complex, providing student opportunities to respond with feedback, and regular assessment of student performance. The responses to the eight survey items revealed special education teachers, with traditional and non-traditional certification, reported using EBPs often in daily practice.

These results are encouraging; however, it is important to note that since these are self-reported by special education teachers, there may be bias in the method of data collection. Also, as previously discussed, special education teachers reported only receiving observations some of the time, the least average from those district staff with special education expertise.

Another important factor is the effects on leaners from the COVID-19 pandemic. An emphasis on the teaching of reading may affect the use of EBPs for special education teachers in future years. In SC, state required training in the science of reading for teachers in early grades is happening now. If this study was repeated, future results may show increased implementation of EBPs in Reading in special education classrooms that could be attributed to his training experience.

In addition, the importance of social-emotional learning (SEL) continues to gain momentum. More districts and schools are adopting curricula that incorporates EBPs in daily instruction for all students. The implementation of EBPs around social/emotional/behavior is likely to increase based on the SEL movement.

Research Question Seven

What barriers do special education teachers identify that hinder the implementation of EBPs?

This question was investigated with a survey item that asked teacher to rate their agreement with statements about daily practice. These statements contained practices that have been known to inhibit (barriers) or encourage (supports) the implementation of EBPs. Items were placed in random order for respondents but were separated into the categories of barriers and supports for analysis. Teacher certification type, traditional and non-traditional, was also reviewed for potential effects of use of both barriers and supports.

The results were interesting for this item. First, traditionally certified teacher rated more agreement with the barriers than non-traditionally certified teachers. It is important to point out that the highest agreement was with using the internet and other resources (social media and colleagues) as places to find material used in teaching. Kretlow and Helf (2013) reported that special education teachers are more likely to adhere to fidelity of an intervention if they can have some instructional autonomy in selecting the intervention. In this case, the use of the Internet or other resources may hinder the implementation of EBPs because teachers may lack the skills to appropriately evaluate these resources to determine if they truly are EBPs.

In the area of supports, results indicate that for most items, teachers with non-traditional certification report more agreement. This group reports more instances of consistency with using instructional programs, assessing students, and confidence with instructional strategies. Both groups reported similar agreement in lacking adequate time to deliver instruction, not liking scripted programs, and lacking opportunities to provide input on concerns to district leaders.

As in the previous question, the method of data collection (teacher self-report) could limit the implication of these results. This researcher would be interested in a deeper dive in this area. If teachers were interviewed, would there be differences in their responses to the instances of the barriers or supports? How are resources vetted by teachers to determine if there is empirical evidence to support the use for their specific students? Would helping teachers better understand how a practice is deemed evidence-based impact the use and implementation of EBPs in daily practice?

Conclusion

The results of this study provide a unique contribution to support the use of EBPs by special education teachers for students with disabilities. Special education teachers need training and support at all stages of their career. The field of special education continues to evolve with the impact of legislation and unanticipated global events. It is important that special educators providing services to students with disabilities are using proven practices to respond to needs of students. In this study, an important finding was the relationship between in-service training in EBPs and district location. Special education teachers in suburban areas reported receiving less training in EBPs than those in rural and urban districts. Special education teachers in every district need access to quality training in EBPs that can be sustained through coaching with observation and feedback to improve practice.

When training, coaching, and implementation are considered together for the use and implementation of EBPs, the results may produce stronger evidence. Since there was not a significant difference found for effect of certification type (traditional or non-

traditional), it may be a focus of future research to investigate in-service training in EBPs offered in various district locations-suburban, urban, and rural.

Teacher preparation programs should continue providing pre-service candidates instruction and practice with the use and implementation of EBPs. Using proven practices and being able to discriminate these from non-EBPs is also a skill that pre-service teacher programs may begin to incorporate to assist with the review of resources during in-service experiences for teachers.

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APPENDIX A

SURVEY

Evidence-Based Practices in Special Education

Dear Survey Participant,

As a teacher providing special education services to students with disabilities, your contribution is extremely valuable to this research. The primary purpose of this survey is to examine the extent that you have been provided training on the use of evidence-based practices (EBPs) in special education.

You will be asked to reflect on your teacher preparation program and your current in-service professional learning experiences. This survey is being conducted under the direction of Dr. Erik Drasgow at the University of South Carolina.

Your participation in this survey is voluntary. If for some reason you prefer not to participate, please do not fill out the survey. We would like to assure you that there are no risks associated with your participation in the study. Your responses to the survey questions are completely confidential and will be released only as summaries in which individual answers cannot be identified.

The survey will take about 7 minutes to complete. There are two sections- the first consists of questions related to your training, experience, and background. The second section will consist of questions related to evidence-based practices.

If you have any questions or comments about the study, I will be happy to address them by email.

Thank you for your time and contribution!

Sincerely,
Deanna Parish
dparish@colleton.k12.sc.us

* Required

Demographics

This section serves to collect information about you and your role serving students with disabilities in SC.

1. Please identify your role *

Mark only one oval.

- ◯ Special Education Teacher
- ◯ Special Education Administrator *Skip to question 16*
- ◯ Neither
- ◯ Other: _____

2. Type/level of certification? *

Mark only one oval.

- ◯ Traditional certification- earned through the completion of an approved college preparation program and a valid SC teacher license issued in one of the identified certification categories of the state.
- ◯ Alternative certification-PACE
- ◯ Alternative certification- Teach for America
- ◯ International certification-teacher earned teaching license from program outside the United States and currently holds a valid SC license based on certification reciprocity.

3. Age *

Mark only one oval.

- ◯ 20-30
- ◯ 31-40
- ◯ 41-50
- ◯ 51-60
- ◯ Over 60

4. Ethnicity *

Mark only one oval.

- ◯ African-American
- ◯ Asian/Pacific Islander
- ◯ Caucasian
- ◯ Hispanic
- ◯ Native American
- ◯ Other: _____

5. Highest Educational Degree *

Mark only one oval.

- ◯ Bachelor's
- ◯ Master's
- ◯ Doctoral
- ◯ Provisional Certificate (such as Teach for America, PACE)

6. Location of your teacher training program *

Mark only one oval.

- ◯ In South Carolina
- ◯ Outside South Carolina, within US
- ◯ Outside of the United States

7. Level of student population you work with most often *

Mark only one oval.

- ◯ Preschool or Early Childhood
- ◯ Elementary
- ◯ Middle School
- ◯ High School
- ◯ District Administration

8. Check the categories of disabilities for the students on your caseload *

Check all that apply.

- ☐ Autism Spectrum Disorder (ASD)
- ☐ Deaf-Blindness
- ☐ Deaf/Hard-of Hearing
- ☐ Developmentally Delayed
- ☐ Emotional Disability
- ☐ Intellectual Disability
- ☐ Multiple Disabilities
- ☐ Orthopedic Impairment
- ☐ Other Health Impariment
- ☐ Specific Learning Disability
- ☐ Speech Language Impairment
- ☐ Traumatic Brain Injury
- ☐ Visual Impairment

9. What area best describes your work setting? *

Mark only one oval.

- ◯ Urban
- ◯ Suburban
- ◯ Rural

10. How many years of professional experience do you have teaching students with disabilities? *

Mark only one oval.

- ◯ Less than 2 years
- ◯ 2-5 years
- ◯ 6-10 years
- ◯ 11-15 years
- ◯ 16-20 years
- ◯ More than 20 years

11. Please rate your agreement with the following statements *

Mark only one oval per row.

	Never	Sometimes	Often	Frequently
I find teaching resources from Internet sites or social media.				
I get ideas for my teaching from other teachers.				
I use the provided teacher program manuals to plan and deliver my daily lessons.				
I am given the opportunity to help choose district programs for use in my classroom.				
I am encouraged to provide input to district leaders about concerns I have with using instructional materials or programs.				
I use direct instruction daily for delivery of lessons to my students.				
I have been using many of the same programs/resources for over 3 years.				
I assess students for progress toward their goals.				
I have the resources I need to provide instruction to my students.				
I am confident with the strategies I am using to provide instruction to my students.				
I enjoy trying new things with my students.				
I like using a scripted instructional program.				
I am open to new ideas learned from professional development experiences.				
It is easy for me to stick to my daily schedule.				
I have enough time to deliver the instruction my students need.				
Making sure each student is meeting his/her goals is a priority.				
I deliver each part of the provided instructional program.				
I use additional resources from other sources (Internet, social media, colleagues) to supplement instruction for my students.				

Evidence-Based Practices-Training and Supports for Special Education Teachers

For the purpose of this study, evidence-based practice will be defined as "a practice, specific to an instructional area, that is proven by research to improve outcomes for an intended population." This section asks you as a special education teacher to rate the extent to which you have received training and supports on Evidence-based Practices(EBPs) both during your teacher preparation program and from the district where you have been most recently employed.

12. Please answer based on your training on EBPs that as provided during your teacher preparation training program. *

Mark only one oval per row.

	Never	Sometimes	Often	Frequently
I was provided instruction on how to find an EBP to meet the specific need of the student for academic, functional, and social emotional areas.				
I was able to practice the use of EBPs within teaching experiences with students.				
I was given directions on how to use instructional procedures for implementing various EBPs with students.				
I had the opportunity to practice implementing an EBP with a student.				
I received direct instruction on how to provide explicit instruction to students. Explicit instruction is defined as systematic, engaging, and success oriented.				
I received direct instruction on how to provide systematic instruction. Systematic instruction is defined as instruction that is planned in a logical sequence, which scaffolds skills and includes purposeful practice to assist students in reaching mastery of skills.				
I received direct instruction on how to assess and progress monitoring for students.				
I received training on how to provide explicit instruction, including providing students opportunities to respond and receive feedback on their performance.				
I received training on how to establish positive classroom expectations and reinforcement systems for students.				

13. Please answer based on your training on EBPs that was provided to you as a special education teacher during your employment with a DISTRICT over the previous academic year. Please answer based on a TRADITIONAL, IN-PERSON instructional delivery model. *

Mark only one oval per row.

	Never	Sometimes	Often	Frequently
I was provided training on how to teach students with disabilities	◯	◯	◯	◯
I was offered training face-to-face on EBPs.	◯	◯	◯	◯
I was offered virtual training on EBPs.	◯	◯	◯	◯
I was provided training on how to use data for instructional planning/decision making.	◯	◯	◯	◯
I was provided training experiences that involve discussions related to student data.	◯	◯	◯	◯
I was provided training that directly connects to the content and skills I need to teach.	◯	◯	◯	◯
I received direct instruction on how to conduct screening and progress monitoring for students.	◯	◯	◯	◯
I received training on how to provide explicit instruction, including providing students opportunities to respond and receive feedback on their performance.	◯	◯	◯	◯
I received training on how to establish positive classroom expectations and reinforcement systems for students.	◯	◯	◯	◯

14. How often do you do the following activities in your daily practice? *

Mark only one oval per row.

	Never	Sometimes	Often	Frequently
Provide Systematic instruction for Reading Skills.				
Provide Explicit instruction for Social/Emotional/Behavioral Skills.				
Teach skills in order of simple to complex.				
Break down instruction into parts that presents some new material that adds-on to previously taught skills.				
Regularly assess students to determine if they are responding to instruction.				
Provide many opportunities for students to respond.				
Provide specific feedback on student performance.				
Utilize a positive reinforcement system that encourages student engagement based on established learning expectations.				

15. Please rate the extent to which you, as an in-service special education teacher, have received the follo support the implementation of evidence-based practices. *

Mark only one oval per row.

	Never	Sometimes	Often	Frequently
I have been provided face-to-face sessions specific to using an evidence-based practice in my classroom.				
There is a dedicated special education instructional coach that works with me on areas specific to serving students with disabilities.				
Coaching experiences that I have had directly correlate to previously provided training .				
I have been given the opportunity to collaborate with a coach.				
A coach has conducted instructional observations in my classroom while I am teaching.				
A coach has modeled an evidence-based instructional practice in my classroom.				
A coach has provided me targeted feedback on my performance on implementing an EBP.				
I work with a coach whom I trust and who cares about me and my students.				
I see my coach as a partner in helping me to be more effective in teaching students with disabilities.				

16. As a special education teacher, the administrator(s) in my building... *

Mark only one oval per row.

	Never	Sometimes	Often	Frequently
provides direction for the school community.				
inspires my commitment to perform my best.				
provides administrative support for my program.				
supports evidence-based practices for my program promotes my morale as a staff member.				
is fair and equitable in evaluting my performance.				

District Level Support

This section seeks to collect input from district-level administrators on training and supports related to evidence-based practices (EBPs) that have been provided to special education teachers in your district. Please indicate the extent to which you have provided training and support for special education teachers on the implementation of Evidence-Based Practices over the previous academic year. Please answer based on a TRADITIONAL, IN-PERSON instructional delivery model.

17. Special Education teachers in my district were provided training on EBPs that included: *

Mark only one oval per row.

	Never	Sometimes	Often	Frequently
Face-to-face sessions specific to EBPs for reading skills				
Offered virtual resources specific to EBPs in Reading skills				
Face-to-face sessions specific to EBPs in social/emotional/behavior skills				
Offered virtual resources specific to EBPs in social/emotional/behavioral skills				
Direct instruction on teaching Reading skills.				
Direct instruction on how to develop a positive classroom climate.				
Direct instruction on how to actively supervise students in the learning environment.				
In the area of Reading: Direct instruction on how to assess students to determine what skills they know and what skills they will need to be taught.				
In the area of Social/Emotional/Behavior: Direct instruction on how to s assess students to determine what skills they know and what skills they will need to be taught.				
Using data to make instructional decisions about specific students' needs.				

18. Special Education teachers in my district were provided support for the implementation of EBPs that included: *

Mark only one oval per row.

	Never	Sometimes	Often	Frequently
Direct observations from a district special education coach	◯	◯	◯	◯
Direct observations from a district special education administrator	◯	◯	◯	◯
Direct observations from a school-based coach	◯	◯	◯	◯
Direct observations from a school-based administrator	◯	◯	◯	◯
Feedback was provided to special education teachers specifically related to the implementation of EBPs in the area of READING	◯	◯	◯	◯
Feedback was provided to special education teachers specifically related to the implementation of EBPs in the area of SOCIAL/EMOTIONAL/BEHAVIORAL skills	◯	◯	◯	◯

APPENDIX B

ADDITIONAL TABLE

Table B.1 Response Distribution Implementation of EBPs in Teacher Training Program

	Response*				
	N	S	O	F	
Survey Item	%	%	%	%	n
12. I was provided instruction on how to find an EBP to meet the specific need of the student for academic, functional, and social emotional areas.	6.0	39.1	31.3	24.1	83
13. I was able to practice the use of EBPs within teaching experiences with students.	5.0	30.1	34.0	31.3	83
14. I was given directions on how to use instructional procedures for implementing various EBPs with students.	8.0	29.0	39.1	24.1	83
15. I had the opportunity to practice implementing an EBP with a student.	7.0	27.0	39.1	28.0	83
16. I received direct instruction on how to provide explicit instruction to students.	8.0	25.3	33.0	34.0	83
17. I received direct instruction on how to provide systematic instruction.	6.0	28.0	34.0	33.0	83
18. I received direct instruction on how to assess and progress monitor students.	6.0	19.3	31.3	36.0	83
19. I received training on how to provide explicit instruction, including providing students opportunities to respond and receive feedback on their performance.	8.4	18.1	34.0	40.0	83
20. I received training on how to establish positive classroom expectations and reinforcement systems for students.	7.0	13.3	28.0	52.0	83

*N=NEVER, S=SOMETIMES, O=OFTEN, F=FREQUENTLY