Promoting Equitable Outcomes for Students with Disabilities

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Abstract

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Promoting Equitable Outcomes for Students with Disabilities

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Children receiving special education services in public classrooms in the United States are consistently suspended, physically restrained, and secluded at rates much higher than their peers who do not receive special education services. The use of these negative punitive practices during the early childhood periods of development have lasting, negative outcomes for students such as negative school attitudes, increased risk for dropping out of high school, and incarceration (Diamond, Justice, Siegler & Snyder, 2013; Garcia, Heckman, Leaf & Prados, 2016). These outcomes can be diminished through the use of equitable discipline practices for all students, including those with disabilities. However, scholars have previously identified gaps between the evidence-based practices identified to prevent or reduce challenging behaviors and teachers' use of these practices. In this study, the researcher aims to examine the beliefs (perceptions of students with disabilities and self-efficacy for teaching students with disabilities) and knowledge (content knowledge of behavior-specific evidence-based practices) teacher candidates possess about these evidence-based practices. Survey responses by teacher candidates in early childhood education, early childhood special education, and K-12 special education were compared. The researcher found teacher candidates across program types have positive perceptions of children and individuals with disabilities and that teacher candidates held high levels of self-efficacy for teaching, regardless of the type of teacher preparation program. Mean scores for knowledge measures were low for

all teacher candidates. Teacher candidates enrolled in dual licensure early childhood and early childhood special education programs, on average, had higher mean knowledge scores than single licensure candidates enrolled in early childhood programs. This disparity may contribute to the disproportionate numbers of students with disabilities that are subjected to negative punitive practices within inclusive settings. Implications are provided related to how teacher educators can improve their teacher preparation programs.

Dedication

I dedicate this thesis in loving memory of my grandfather James Reaser. For you, grandpa, I strive to live by your motto to be "the man whose concern is every child."

Acknowledgments

To my advisor, Dr. Jennifer Ottley, I want to express my sincere gratitude for your mentorship and assistance. You have always had an open door and mind to have critical conversations about supporting children with diverse needs. This mindset has encouraged me to continue seeking ways to increase opportunities for all children. You have inspired me both professionally and personally to continue following my faith, heart and passion. I cannot thank you enough for your continued kindness.

To my committee, I thank you for your time and commitment to helping me achieve this goal. I appreciate all of the encouragement and kind words throughout the process. I felt supported by each of you as you provided mentorship not only for this thesis but also for my professional and personal goals beyond graduation.

I also want to thank the Ohio University Graduate College for supporting me financially as a Graduate College Fellow. This financial support provided me the opportunity to work toward completion of this thesis without financial burden.

The Ohio Dean's Compact on Exceptional Children also provided support to seek teacher candidates to participate in this study. The invitation to attend quarterly conferences provided professional development opportunities leading to the importance and design of this study.

Last and certainly not least, I would like to thank my parents, grandmother and my family for supporting me from day one. Your love and guidance have not been overlooked. I continue to be blessed by the unconditional support you provide.

Table of Contents

Page

List of Tables

Page

List of Figures

Page

Chapter 1: Introduction

The percentage of students (aged 3 to 22) receiving special education services under the Individuals with Disabilities Education Improvement Act (IDEIA, 2004) is approximately 12% of the total school-age population in the United States (U.S. Department of Education Office for Civil Rights, 2014). However, 58% of students placed in seclusion (i.e., isolated from peers and adults in school settings) and 75% of students physically restrained are students with identified disabilities (U.S. Department of Education Office for Civil Rights, 2014). In addition, students with disabilities are subjected to out-of-school suspensions at a rate twice that of students who do not have disabilities. Indeed, scholars have determined that students with disabilities are disproportionately disciplined through means that are more intensive, including multiple forms of classroom removals, compared to their peers without disabilities.

Suspensions and expulsions can be harmful to students at any age, but researchers have found that students who are suspended in early childhood are up to 10 times more likely to hold negative attitudes toward school, drop out of high school, or be incarcerated later in life (U.S. Department of Health and Human Services, 2016). These statistics are concerning, yet these negative outcomes can be mitigated by using more equitable discipline practices for students with disabilities. The use of positive behavior supports during the early childhood years can have profound effects on students' later academic and life achievements (Diamond, Justice, Siegler & Snyder, 2013; Garcia, Heckman, Leaf & Prados, 2016). Due to the negative outcomes that students experience when they are removed from the classroom (e.g., negative school attitudes, incarceration), focusing on outcomes of students with disabilities during early periods of development is of

utmost importance. Therefore, the purpose of this research is to examine teacher candidates' perceptions about young students with identified disabilities, perceptions of the adequacy of their university training in preparing them to meet the behavioral needs of students with disabilities, perceived self-efficacy to manage challenging behavior in the classroom, and knowledge of behavior-specific evidence-based practices (EBPs).

Chapter 2: Review of Literature

Federal data and the current research literature provide evidence that students with disabilities in early childhood settings are consistently suspended, secluded, and restrained at much higher rates than their peers without disabilities (Gilliam et al., 2016; U.S. Department of Education Office for Civil Rights, 2014). There are several plausible reasons for these disproportionalities, which are described in relation to the current evidence available within the following review of the literature. Studies included in this review include researchers' descriptions of the increased challenging behaviors that are exhibited by students with diagnosed developmental delays or disabilities and the relation these challenging behaviors have on instructional practices. I synthesize previous studies that have examined the use of EBPs to prevent and manage challenging behaviors by teachers and teacher candidates. I also describe previous research examining the attitudes, perceptions, and knowledge of inclusive practices reported by teachers and teacher candidates. Finally, I present current research suggesting the need for increased attention to EBPs in early childhood settings to prevent and appropriately respond to students' challenging behaviors.

Prevalence of Challenging Behavior and Relation to Instructional Practices

Challenging behavior has been defined as "any repeated pattern of behavior…that interferes with or is at risk of interfering with the student's optimal learning or engagement in pro-social interactions with peers and adults" (Smith & Fox, 2003, p. 6). Challenging behaviors can be categorized as internalizing (e.g., avoidance of activities, social withdrawal, hiding) or externalizing (e.g., hitting, running away, screaming; Eisenberg, Valiente, & Eggum, 2010). Key interacting factors that often accompany these

challenging behaviors are students' temperament, environmental factors, and socio-cultural factors (Division for Early Childhood, 2017).

It is common for toddlers and young students to express frustration or anger by physical acts. A child's temperament affects the emotional intensity, tolerance to frustration, and reactions to people or change (Division for Early Childhood, 2017). A student's environment also impacts challenging behavior. Stress caused by environmental factors such as homelessness, abuse and neglect, or lack of resources can contribute to both internalizing and externalizing challenging behaviors (Achenbach & Rescoria, 2000; McEwen, 2003; Shonkoff et al., 2012).

Teacher and caregiver expectations are examples of socio-cultural factors that also influence behavior. Sometimes age-appropriate behaviors in young students, such as talking out of turn, are categorized as challenging when adults set unrealistic expectations for students (Division for Early Childhood, 2017). Differences in the cultural norms and beliefs within a family can also influence behavior. For example, some families may have a culture in which collectivism is important (e.g. working together to find solutions to problems), which can influence how a child responds to a problem. However, in a classroom setting this desire to work in groups or to use peers as resources may be viewed as disrespectful or inappropriate by some educators.

Some people may attribute the higher rates of discipline for students with disabilities to the high percentage of students who exhibit challenging behaviors (Emerson et al., 2001; Matson & Boisjoli, 2008; Sigafoos, Arthur, & O'Reilly, 2003). Students who are diagnosed with developmental delays or disabilities such as Autism Spectrum Disorders (ASD), Attention Deficit Hyperactive Disorders (ADHD), and other

learning disabilities (LD) often express challenging behaviors in the classroom for many reasons. Common manifestations of behavior that result from an identified disability can be found within reputable sources such as the *Diagnostic and Statistical Manual of Mental Disorders (5th ed.)* or DSM-5 (American Psychiatric Association, 2013). According to the Individuals with Disabilities Education Act, students with disabilities who are suspended or expelled from school for more than 10 days must not be exhibiting challenging behaviors as a manifestation of their disability (§ 300.530; § 300.530(e)). This determination is made by the members of the Individualized Education Program (IEP) team, which includes all relevant individuals that support the student's educational goals and outcomes in and out of the classroom. Families are entitled to a manifestation determination hearing to meet with the IEP team to determine if the behaviors contributing to these suspensions or expulsions are a result of an identified disability. Researchers conducting studies on teacher perceptions have found that both general education and special education teachers believe challenging behavior can be attributed to internal conditions such as personality, physical conditions or disability, as well as external conditions such as the home or community (Westling, 2010). Consequently, determining the function of challenging behaviors, and working as a team to manage the behaviors and teach the child new skills is of utmost importance.

The Division for Early Childhood's (DEC) most recent Position Statement on Challenging Behavior and Young Students (2017) also explicitly calls for action by professionals and childcare providers to increase positive outcomes for students with disabilities. Specifically, DEC (2017) recommends the use of tiered systems of EBPs to increase positive social-emotional outcomes for students with disabilities. Consistent with

the suggestions by Diamond and colleagues (2013), these tiered systems include the use of practices at the universal, secondary, and tertiary tiers. Additionally, this position statement calls for the use of program-wide multi-tiered systems of support for social emotional development. These program-wide systems include leadership, professional development, and high-quality student outcomes and teaching practices. Effective systems utilize data-based decision making to establish the use of evidence-based practices by teachers and examine issues of bias and disproportionality in discipline (Pyramid Equity Project, 2017).

Specific practices for use at the universal level include focusing on joint attention; creating developmentally appropriate, culturally responsive expectations; and noticing and commenting on appropriate behaviors in a positive way. These universal practices are designed to be included in the classroom environment and across classroom routines to support all students (Pyramid Equity Project, 2017). Teachers create trusting relationships and provide for children's basic needs for learning in order to promote students' sense of self. Expectations for the learning environment are clearly articulated to all students with developmentally appropriate behaviors such as walking in the classroom, listening to others, and providing ways to ask for help when needed.

At the secondary tier, practices such as teaching students social-emotional and communication skills, supporting peer relationships and providing opportunities to practice new skills are used for students who may benefit from increased instruction (Debnam, Pas, & Bradshaw, 2012). This tier benefits students who need additional support to have meaningful relationships with others and to generalize skills across settings and routines. Small-group instruction and teacher-guided play can be beneficial

for children who need explicit instruction to ask peers to play, who may shy away from answering questions in a large-group setting, or who are not consistently demonstrating the use of new skills throughout the school day or at home.

Individualized interventions are used in the tertiary tier to address severe or persistent challenging behavior (Pyramid Equity Project, 2017). This tier includes the creation of a function-based behavior intervention plan (BIP) to use across settings and routines. The BIP is developed after a functional behavior assessment (FBA) has been conducted to examine the child's current level of functioning and the types of behaviors that may interfere with his or her learning or the learning of others. This individualized plan is created based on the unique variables associated with the student's home, school, and community environments.

Evidence-Based Practices for Challenging Behavior

Practices related to challenging and interfering behaviors are those that decrease or eliminate behaviors that interfere with an individual's ability to learn and behaviors that are commonly reported as barriers to learning by teachers working with students with ASD (Matson & Boisjoli, 2008; Wong et al., 2014). Challenging behaviors are often a result of poor social and communication skill development in students with ASD. However, students with other disabilities or typical peers may also exhibit similar behaviors that disrupt the classroom environment and the learning of themselves or others.

In some of the most comprehensive literature reviews available on EBPs scholars have examined outcomes for students with ASD. For example, in one comprehensive literature review 27 practices were determined by researchers to be evidence-based for

supporting students with ASD (Wong et al., 2014). These practices focused primarily on communication, challenging behaviors, and social outcomes, with 14 practices designated as having positive outcomes associated with behavior for students who are aged eight and under (Wong et al.). Examples of EBPs that promote positive social and emotional outcomes include *Antecedent-Based Interventions*, *Discrete Trial Teaching*, *Functional Communication Training*, *Modeling*, *Parent-Implemented Intervention*, *Pivotal Response Training*, *Scripting*, *Social Skills Training*, *Time Delay*, and *Video Modeling*. These social and communication interventions have improved students' skills related to interacting with others, or the child's ability to express wants, needs, choices, feelings, or ideas (Wong et al.). Working definitions of these practices are reported in Appendix A.

Educators' Attitudes and Perceptions Related to Inclusive Practices

Previously, researchers have examined the attitudes and perceptions of both preservice teachers (hereafter referred to as teacher candidates) and in-service teachers toward students with disabilities and their inclusion in the general education setting. The majority of the literature includes study results indicating teachers who have more positive perceptions of disability and inclusion are more likely to use strategies to support the participation of all students, including those with disabilities, within the general education classroom (Bender, Vail, & Scott, 1995; Butler & Monda-Amaya, 2016; Dawson & Scott, 2013). For example, Bender and colleagues (1995) distributed a survey to 127 "mainstream" teachers to examine the links between the attitudes of teachers and the types of instructional practices used in the classroom. They found positive correlations between the number of courses taken on methods for teaching students with disabilities and teachers' attitudes toward educating students with disabilities in general

education settings. Similarly, Dawson and Scott (2013) distributed surveys to 288 in-service and 143 teacher candidates to examine efficacy for teaching students with disabilities. They found that years of experience did not predict self-efficacy, but amount of special education coursework predicted teachers' positive self-efficacy. Taken together, these results suggest that increased coursework and teacher preparation in special education may influence teachers' beliefs (e.g., self-efficacy, attitudes) toward teaching students with disabilities.

In-Service and Preservice Teachers' Use of Evidence-Based Practices

Researchers have indicated disparities in punishment for students with or without disabilities may be due to the limited knowledge, resources, and/or experiences teachers have dealing with behaviors that can become harmful to the classroom environment (Westling, 2010). In his study, Westling found that less than 60% of special education teachers felt they had adequate or extensive preservice training in classroom management, *Applied Behavior Analysis* principles, or individual behavioral interventions. In a nationwide study of early childhood education (ECE) teachers, researchers collected information about the types of training teachers received (National Survey of Early Care and Education, 2012). Approximately 20% of ECEs surveyed reported receiving any type of social and emotional growth training within the previous year. In similar surveys, as many as 85% of first-year teachers have reported feeling unprepared to deal with student behavior (Scheuermann & Hall, 2012) and only 34% of first-year teachers reported receiving positive behavioral intervention training in their teacher preparation programs (Scheuermann & Hall). Consistent with these studies, The National Association for the Education of Young Children's Position Statement (2009)

identified a potential gap in the knowledge and skills teachers possess before entering the classroom. The authors stated that "many teachers themselves lack the current knowledge and skills needed to provide high-quality care and education to young students, at least in some components of the curriculum" (2009, p. 5).

Teacher preparation programs aim to give teacher candidates numerous field placements to increase the diversity of students they teach before entering the field; however, it is difficult for program faculty, especially those that are not preparing candidates for special education licensure, to ensure adequate training in EBPs to intervene with persistent challenging behaviors. Teacher candidates may also be placed in field experiences where a mentor teacher is not modeling EBPs for behavior management - either because P-12 students are not presenting challenging behaviors or the teacher does not have the knowledge and skills in the EBPs (Short & Bullock, 2013). Without quality training and access to quality mentorship, novice teachers may be more likely to treat behavior with intensive forms of punishment such as the use of suspensions, seclusion, and physical restraint.

Promoting Increased Use of Evidence-Based Practices

The National Center for Special Education Research has suggested an increase in the use of evidence-based universal supports in the classroom for social and emotional competence (Diamond et al., 2013). This suggestion was also a finding by Gilliam and Golan's (2006) research, which indicated that teachers in kindergarten settings reported 10% of students exhibited persistent problem behaviors. That prevalence increased to approximately 10-23% of students enrolled in Head Start programs (Scheuermann & Hall, 2012). Examples of these comprehensive frameworks include the Intervention

Hierarchy for Promoting Young Children's Peer Interaction and the Teaching Pyramid (Diamond et al., 2013). Both frameworks provide a comprehensive set of guiding principles, as well as specific EBPs for promoting social competence. These frameworks can be used at the universal level (i.e., tier 1) to support all students, with increased intensity for students at risk for learning challenges, students with disabilities, or students with persistent challenging behavior (Diamond et al.). Specific practices identified for use in the Teaching Pyramid framework include praise and feedback (universal level), explicit instruction in social skills and emotion regulation (secondary level), and implementation of individualized, function-based positive behavior support plans (tertiary level). These suggestions by Diamond and colleagues (2013) are consistent with other scholars stating the explicit need for an increase in the use of behavior-specific EBPs (DEC, 2017; MacSuga & Simonsen, 2011; Pyramid Equity Project, 2017).

The Current Study

Each EBP described in Wong et al.'s (2014) literature review was supported by extensive research indicating their effectiveness. Definitions of these EBPs are presented in Appendix A; these definitions and the table itself were developed by Wong and colleagues. Specifically, for this research, I chose to collect knowledge data through the use of multiple-choice knowledge items on five behavior-specific EBPs. These five EBPS are antecedent-based interventions, functional behavior assessment, naturalistic intervention, response interruption/redirection, and social skills training. These five EBPs were selected by a committee of professionals in early childhood education (ECE), early childhood special education (ECSE), and K-12 special education (SPED) fields as described in detail in the methods section of the paper.

Specifically, I sought to answer the following research questions (RQs) through this study: (a) What perceptions do Early Childhood Education (ECE), Early Childhood Special Education (ECSE), and K-12 Special Education (SPED) teacher candidates have about students with identified disabilities? (b) What beliefs do ECE, ECSE, and SPED teacher candidates hold about their self-efficacy, experiences, and training for managing challenging classroom behavior? (c) What knowledge of behavior-specific EBPs do ECE, ECSE, and SPED teacher candidates possess? (d) How do beliefs, knowledge, and skills among ECE, ECSE, and SPED teacher candidates compare?

ECE teacher candidates in this research study were enrolled in teacher preparation programs for licensure in PK-3 education and ECSE teacher candidates were enrolled in teacher preparation programs to earn a PK-3 intervention specialist licensure. SPED teacher candidates in this research were enrolled in teacher preparation programs to earn a K-12 intervention specialist licensure. Because ECSE and SPED programs typically offer more coursework and field hours working with students with disabilities, I hypothesized that teacher candidates in these programs would report having more opportunities to implement EBPs to decrease challenging behaviors and would express more positive perceptions about classroom management strategies than teacher candidates enrolled in ECE programs. I used surveys to measure teacher candidates' beliefs (RQs a & b), knowledge (RQ c), and demographic data regarding candidates and their teacher preparation programs. I used these data to make comparisons between the beliefs, knowledge, and skills of teacher candidates in ECE, ECSE, and SPED programs (RQ d).

Chapter 3: Method

Participants

University students currently enrolled in an ECE, ECSE, or SPED teacher preparation programs in the state of Ohio participated in this study. Specifically, teacher candidates were recruited if they were currently working with or planning to work with young students, or PK-12 students who qualified for special education services in the home, community, or school settings. All participants were required to be at least 18 years of age.

After excluding seven participants based on failure to meet the inclusion criteria for enrollment in an ECE, ECSE, or K-12 SPED teacher preparation program, a total of 62 participants were included in the current study (n = 62). The number of female participants was 57; there were also three male participants, and two participants who were non-binary in their gender. Sixty participants reported their race was White, one participant reported their race was Black or African American, and one participant responded "prefer not to answer." Twenty-nine participants were teacher candidates in ECE programs. A total of 16 candidates were enrolled in a dual licensure ECE and ECSE licensure program, 11 participants were K-12 SPED candidates, three participants were candidates in programs providing certification for ECSE only, and three participants were enrolled in "other" programs providing closely related certification for teacher candidates (i.e., early intervention, child development associate degree).

Faculty and professionals at various universities throughout the state of Ohio were asked to participate in the recruitment of teacher candidates. These faculty and professionals were associated with two non-profit educational organizations: (1) The

Ohio Division for Early Childhood and (2) The Ohio Dean's Compact on Exceptional Children. The researcher had previously built professional relationships with these organizations through state-level service work and contacted the organization members by email, providing the script for recruitment and asking for their support in recruiting teacher candidates to participate. Teacher candidates participating in the survey attended four of the state's universities. Participants included one freshman, eight sophomores, 42 juniors, 10 seniors, and one graduate-level student.

With respect to their exposure to students with disabilities in the classroom, the majority of field placement hours were in public-school classrooms. Eighteen percent of candidates reported having 51% or greater number of students in their current placements identified with disabilities and 40% of candidates reported having less than 5% of students in current placements identified with disabilities.

Measures

The measure used for this research was a researcher-developed survey created using multiple existing survey measures. Although it would have been a stronger measure if full surveys were utilized that have established reliability and validity, given the multiple variables of interest (i.e., beliefs and knowledge) and the lack of adequate funding to use as an incentive to pay participants to complete a lengthy survey, I decided to use a shortened version of a few measures. The full survey is included in Appendix B.

Beliefs. Teacher candidates' perceptions and self-efficacy were measured using existing survey items based on a Likert-scale response format. Perception items were selected from the Sentiments, Attitudes, and Concerns about Inclusive Education Revised (SACEI-R) scale developed by Forlin, Earle, Loreman, and Sharma (2011). This scale

was developed by Forlin and colleagues to measure preservice teachers' perceptions about comfort levels when interacting with people who have disabilities, acceptance of students with various needs, and concerns about inclusion. A four-stage process was used to review this scale, with each phase including administration of the scale by one researcher in each region of the United States to teacher candidates during the first session in a special education or inclusive education course (Forlin et al.). Exploratory Factor Analysis (EFA) was used to evaluate the number of factors and specific items included. Four items were deleted from the original 19-item scale during the first stage of validation. During stage two, whole-scale reliability, all three factors was found acceptable by the authors ($\alpha = .85$). During the third stage, eight new items were added and EFA was conducted again to identify a factor structure for the new survey data. Results consisted of 15 items with equal representation between three components: sentiments, attitudes, and concerns. Final refinement of the scale included administration of surveys to pre-service teachers in nine institutions in four countries. Internal reliability was found to be acceptable for the SACIE scale ($\alpha = .74$) and individual subscales. Cronbach's alpha of subscales was the following: sentiments ($\alpha = .75$), attitudes ($\alpha = .67$), and concerns ($\alpha = .65$).

The researcher chose items from the SACEI-R scale to be representative of all three perception categories: comfort levels, acceptance, and inclusion. Five items from the original 15-item scale were selected for use in the current survey. This small number of items was chosen to increase the response rate of teacher candidates. One additional item was adapted to measure teacher candidates' specific perception of their teacher preparation's adequacy in providing knowledge and skills required to teach students with

disabilities. This resulted in a total of six items from the SACEI-R scale used in the current study. These items targeted classroom-specific perceptions such as "I am concerned that students with disabilities will not be accepted by the class." Other items aimed to measure general perceptions of disability by asking candidates to rank broad statements such as "I find it difficult to overcome my initial shock when meeting people with severe disabilities." Candidate responses ranged from "strongly disagree" (1) to "strongly agree" (4).

To measure teacher candidates' self-efficacy, an instrument created by Dawson and Scott (2013) was chosen for use in this study. This instrument, the Teaching Students with Disabilities Efficacy Scale (TSDES), was adapted from Tschannen-Moran and Woolfolk Hoy's Teachers' Sense of Self Efficacy Scale ([TSES]; 2001). After a multistage approach to refine and adapt this instrument, the final version included five components and a total of 50 items. During stage one, the initial 11-item version of the TSDES was distributed to 15 doctoral students enrolled in a seminar course on teacher beliefs for feedback on content, interpretation, and structure of items. Based on this feedback, the revised scale tested in stage two included 14 items. Field tests were conducted with teacher candidates and principal-components factor analysis (PCA) was conducted. A one-sample *t* test was also used to analyze difference between the TSDES and the original TSES. Significant differences were observed in ratings for the TSES ($M = 7.23$, $SD = 1.02$) and TSDES ($M = 6.87$, $SD = 1.18$), $t(236) = 6.2$, $p = .000$. This led to a third and final stage of refinement. During the third and final stage of refinement and testing, new items were added to the scale resulting in a 50-item scale with high reliability ($\alpha = .913$). In the current study, items from only three of the five components

of the TSDES were used: professionalism, teacher support, and classroom management (Dawson & Scott, 2013). This resulted in 11 survey items from the TSDES being used in surveys distributed to teacher candidates.

Knowledge. Multiple-choice knowledge items were adapted from the Autism Internet Modules (AIM) developed by the Ohio Center for Autism and Low Incidence. These modules can be accessed online and aim to provide practicing teachers with continuing professional development on selected EBPs. Knowledge items were also adapted from the Autism Focused Intervention Resources Modules (AFIRM), an extension of the National Professional Development Center on ASD.

Multiple-choice knowledge items were selected using a multi-step process. First, the researcher selected 14 EBPs identified by Wong et al. to generate effective behavior outcomes for students with ASD (2014). These 14 EBP's were sent to an expert group of ECE and ECSE professionals and higher education faculty to be voted on for inclusion in the current survey. This committee of professionals was asked to select the five most important practices teacher candidates should know in order to effectively prevent or reduce challenging behaviors. After five EBP's had been selected, questions from the modules for these practices on both the AFIRM and AIM websites were examined. I narrowed these options to five questions per EBP for a total of 25 questions. These questions were then modified to read as statements with the following answer choices: "true", "false", and "I don't know." These 25 questions were again sent to the expert committee for voting. After receiving feedback from only a limited number of committee members, I decided to include all 25 questions in the current survey. Some survey

participants did not respond to these knowledge items, resulting in a sample size of 58 participants (n = 58).

Case study. An additional open-response question was included in the current survey to allow teacher candidates to qualitatively describe any practices they would use in response to challenging behavior described in a case study. This case study was developed by the IRIS Center in the Peabody College at Vanderbilt University, which was used in the Early Childhood Behavior Management case study packet, Level C, Case 1. B. The child in the scenario provided, Cyan, is a four-year-old boy who is exhibiting challenging behavior. He frequently hits, scratches, and bites when others have a toy he wants.

Procedures

Teacher candidates were contacted by university faculty during face-to-face courses or electronically. Study data were collected and managed using Research Electronic Data Capture (REDCap) electronic data capture tools hosted at Ohio University. REDCap is a secure, web-based application designed to support data capture for research studies, providing (1) an intuitive interface for validated data entry, (2) audit trails for tracking data manipulation and export procedures, (3) automated export procedures for seamless data downloads to common statistical packages, and (4) procedures for importing data from external sources (Harris et al., 2009). This application provided a secure process for multi-site data collection. Teacher candidates could complete this survey on-campus during class time or off-campus on a personal computer, tablet, or smartphone device.

Candidates provided informed consent to participate in the study under the conditions that participation is voluntary and progress in the teacher preparation program would not be impacted by the responses collected. Participants were given the option to provide an email address to be entered into a drawing to win a $10 gift card. One teacher candidate per 100 teachers was chosen to receive a gift card (n = 1). Participants were also given the opportunity to provide an email address to be contacted for follow-up interviews or related opportunities to participate in research conducted by the researcher.

Survey access information was distributed throughout multiple courses at both the undergraduate and graduate level. These courses varied by the type of program in which the teacher candidates were enrolled, as well as the university attended. All candidates were enrolled in teacher preparation programs recognized by the state to grant teacher licensure for educators in ECE (PK-3), ECSE (PK-3), or SPED (K-12). During in-class distribution of surveys, faculty provided permission for surveys to be administered during class time. Administration of electronic surveys during on-campus face-to-face time provided increased opportunity for teacher candidates to ask questions prior to providing consent.

Data Analysis

Descriptive statistics were used to determine the means, modes, ranges, and standard deviations of the data. The mean averages for candidate responses to Likert-scale belief questions and knowledge questions were reported. Average knowledge scores were calculated for the entire set of questions (n = 25) and for each EBPs selected (n = 5). The mode for this data set provides insight into the most frequently reported answers on

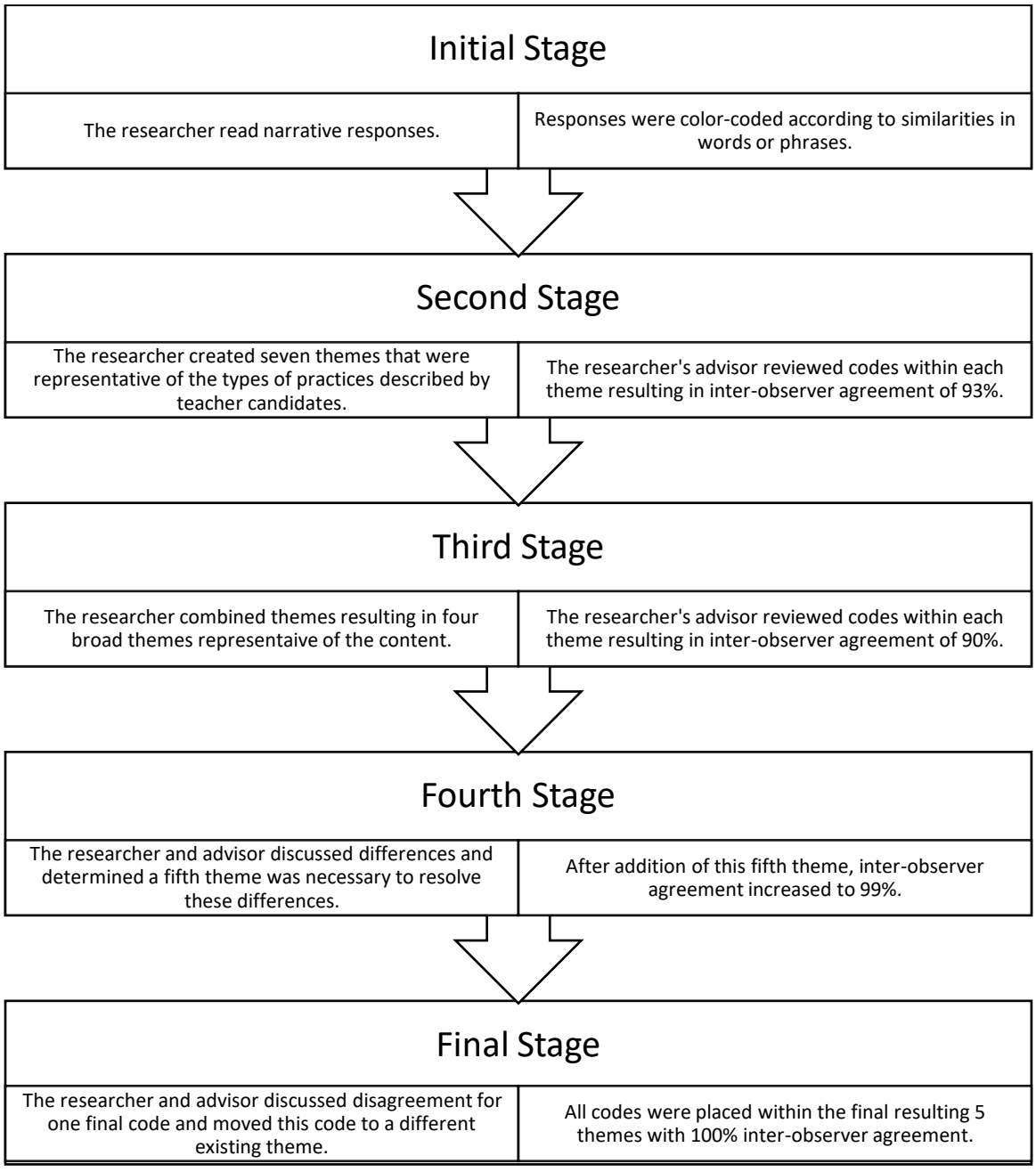
individual items. The standard deviation was used as a measure of variability and to demonstrate the distribution of the data set.

Due to significant variances in the types of programs and institutions teacher candidates attended while completing surveys, inferential statistics were not appropriate to determine differences between candidates in ECE, ECSE, and K-12 SPED programs. Observed differences within the mean scores for knowledge-based questions and teacher beliefs were analyzed using descriptive statistics.

Qualitative analysis was used to determine themes referred to within the open-ended case study questions. These themes were determined by clustering like words and phrases into seven categories during the initial round of analysis. The researcher's advisor reviewed these codes to measure inter-observer agreement. Then, the researcher examined the themes further and some categories were combined to be more concise and representative of multiple responses. This round of analysis resulted in total of four themes which were again reviewed by the researcher's advisor. After inter-observer agreement was reported a fifth theme was added based on the collaborative discussions between the researcher and advisor. Any other remaining disagreements about codes were discussed and adjustments to these codes were made until 100% inter-observer agreement was reached. Figure 1 describes the process for analyzing these responses.

Figure 1

Process for Qualitative Analysis of Case Study Themes



Chapter 4: Results

The results section provides an overview of key findings as well as tables containing specific descriptive statistics about teacher candidates' experiences, confidence levels, beliefs, and knowledge. The sample sizes for results varied with 62 teacher candidates responding to questions about experiences, confidence, and beliefs (n = 62) and 58 teacher candidates responding to knowledge and case study questions (n = 58).

Experiences and Confidence

Teacher candidates responded to two Likert-scale type questions rating their experience and confidence in teaching students with disabilities. Seventy-six percent of teacher candidates (n = 47) reported having some experience working with children with disabilities. Although the number of candidates within groups vary, there were observed trends about the experiences and confidence levels of teacher candidates. Approximately 38% of teacher candidates enrolled in ECE programs reported having no experience teaching students with identified disabilities (n = 29). There were no candidates enrolled in combined ECE and ECSE teacher preparation programs who reported having no experience teaching students with identified disabilities (n = 16).

Table 1

Comparing Trends in Teacher Candidates' Experience Levels (n = 62)

Program Type	Size (*n*)	Nil Experience	Some Experience	High Experience
ECE	29	11	17	1
ECE/ECSE	16	0	14	2
ECSE	3	0	1	2
K-12 SPED	11	3	2	6
Other	3	1	2	0

There were also observable trends in teacher candidates' confidence level in teaching students with disabilities. No teacher candidates enrolled in ECE/ECSE or ECSE programs reported having very low confidence in teaching students with disabilities ($n = 19$). However, approximately 21% of ECE teacher candidates reported having very low confidence in teaching students with disabilities ($n = 29$). A high number of dual licensure ECE and ECSE teacher candidates reported average confidence levels (81%).

Table 2

Comparing Trends in Teacher Candidates' Confidence Levels (n = 62)

Program Type	Size (*n*)	Very Low Confidence	Low Confidence	Average Confidence	High Confidence	Very High Confidence
ECE	29	6	9	13	1	0
ECE/ECSE	16	0	1	13	2	0
ECSE	3	0	0	1	2	0
K-12 SPED	11	1	1	3	5	1
Other	3	0	2	0	1	0

Beliefs

Teacher candidates' beliefs were examined through Likert-scale type questions examining both perceptions of individuals with disabilities and self-efficacy in teaching students with disabilities. Belief questions were adapted from Forlin and colleagues' (2011) SACEI-R to measure perceptions and Dawson and Scott's (2013) TSDED to measure beliefs. These Likert-scale type questions resulted in responses ranging from "strongly disagree" (0) to "strongly agree" (4).

Perceptions. As displayed in Table 3, teacher candidates' perceptions of students with disabilities ranged from 0-4, with a majority of candidates selecting "agree" (i.e., 3).

Table 3

Teacher Candidates' Perceptions of Students with Disabilities (*n* = 62)

Question	Mean (*M*)	Mode	Standard Deviation (*SD*)
I am concerned that students with disabilities will not be accepted by the rest of the class.	2.33	3	0.98
I would feel terrible if I had a disability.	1.61	1	0.94
I am concerned that it will be difficult to give appropriate attention to all students in an inclusive classroom.	2.07	3	1.01
I find it difficult to overcome my initial shock when meeting people with severe disabilities.	0.9	0	0.91
Students who need an individualized academic program should be in a regular classroom.	2.9	3	0.85
I am concerned that courses in my teacher preparation program do not provide the knowledge and skills required to teach students with disabilities.	1.7	1	1.15

Note. Items in this table are adapted from the SACEI-R scale developed by Forlin, Earle, Loreman, and Sharma (2011).

Survey participants reported little concern about their preparation program providing adequate knowledge and skills to teach children with disabilities. Teacher candidates did, however, report concern about the acceptance of students with disabilities and having the ability to give appropriate attention to students with disabilities. In question 1, *I am concerned that students with disabilities will not be accepted by the rest of the class,* candidates most frequently agreed with this statement, with a mean rating of 2.33 (*SD* = 0.98). For question 3, *I am concerned that it will be difficult to give*

appropriate attention to all students in an inclusive classroom, the average reported score was a 2.07 with teacher candidates most frequently choosing "agree" to this statement. The highest mean rating for any item on this section was a 2.9 (*SD* = 0.85) in response to question 5, *Students who need an individualized academic program should be in a regular classroom*. This question was also the only question on this section of the survey receiving no ratings of "strongly disagree."

Self-efficacy. Table 4 presents the mean, mode, and standard sample deviation for each question examining teacher candidates' self-efficacy for teaching students with disabilities. Teacher candidates' ratings ranged from 1-4, with no candidates reporting they "strongly disagree" they could perform any tasks or skills within the categories of professionalism, teacher support, or classroom management. Generally, mean ratings were the lowest for all three questions in the category of classroom management (questions 9-11).

Table 4

Teacher Candidates' Self-Efficacy Teaching Students with Disabilities (n = 62)

Question		Mean (M)	Mode	Standard Deviation (SD)
1.	I can be an effective team member and work collaboratively with other teachers, paraprofessionals, and administrators to help my students with disabilities reach their goals.	3.51	4	0.5
2.	I can model positive behavior for all students with or without disabilities.	3.54	4	0.5
3.	I can consult with an intervention specialist or other specialist when I need help without harming my own morale.	3.43	4	0.64
4.	I can give consistent praise for students with disabilities, regardless of how small or slow the progress is.	3.51	4	0.54
5.	I can encourage students in my class to be good role models for students with disabilities.	3.43	3	0.56
6.	I can effectively encourage all of my students to accept those with disabilities in my classroom.	3.41	3	0.56
7.	I can create an environment that is open and welcoming for students with disabilities in my classroom.	3.48	4	0.54
8.	I can establish meaningful relationships with my students with disabilities.	3.52	4	0.57
9.	I can effectively deal with disruptive behaviors in the classroom, such as tantrums.	2.7	3	0.74

Table 4: continued

10.	I can remain in control of a situation that involves a major temper tantrum in my classroom.	2.7	3	0.74
11.	I can manage a classroom that includes students with disabilities.	3.15	3	0.63

Note. Items in this table are adapted from the TSDES by Dawson & Scott (2013). Items are representative of three categories: professionalism, teacher support, and classroom management.

Mean ratings for this section ranged from 1-4, with a rating of "3 = agree" being the mode. Teacher candidates reported higher levels of self-efficacy on questions in professionalism and teacher support categories. The lowest mean rating for any questions on the self-efficacy portion of the survey was a 2.7 for both questions nine (SD = 0.74) and 10 (SD = 0.74), *I can effectively deal with disruptive behaviors in the classroom, such as tantrums* and *I can remain in control of a situation that involves a major temper tantrum in my classroom*.

Knowledge

True/false questions. Descriptive statistics were used to determine the mean, mode, and standard deviation of each of the knowledge questions about five discipline-specific EBPs. A total "knowledge score" was determined by finding the sum of all points earned by teacher candidates, with 25 total possible points for answering all knowledge-based questions correctly. Correct answers earned candidates (1) point, incorrect answers earned candidates (-1) point, and choosing the response "I don't know" earned candidates (0) points. Table 5 displays these descriptive statistics with minimums

and maximums included for each of the five EBPs and the total knowledge score for all questions.

Table 5

Teacher Candidates' Knowledge Scores (*n* = 58)

Evidence-Based Practice	Mean (*M*)	Mode	Min	Max	Standard Deviation (*SD*)
ABI	1.79	1	-1	5	1.6
FBA	1.62	1	-1	5	1.75
NI	1.16	1	-3	5	1.61
RIR	1.69	0	-2	5	1.69
SST	1.69	1	-3	5	1.49
TOTAL (all practices)	7.97	9	-5	19	5.41

Note. ABI = antecedent-based intervention; FBA = functional behavior assessment; NI = naturalistic intervention; RIR = response interruption/redirection; SST = social skills training.

The mean knowledge score across all program types and institutions was 7.97 (*SD* = 5.41). The mode total score for knowledge questions was nine, with the highest candidate score being a 19 and the lowest score by candidates being a -5. Average candidate scores were lowest on questions related to naturalistic intervention (NI) practices and the highest average scores were earned on questions related to antecedent-

based intervention (ABI) practices. Teacher candidates enrolled in programs with both ECE and ECSE licensure earned a mean total knowledge score of 10.73 (*SD* = 4.37) and scores ranged from 4 to 17 (*n* = 15). Teacher candidates enrolled in ECE licensure programs on average earned a total knowledge score of 5.89 (*SD* = 5.49) and scores ranged from -5 to 19 (*n* = 28).

Case study. Most teacher candidates responded by providing multiple possible practices, combining practices, or describing a scenario in the classroom that included more than one practice. Frequency counts for repeated words were recorded. The most common words mentioned in responses were "toy," "play," "behavior," and "share" with 58, 35, 30, and 28 mentions respectively. Other common words and phrases included "friend," "ask," "help," and "social". Functional behavior assessment (FBA) and reinforcement were both mentioned in teacher candidates' responses to the case study scenario. Reinforcement was used a total of seven times and FBA was mentioned twice. Teacher actions such as "removal from the situation" (*n* = 4) or "time out" (*n* = 3) were also reported as responses to the child's behavior in the case study scenario.

During qualitative analysis, seven categories emerged. The initial seven categories included the following: peer supports; family supports; teacher supports and direct instruction; social and emotional supports; reinforcement or reward strategies; removal and consequence strategies; and behavior assessment and progress monitoring. The researcher's advisor reviewed the codes within each them and established agreement of 93%, providing notes for the researcher to consider for further analysis. The four themes that emerged from the third round include the following: teacher guided instruction and modeling; social and emotional training and supports; behavior

assessment and progress monitoring; and reinforcement of behavior. Responses related to teacher-guided instruction and modeling included phrases such as "during circle time discuss the importance of sharing with friends" (n = 1), "role play" (n = 5), and "teacher directed play" (n = 7). Social and emotional support strategies were reported in responses related to sharing such as "One strategy that I could use in the classroom with this particular student is to create a social story about sharing with his classmates" and peer support strategies such as "A strategy that could be used is to put a student next to Cyan that have the same interest. I think that it can help Cyan learn to share and teach him to ask if he can play with the toy."

After these four themes were developed, the researcher's advisor reviewed all codes within the themes to measure inter-observer agreement. Upon initial analysis, the agreement was 90%. The majority of disagreements were to consider adding a fifth theme of "collaboration with family and professionals." Both agreed that this would be an appropriate addition and after this change was made, agreement increased to 99%. The one other difference was that a phrase initially coded into "teacher guided instruction and modeling" be moved to "reinforcement of behavior." The researcher agreed with this, and that phrase was moved.

Teacher candidates included the use of phrases that are commonly used during the behavior assessment process such as "conduct an FBA," "behavior management plan," and "find an alternative". "Progress monitoring" (n = 1) and "data" (n = 2) were both mentioned in responses from candidates. Finally, teacher candidates frequently mentioned "reinforcement" (n = 7) or the use of "charts or behavior charts" (n = 7) to

reward the child for appropriate behavior or to provide negative consequences for undesired behavior.

Chapter 5: Discussion

The following section contains a discussion of the results and recommendations for teacher preparation programs. Similarities and differences between results of the current study and previous studies are discussed. Examples of specific curricula changes to current licensure programs are provided. Limitations of the current study are also identified, with suggestions for future studies to develop a more valid and reliable measure of teacher candidates' beliefs, skills, and knowledge.

Teacher Candidate Experiences and Confidence

Teacher candidates reported high levels of self-efficacy in teaching students with disabilities in all three categories – professionalism, teacher support, and classroom management – despite reporting little experience in teaching students with disabilities. Teacher candidates enrolled in ECSE certification programs reported higher levels of experience working with students with disabilities and were less likely to report having very low confidence in teaching students with disabilities. These results are expected as teacher candidates enrolled in ECSE programs are more likely to have increased coursework including special education practices and therefore higher numbers of hours completed working with students who have disabilities. The increase in coursework alone, as indicated by previous scholars, often results in higher levels of positive self-efficacy and thus can increase confidence (Dawson & Scott, 2013).

Previous surveys such as the National Survey of Early Care and Education (2012) have shown that a very low percentage of ECE teachers report having received social emotional training and up to 85% of first-year teachers feel unprepared to deal with student behavior (Scheuermann & Hall, 2012). If this lack of emphasis on social and

emotional training occurs in teacher preparation programs as well, low levels of confidence might be expected from these candidates. Although groups varied in size in the current study, it is helpful to consider the key differences that appear between candidates enrolled in teacher preparation programs that include ECSE certification and those who do not.

Teacher Candidate Beliefs

Perceptions. Teacher candidates reported positive perceptions of students with disabilities and teaching in classroom settings that included students with disabilities. Teacher candidates indicated little concern about whether students with disabilities would be accepted by peers. Teacher candidates also disagreed that they would have negative feelings about having a disability themselves. However, some concern did exist about teaching students with disabilities. Most notably, the majority of teacher candidates agreed that they believed students with an IEP should be included in a regular classroom setting. Given that the majority of participants in this research were general early childhood education majors, or dual licensure early childhood and early childhood special education majors, this finding holds practical significance. Indeed, the belief of a general education teacher that students with IEPs should be included in their classroom setting sets the stage for effective inclusive education for all children.

As scholars have previously reported, teachers with more positive views of inclusion are more likely to respond to students with disabilities in the general education classroom in appropriate ways (Bender, Vail, & Scott, 1995; Butler & Monda-Amaya, 2016; Dawson & Scott, 2013). Teacher candidates' self-reported positive perceptions about inclusion may contribute to the desire to respond to students with disabilities in

positive ways, which can improve the quality of education that students with disabilities receive in inclusive classrooms.

Self-efficacy. Teacher candidates' responses to self-efficacy, on average, were high. While average ratings were between 2.70 and 3.54, the most reported answer for six of the 11 questions measuring self-efficacy was 4 = strongly agree. This indicates that teacher candidates across programs report high levels of confidence in their ability to complete specific tasks related to teaching students with disabilities.

The highest average rating for any self-efficacy questions was a 3.54 on a 4-point scale in response to the question *I can model positive behavior for all students with or without disabilities*. The ability to model positive behavior for all students in the classroom is a basic skill that is important for creating and maintaining a positive classroom environment that fosters growth and learning for all young children. The Ohio Standards for the Teaching Profession (2005) are state-wide standards with a purpose to guide educators through steps to improve effectiveness in the classroom. These standards align with practices such as modeling positive behavior for all students. Standard 5, Learning Environment, includes the expectation that teachers maintain an environment that is conducive to learning for all students (standard 5.5, p. 31). Modeling appropriate behaviors for all students promotes this positive learning environment.

Scores for self-efficacy questions relating to professionalism and teacher support were higher than questions relating to classroom management. In fact, the three questions included in the category of classroom management (9-11) received the lowest average scores within the self-efficacy measures. Average teacher candidate responses were the lowest to questions specifically measuring ability to respond to and manage situations

involving disruptive behaviors and tantrums in the classroom. However, it is important to note that teacher candidates still most frequently reported a score of three (3 = agree) on these questions indicating they have the ability to respond to these challenging situations in the classroom. These findings support the researcher's conclusion that whereas teacher candidates reported high levels of self-efficacy, there are still areas for growth in teacher candidates' abilities to support the social and emotional needs of young students.

Teacher Candidate Knowledge

Knowledge scores. The average teacher candidate knowledge scores show that knowledge about the five specific EBPs examined through this survey were low. Less than half of teacher candidates surveyed received a 50% or higher on knowledge measures, with only 12 teacher candidates (across all licensure programs) receiving a total score of 12.5 or above (i.e., 50%). This lack of knowledge is consistent with previous literature describing teacher and teacher candidates' knowledge of behavior management practices (National Survey of Early Care and Education, 2012; Scheuermann & Hall, 2012; Westling, 2010). The low average knowledge scores contrast with the high levels of self-efficacy reported by teacher candidates. Teacher candidates report a high level of confidence in their ability to perform teaching practices, yet these findings indicate they do not have the knowledge to identify and use behavior-specific EBPs with fidelity. The researcher concluded candidates' calibration of their abilities may not align with their knowledge to use behavior-specific EBPs.

Differences in reported self-efficacy and measured knowledge were consistent with previous studies examining the differences between perceived and actual knowledge of teacher candidates in the area of reading. Teachers in grade levels K-3 reported very

positive views of their knowledge, yet demonstrated limited knowledge of reading concepts (Cunningham, Perry, Stanovich, & Stanovich, 2004). Cunningham and colleagues found teacher candidates are "unaware of what they know and do not know." Similarly, teacher candidates in the current study also overestimated their perceived knowledge. It is important to note, though, that teacher candidates' lower self-efficacy on questions in the classroom management category align with low knowledge scores. This indicates some ability to calibrate abilities with knowledge of behavior-specific EBPs, yet continued work needed in this area to support teacher candidates' ability to continually reflect on their practice to improve the quality of their instruction.

Although participant groups by licensure area varied in size, there were clear observed differences in the range of scores and mean scores earned by teacher candidates in ECE certification programs compared with other licensure programs. ECE teacher candidates are required to take fewer courses that emphasize special education practices. Less coursework in special education practices, including the use of EBPs to prevent and respond to challenging behavior, may influence the knowledge ECE teacher candidates possess. Previous survey results have reported little professional development for ECE teachers in the field relating to behavior management practices (Scheuermann & Hall, 2012). If in-service ECE teachers are not receiving this training once they are in the field, it is even more imperative for teacher preparation programs to emphasize EBPs within courses. Results support the hypothesis that candidates in single-licensure ECE programs would have less knowledge of EBPs to prevent and respond to challenging behaviors than candidates receiving licensure in ECSE, SPED, or dual licensure ECE/ECSE.

Case study. Generally, teacher candidates across all programs were able to respond to an open-ended scenario describing challenging behavior with at least one concrete practice to use in the classroom. The most frequently described practices included opportunities to practice social skills like sharing in groups or with peers in the classroom. Teacher candidates also responded using practices that occurred throughout routines during the day in students' natural setting such as encouraging Cyan to ask a peer for a desired item to play in the classroom and working with the mother to increase opportunities for sharing at home. These responses incorporate aspects of naturalistic instruction, which was the lowest-scoring EBP for teacher candidates on knowledge questions. This indicates awareness on the part of teacher candidates to use these practices across settings even though mean knowledge scores for naturalistic instruction were low.

Additional themes included the use of data collection and progress monitoring. Functional behavior assessments (FBA) require the collection of data to identify the function of behavior to inform decisions about responses to behavior. Increasing the use of social skills through direct instruction or peer support was also identified as strategies through case study responses. These practices are closely related to social skills training practices (SST). While knowledge scores on these EBPs were low, teacher candidates may possess knowledge on what these practices look like in the classroom. Teacher candidates may need additional support to identify these practices, label them, and ensure they are being used with fidelity in the classroom.

Teacher candidates also frequently described practices or teacher actions related to practices under the categories of social narratives and modeling. Both of these

practices are included in Wong et al.'s report (2014) as EBPs to promote positive behavior outcomes in students with ASD. These findings support the conclusion that teacher candidates may possess knowledge about EBPs that were not included in the current study, yet are effective practices that can ameliorate challenging behaviors in the classroom.

Recommendations for Teacher Preparation Programs

To respond to teacher candidates' limited knowledge of EBPs for preventing or responding to challenging behavior in the classroom, teacher preparation programs are encouraged to examine the coursework ECE, ECSE, and K-12 SPED candidates are completing, along with the content covered in those courses. Researchers have found that the amount of coursework in special education can have a greater effect on teacher beliefs than years of experience (Bender et al., 1995; Dawson & Scott, 2013). Therefore, an increase in coursework including an emphasis on classroom management and positive behavior supports tied with meaningful assignments where candidates have the opportunity to practice the EBPs may have positive effects on teacher candidates' knowledge, beliefs, and practices. Including application activities within courses can provide additional practice for identifying challenging behavior, choosing appropriate EBPs, and using EBPs to respond to challenging behaviors. For example, teacher candidates completing field experiences might be asked to describe a challenging behavior they are currently observing in their classrooms, determine which EBP(s) are most appropriate to respond to the behavior, and provide a description of implementation of the EBPs. As results indicate, increasing these skills is critical for ECE candidates, as

teacher preparation programs aim to increase general education teachers' ability to support children with and without disabilities in inclusive environments.

Teacher preparation programs are urged to provide diverse field placement experiences for all teacher candidates across licensure areas. Generally, teacher candidates did not report high levels of experience teaching students with disabilities. Less exposure to classrooms with students who require additional social and emotional supports could be a potential barrier to implementing EBPs in the field.

The AIM and AFIRM modules were chosen for use in this study based on availability to teacher candidates for professional development. These online modules may be useful for teacher educators, as they look to improve the knowledge teacher candidates possess about EBPs in all categories, but specifically for responding to challenging behavior. These modules are low cost and easy to incorporate within both online and face-to-face courses.

Limitations

The survey findings in this study can provide useful insight for teacher educators and teacher preparation programs. However, limitations exist in the sample size and the diversity of teacher candidates surveyed. Teacher candidates surveyed were all enrolled in teacher preparation programs in the state of Ohio. Reported self-ratings and knowledge scores may not be representative of the larger population of teacher candidates enrolled in all ECE, ECSE, and K-12 SPED programs.

Responses also represent a majority female, white population of teacher candidates. A lack of teacher candidates who are male and teacher candidates of color present a barrier for equitable representation in the current study. It is important to

consider the ways in which these inequities in gender and race could influence teacher candidate perceptions and practices. Teacher candidates from culturally and linguistically diverse backgrounds might have varying experiences and knowledge influenced by their previous school experiences and individual cultural norms and values.

Results of the current study are based on self-reported data from teacher candidates. Self-reported measures of confidence, perceptions, and self-efficacy have the potential to be biased or skewed. Some teacher candidates may have reported more critical analyses of their beliefs and skills than others. As teacher candidates completing teacher preparation programs, there is also the potential for more positive reported beliefs due to worry about faculty and researchers' reactions to these beliefs.

It is important to note that teacher candidates were not asked to indicate if they were currently completing a field placement in a classroom setting before responding to items related to the percentage of students in their classroom with an identified disability. If teacher candidates were not currently completing a field placement, they may have reported "less than 5%" of students in their classroom had a disability. Additionally, teacher candidates were not provided with specific instructions about how to obtain information about the number of students in current field placements that have identified disabilities. Some teacher candidates may have very limited knowledge or no knowledge at all about students who are currently receiving IDEA services. Therefore, responses may be based on personal estimates that do not align with actual student demographics.

Limitations also exist regarding knowledge questions. Specific EBPs (ABI, FBA, NI, RIR, and SST) were chosen by a small group of professionals in the field that the researcher determined to be experts in ECE and ECSE. Other professionals may

determine that alternate EBPs would be considered more critical for teacher candidates to have proficient knowledge about. Moreover, the researcher decided to use questions from the AIM and AFIRM modules to measure knowledge due to the ease of availability for teacher candidates to access these trainings online. Further item-analyses would be necessary to determine whether these module questions can adequately measure knowledge when limited to only five questions per practice. Content validity and reliability for existing measures were reported prior to the start of the study, but may be influenced by the decision to omit some items to reduce the length of the survey.

Recommendations for Further Research

In the present study, teacher candidates received low knowledge scores across programs, therefore, future studies could include systematic reviews of teacher preparation programs' curricula and course outcomes to determine whether EBPs are a focus of instruction. Comparisons between requirements for licensure in ECE, ECSE, and K-12 SPED programs could determine whether additional outcomes and goals need to be created to provide teacher candidates with adequate knowledge for using EBPs in the classroom setting. To determine these differences, future researchers might include the number of courses in special education required by different licensure programs, how the number of courses vary between institutions, the number of field experiences required for licensure and the types of settings teacher candidates are placed in for field experiences. Similar studies should be conducted with in-service teachers to determine if professional development and years of experience in the classroom increase the use of behavior-specific EBPs.

Observations of teacher practices would also increase insights into the extent to which knowledge found through this survey align with the application of the practices in the classroom. Teacher candidates may not have adequate knowledge of EBPs, as determined by the knowledge scores, but may be using appropriate strategies in the classroom. Mentor teachers who are using punitive practices to prevent and respond to challenging behavior in the classroom could also be contributing to the types of practices teacher candidates are using during field experiences and later, as they enter the field as classroom teachers. Items addressing mentor teacher behaviors should also be included in future surveys to determine whether teacher candidates feel they are supported to make decisions about implementing EBPs in placement settings. Similarly, opportunities to use EBPs to prevent or respond to challenging behaviors can vary based on the type of field experiences teacher candidates are placed in. For example, teacher candidates completing field experiences in an inclusive classroom may observe fewer instances of challenging behaviors than those in separate intervention classrooms, or vice versa. Data collected on the frequency and intensity of these challenging behaviors can provide awareness for how to support teacher candidates in selecting and implementing EBPs most appropriate to the classroom settings in which they are placed.

To address the lack of validity and reliability measures in the current study, future analyses of survey measures should be conducted. Analyses on the effects of using partial survey measures (only selected survey or module questions) should be included. Replication of the current study with the full versions of survey measures can then be compared to see if differences are found.

Finally, in order to address issues of equity in gender and race apparent in the population of teacher candidates who participated in the current study, future researchers should aim to target teacher candidates from diverse backgrounds. Male teacher candidates and teacher candidates of color are underrepresented populations in the current study and may have unique perceptions or experiences that contribute to knowledge of EBPs.

Chapter 6: Conclusion

Teacher candidates enrolled in ECE, ECSE, and K-12 SPED teacher preparation programs in Ohio reported high levels of positive perceptions of students with disabilities and self-efficacy for teaching students with disabilities. Mean knowledge scores obtained through questions from AIM and AFIRM modules for five EBPs (ABI, FBA, NI, RIR, and SST) were generally low regardless of program type. Themes derived from teacher candidate responses to an open-ended question following a case study scenario include teacher-guided instruction and modeling, social and emotional support, behavior assessment and progress monitoring, reinforcement of behavior, and collaboration with family and professionals. Recommendations for teacher preparation programs include increased emphasis on EBPs for preventing or responding to challenging behavior, the use of available online modules such as AIM and AFIRM within requirements for online and face-to-face programs, and a critical examination of the types of field experiences in which teacher candidates are placed.

Further research should include similar studies conducted with in-service teachers, teacher candidates from diverse cultural and linguistic backgrounds, and additional reviews of current standards and requirements for teacher licensure in teacher preparation programs. Additional studies to determine the content validity and reliability of current survey measures and replication studies including full versions of previously existing survey measures should also be conducted. If content validity and reliability are high, these survey measures could provide valuable results to institutes of higher education to measure teacher candidates' existing knowledge of behavior specific EBPs. Knowledge scores can then inform instruction on these practices to create learning

activities and goals for teacher candidates to improve application of EBPs to prevent and respond to challenging behaviors, thus potentially decreasing punitive measures used in future inclusive classrooms and increasing opportunities for positive outcomes for students with disabilities.

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Appendix A: Working Definitions for EBP's

Appendix A.
Working Definitions for EBP's

Evidence-Based Practice	Definition	Empirical Support	
		Group (n)	Single Case (n)
Antecedent-based intervention (ABI)	Arrangement of events or circumstances that precede the occurrence of an interfering behavior and designed to lead to the reduction of the behavior.	0	32
Cognitive behavioral intervention (CBI)	Instruction on management or control of cognitive processes that lead to changes in overt behavior.	3	1
Differential reinforcement of Alternative, Incompatible, or Other Behavior (DRA/I/O)	Provision of positive/desirable consequences for behaviors or their absence that reduce the occurrence of an undesirable behavior. Reinforcement provided: a) when the learner is engaging in a specific desired behavior other than the inappropriate behavior (DRA), b) when the learner is engaging in a behavior that is physically impossible to do while exhibiting the inappropriate behavior (DRI), or c) when the learner is not engaging in the interfering behavior (DRO).	0	26
Discrete trial teaching (DTT)	Instructional process usually involving one teacher/service provider and one student/client and designed to teach appropriate behavior or skills. Instruction usually involves massed trials. Each trial consists of the teacher's instruction/presentation, the child's response, a carefully planned consequence, and a pause prior to presenting the next instruction.	0	13

Exercise (ECE)	Increase in physical exertion as a means of reducing problem behaviors or increasing appropriate behavior.	3	3
Extinction (EXT)	Withdrawal or removal of reinforcers of interfering behavior in order to reduce the occurrence of that behavior. Although sometimes used as a single intervention practice, extinction often occurs in combination with functional behavior assessment, functional communication training, and differential reinforcement.	0	11
Functional behavior assessment (FBA)	Systematic collection of information about an interfering behavior designed to identify functional contingencies that support the behavior. FBA consists of describing the interfering or problem behavior, identifying antecedent or consequent events that control the behavior, developing a hypothesis of the function of the behavior, and/or testing the hypothesis.	0	10
Functional communication training (FCT)	Replacement of interfering behavior that has a communication function with more appropriate communication that accomplishes the same function. FCT usually includes FBA, DRA, and/ or EX.	0	12
Modeling (MD)	Demonstration of a desired target behavior that results in imitation of the behavior by the learner and that leads to the acquisition of the imitated behavior. This EBP is often combined with other strategies such as prompting and reinforcement.	1	4
Naturalistic intervention (NI)	Intervention strategies that occur within the typical setting/activities/routines in which the learner participates. Teachers/service providers establish the learner's interest in a learning event through arrangement of the setting/activity/routine, provide necessary support for the learner to engage in the targeted behavior, elaborate on the behavior when it	0	10

	occurs, and/or arrange natural consequences for the targeted behavior or skills.		
Parent-implemented intervention (PII)	Parents provide individualized intervention to their child to improve/increase a wide variety of skills and/or to reduce interfering behaviors. Parents learn to deliver interventions in their home and/or community through a structured parent training program.	8	12
Peer-mediated instruction and intervention (PMII)	Typically developing peers interact with and/or help children and youth with ASD to acquire new behavior, communication, and social skills by increasing social and learning opportunities within natural environments. Teachers/service providers systematically teach peers strategies for engaging children and youth with ASD in positive and extended social interactions in both teacher-directed and learner-initiated activities.	0	15
Picture Exchange Communication System (PECS)	Learners are initially taught to give a picture of a desired item to a communicative partner in exchange for the desired item. PECS consists of six phases which are: (1) "how" to communicate, (2) distance and persistence, (3) picture discrimination, (4) sentence structure, (5) responsive requesting, and (6) commenting.	2	4
Pivotal response training (PRT)	Pivotal learning variables (i.e., motivation, responding to multiple cues, self-management, and self-initiations) guide intervention practices that are implemented in settings that build on learner interests and initiative.	1	7
Prompting (PP)	Verbal, gestural, or physical assistance given to learners to assist them in acquiring or engaging in a targeted behavior or skill. Prompts are generally given by an adult or peer before or as a learner attempts to use a skill.	1	32
Reinforcement (R+)	An event, activity, or other circumstance occurring after a learner engages in a desired	0	43

	behavior that leads to the increased occurrence of the behavior in the future.		
Response interruption/redirection (RIR)	Introduction of a prompt, comment, or other distracters when an interfering behavior is occurring that is designed to divert the learner's attention away from the interfering behavior and results in its reduction.	0	10
Scripting (SC)	A verbal and/or written description about a specific skill or situation that serves as a model for the learner. Scripts are usually practiced repeatedly before the skill is used in the actual situation.	1	8
Self-management (SM)	Instruction focusing on learners discriminating between appropriate and inappropriate behaviors, accurately monitoring and recording their own behaviors, and rewarding themselves for behaving appropriately.	0	10
Social narratives (SN)	Narratives that describe social situations in some detail by highlighting relevant cues and offering examples of appropriate responding. Social narratives are individualized according to learner needs and typically are quite short, perhaps including pictures or other visual aids.	0	17
Social skills training (SST)	Group or individual instruction designed to teach learners with autism spectrum disorders (ASD) ways to appropriately interact with peers, adults, and other individuals. Most social skill meetings include instruction on basic concepts, role-playing or practice, and feedback to help learners with ASD acquire and practice communication, play, or social skills to promote positive interactions with peers.	7	8
Structured play group (SPG)	Small group activities characterized by their occurrences in a defined area and with a defined activity, the specific selection of typically developing peers to be in the group, a clear delineation of theme and roles by adult leading, prompting, or scaffolding as needed to	2	2

	support students' performance related to the goals of the activity.		
Task analysis (TA)	A process in which an activity or behavior is divided into small, manageable steps in order to assess and teach the skill. Other practices, such as reinforcement, video modeling, or time delay, are often used to facilitate acquisition of the smaller steps.	0	8
Technology-aided instruction and intervention (TAII)	Instruction or interventions in which technology is the central feature supporting the acquisition of a goal for the learner. Technology is defined as "any electronic item/ equipment/ application/or virtual network that is used intentionally to increase/maintain, and/or improve daily living, work/productivity, and recreation/leisure capabilities of adolescents with autism spectrum disorders" (Odom, Thompson, et al., 2013).	9	11
Time delay (TD)	In a setting or activity in which a learner should engage in a behavior or skill, a brief delay occurs between the opportunity to use the skill and any additional instructions or prompts. The purpose of the time delay is to allow the learner to respond without having to receive a prompt and thus focuses on fading the use of prompts during instructional activities.	0	12
Video modeling (VM)	A visual model of the targeted behavior or skill (typically in the behavior, communication, play, or social domains), provided via video recording and display equipment to assist learning in or engaging in a desired behavior or skill.	1	31
Visual support (VS)	Any visual display that supports the learner engaging in a desired behavior or skills independent of prompts. Examples of visual supports include pictures, written words, objects within the environment, arrangement of the environment or visual boundaries, schedules, maps, labels, organization systems, and timelines.	0	18

* Note: Appendix A adapted from Table 7. Working Definitions for EBP's (p.20-22). Wong, C., Odom, S. L., Hume, K. Cox, A. W., Fettig, A., Kucharczyk, S., ... Schultz, T. R. (2014).*Evidence-based practices for children, youth, and young adults with Autism Spectrum Disorder.* Chapel Hill: The University of North Carolina, Frank Porter Graham Child Development Institute, Autism Evidence-Based Practice Review Group.

Appendix B: Teacher Candidate Survey

Teacher Candidate Survey

Please complete the survey below.

Thank you!

Consent

Please read and acknowledge the following consent form to participate in the survey. If you are completing this survey in a classroom where the primary investigator is present, please sign the additional paper copy of the consent form and record the record number on the top right hand corner of this copy.

[Attachment: "Online-Consent-Form-2017-Teacher Candidate Survey.pdf"]

Do you provide informed consent to participate in the research study outlined in the consent form attached above?

◯ Yes
◯ No

I wish to provide my email address for the purpose of entry into a drawing to win a $10 Amazon gift card.
My email address is: _____

Demographics and Experiences

Today's Date _____

I identify as:
- ☐ Native American or Alaskan Native
- ☐ Asian
- ☐ Black or African American
- ☐ Hispanic or Latino
- ☐ Native Hawaiian or Pacific Islander
- ☐ White
- ☐ Multiracial
- ☐ Other
- ☐ Prefer not to answer

Please Describe _____

I identify as:
- ☐ Male
- ☐ Female
- ☐ Other

Please Describe _____

I am enrolled in a teacher preparation program in:
- ☐ Early Childhood Education
- ☐ Early Childhood Special Education
- ☐ K-12 Special Education
- ☐ Other

Please Describe _____

I am a teacher candidate at (please provide the name of the university or college you attend): _____

I am a:
- ◯ Freshman
- ◯ Sophomore
- ◯ Junior
- ◯ Senior
- ◯ Graduate Student

In the classroom I am currently in this year, I am working with ___ percentage of students with disabilities:
- ◯ less than 5%
- ◯ 6% to 15%
- ◯ 16% to 35%
- ◯ 36% to 50%
- ◯ 51% to 75%
- ◯ 76% or greater

My level of experience teaching a student with a disability is:
- ◯ Nil (none)
- ◯ Some
- ◯ High

My confidence in teaching students with disabilities is:
- ◯ Very low
- ◯ Low
- ◯ Average
- ◯ High
- ◯ Very high

Perceptions

		Strongly Disagree	Disagree	Neither Disagree or Agree	Agree	Strongly Agree
1	I am concerned that students with disabilities will not be accepted by the rest of the class.	○	○	○	○	○
2	I would feel terrible if I had a disability.	○	○	○	○	○
3	I am concerned that it will be difficult to give appropriate attention to all the students in an inclusive classroom.	○	○	○	○	○
4	I find it difficult to overcome my initial shock when meeting people with severe disabilities.	○	○	○	○	○
5	Students who need an individualized academic program should be in a regular classroom.	○	○	○	○	○
6	I am concerned that courses in my teacher preparation program do not provide the knowledge and skills required to teach students with disabilities.	○	○	○	○	○

Self-Efficacy

		Strongly Disagree	Disagree	Neither Disagree or Agree	Agree	Strongly Agree
1	I can be an effective team member and work collaboratively with other teachers, paraprofessionals, and administrators to help my students with disabilities reach their goals.	○	○	○	○	○
2	I can model positive behavior for all students with or without disabilities.	○	○	○	○	○
3	I can consult with an intervention specialist or other specialist when I need help, without harming my own morale.	○	○	○	○	○
4	I can give consistent praise for students with disabilities, regardless of how small or slow the progress is.	○	○	○	○	○
5	I can encourage students in my class to be good role models for students with disabilities.	○	○	○	○	○
6	I can effectively encourage all of my students to accept those with disabilities in my classroom.	○	○	○	○	○
7	I can create an environment that is open and welcoming for students with disabilities in my classroom.	○	○	○	○	○
8	I can establish meaningful relationships with my students with disabilities	○	○	○	○	○
9	I can effectively deal with disruptive behaviors in the classroom, such as tantrums.	○	○	○	○	○
10	I can remain in control of a situation that involves a major temper tantrum in my classroom.	○	○	○	○	○
11	I can manage a classroom that includes students with disabilities.	○	○	○	○	○

Multiple Choice Knowledge Questions. For this section of the survey, answers will be weighted. Correct answers add 1 point each. Incorrect answers deduct 1 point each. Choosing the answer "I don't know" will result in neither gain or loss of points.

Antecedent-based interventions are used to prevent and reduce interfering behaviors.	○ True ○ False ○ I don't know
To determine the function of the interfering behavior, the team members should discuss the behavior and what occurs before the behavior occurs.	○ True ○ False ○ I don't know
Reinforcement is an antecedent-based intervention strategy.	○ True ○ False ○ I don't know
Offering choices, changing the schedule/routine, and using highly preferred activities/items are all examples of antecedent-based strategies.	○ True ○ False ○ I don't know
Antecedent-based interventions decrease interfering behavior by changing the events or conditions that occur after the interfering behavior.	○ True ○ False ○ I don't know
Functional Behavior Assessment is used in combination with other evidence-based practices.	○ True ○ False ○ I don't know
Tantrumming is a measurable description of a behavior as written.	○ True ○ False ○ I don't know
Behaviors typically fall into two categories of function: (1) to get or obtain and (2) to escape or avoid.	○ True ○ False ○ I don't know
A functional behavior assessment is needed for any challenging behavior, even if it does not interfere with a learner's ability or create safety concerns.	○ True ○ False ○ I don't know
Standardized behavior rating scales are the only ways teams can gather information concerning interfering behavior.	○ True ○ False ○ I don't know
Naturalistic intervention is only used to target communication goals.	○ True ○ False ○ I don't know
Naturalistic intervention uses behavioral techniques throughout routines and activities in the school, home, and community.	○ True ○ False ○ I don't know
Activities during naturalistic intervention should always be learner-directed.	○ True ○ False ○ I don't know
More than one evidence-based practice may be used as part of naturalistic intervention.	○ True ○ False ○ I don't know

The teacher, practitioner, or team member should provide training only to the paraprofessionals working with the student in the school during naturalistic interventions.	○ True	○ False	○ I don't know
A functional behavior assessment should be conducted before implementing response interruption/redirection strategies.	○ True	○ False	○ I don't know
Response interruption/redirection can only be used to effectively address stereotypical behavior.	○ True	○ False	○ I don't know
When implementing response interruption/redirection, blocking a learner from using an interfering behavior is sufficient to reduce the occurrence of the behavior.	○ True	○ False	○ I don't know
Response interruption/redirection is an evidence-based practice that is used to reduce persistent interfering behaviors, direct a learner to use behavior that serves the function of the interfering behavior and/or reinforce learners' use of appropriate behaviors.	○ True	○ False	○ I don't know
Response interruption/redirection often is used in conjunction with other evidence-based practices.	○ True	○ False	○ I don't know
Social skills training refers to any adult-directed instruction in which social skills are targeted.	○ True	○ False	○ I don't know
Team members should plan to support the generalization of skills learned in training sessions only to other activities. Generalization to other people and activities will occur naturally.	○ True	○ False	○ I don't know
Social skills training must occur in a group format.	○ True	○ False	○ I don't know
Social skills training sessions should include checking in, introducing the skill, practicing the skill, feedback, and generalization of new skill.	○ True	○ False	○ I don't know
Video modeling, roleplay, direct instruction, reinforcement, and prompting are all strategies to be used in social skills training.	○ True	○ False	○ I don't know

Case Study:

Please read the following scenario carefully. List or describe any strategies or practices you could use in the classroom in response to the description of the child and classroom behavior.

Cyan is a four-year-old boy who exhibits persistent challenging behavior. He scratches, bites, hits, and kicks his peers when they have a toy that he wants. Most of the time, the other children give him he toy. Ms. LaTasha talks with Cyan's mother and learns that he is an only child who typically does not have to share his toys. However, Cyan's mother has similar concerns when friends come over to play: She has notices that he is aggressive with them when he has to share his toys.

_____

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