ABSTRACT

PENNINGTON, MALINDA LEIGH TEETERS. Adding Pieces to the Puzzle: Experiences of Beginning Teachers who Received Professional Development Regarding Students with Autism in General Education Classrooms. (Under the direction of Dr. DeLeon Gray and Dr. Susan Osborne).

An analysis of current trends reveals that most educators in the public schools have seven years or less teaching experience (Ingersoll, Merrill, & Stuckey, 2014). About 41% of novice teachers leave the profession in less than five years. Reasons for leaving include a lack of necessary knowledge, lack of resources or support, and difficulties with student behavior (Ingersoll, Merrill, & Stuckey, 2014). These reasons echo factors teachers state for not including students with autism in regular classrooms (Sansosti, & Sansosti, 2012).

Using a Social-cognitive Theory framework, this instrumental case study explored the experiences of beginning teachers who received professional development specially designed to meet their needs regarding working with students with autism in general education classrooms. The professional development workshop was delivered in the context of the North Carolina State University College of Education Beginning Teacher Institute which was available to any teacher with three or less years’ experience. Data sources included small group problem solving sessions, reflective questionnaires, and semi-structured interviews conducted at the end of the first quarter of the school year. Qualitative analysis of the interviews used open-coding with the constant-comparative method (Bogdan & Biklen, 1998; Strauss & Corbin, 1998) and a priori categories the reflective of Social-cognitive Theory components of knowledge, attitudes, behavior, and resources.

During analysis of interview transcripts, three themes emerged to describe the beginning teachers’ (BT) experiences after receiving the specially designed training: 1) Response to the PD, 2) Development as inclusive teachers, and 3) Challenges to inclusion implementation.
Additionally, one theme developed to represent the recommendations BT expressed for improving inclusion opportunities for students with autism. Overall, findings from this study contributed to the understanding of novice teacher development and support as well as the preparation of BT to work with students with autism in general education classrooms. The Social-cognitive Theory framework was useful for designing PD that addressed BT needs in the areas of knowledge, teaching behaviors, and resources to create inclusive classrooms for students with autism.

Recommendations for future directions included providing more PD opportunities regarding autism specifically targeting early career teachers across disciplines, development of BT support networks and creation of novice teacher learning communities for professional growth in safe spaces. Recommended practices should be investigated for their impact on teacher efficacy, retention, and outcomes for students with autism.
Adding Pieces to the Puzzle: Experiences of Beginning Teachers who Received Professional Development Regarding Students with Autism in General Education Classrooms

by
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DEDICATION

The only rock I know that stays steady, the only institution that I know that works, is family.

- Lee Iaocca

This work is dedicated to my husband, Kevin, and my sons, Liam and Nathaniel. Every day each of you is my inspiration and my solid rock. Love you forever.
BIOGRAPHY

Malinda Pennington is a native of western North Carolina. After high school, she attended North Carolina State University where she earned a Bachelor’s degree in Psychology and graduated with honors. During her senior internship, Malinda was assigned to work in a public school classroom for students with autism. It was love at first sight. Based on this experience, Malinda decided to become a special education teacher in the emerging field of autism. After graduation, Malinda entered her first class as a teacher for students with autism and enrolled in graduate school. While teaching, Malinda earned her Masters of Education degree in Special Education from North Carolina State University.

During her teaching career, Malinda has worked with students with autism and other disabilities, from elementary to high school, in settings from self-contained to full inclusion. She received recognition as a National Board Certified Teacher in 2007. In 2012, she was named the NC North Central Region Teacher of the Year. Throughout her career, Malinda has shared her expertise and love for people with autism by providing training and professional development to other teachers across the nation and overseas. She is recognized as a Certified Advanced Consultant by the internationally renowned TEACCH Autism Program. As Malinda and her husband moved around the country, she was instrumental in creating autism programs in Rochester, MN and Nashville, TN.

Since 2009, Malinda and her family have called Wilson, NC home. As a teacher in Wilson County Schools, she collaborated to create the Wilson ASD Academy supported by a grant from the Z. Smith Reynolds Foundation. Partnering with East Carolina University, Barton College, and the TEACCH Autism Program, the project provided training to pre-service and in-service teachers on evidence-based practices for autism. After teaching courses at Barton
College, Malinda decided to pursue her doctorate in Curriculum and Instruction so that she could contribute to the preparation of future teachers thereby creating more acceptance, awareness, and opportunities for students with autism.
ACKNOWLEDGMENTS

“Slow and steady wins the race.” (The Tortoise and the Hare, Aesop’s fable)

When I started this journey, I had no idea how long it would be. I want to take this opportunity to thank the many people who helped me every step of the way. First, I would like to thank my advisor and mentor, DeLeon Gray. Thank you for believing in me and helping me believe in myself. Thank you for challenging me to always go for the gold and not settle for less. You are the scholar and mentor that I hope to become.

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Last but not least, I want to acknowledge my family. There have been so many late nights, early mornings, holidays, and family vacations where my family took care of me and encouraged me in completing the work. They have been my constant source of support on every step of the journey and I could not have done it without them. Thank you. I love you.
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CHAPTER 1: INTRODUCTION

According to recent reports, the Center for Disease Control (CDC) estimates the prevalence rate for students with an autism spectrum disorder (ASD) in the United States to be one in 59 children (Baio et al., 2018). Nationally, this estimate represents a 49% increase in the number of students with ASD over the 2012 rate of one in 88 children. With the rise in prevalence, the number of students with ASD in the public schools has also increased. During the 2016-17 school year, 57.6% of students with ASD attended regular classes for at least 40% of the day, 39.4% attended for 80% of the day (U.S. Department of Education, 2017). Mandates in current federal general and special education laws further this trend. The No Child Left Behind Act of 2001 (NCLB), the Individuals with Disabilities Education Improvement Act of 2004 (IDEIA) and the recently implemented Every Student Succeeds Act (ESSA, 2015) stress that students with disabilities including those with ASD participate in the general curriculum to the greatest extent possible. Thus, the expectation for inclusion will be an integral part of education for some time to come and teachers need to be prepared to work with students with autism within inclusive settings.

Statement of the Problem

Unfortunately, teachers frequently report feeling unprepared by their undergraduate programs to meet the needs of students with autism (Roberts & Simpson, 2016; Sansosti & Sansosti, 2012). When novice teachers are hired, districts assume that having a teaching license means that educators have the basic knowledge that they need to work with diverse students including those with ASD (Scheuermann, Webber, Boutot, & Goodwin, 2003). However, few teachers report learning about evidence-based practices (EBP) for autism as part of their undergraduate coursework (Morrier, Hess, & Heflin, 2011). When colleges do cover EBP for
autism, there is no standard curriculum of what information to share or how to deliver instruction. Most programs focus on one or two techniques without application opportunities or discussing all possible EBP available (Barnhill, Sumutka, Polloway, & Lee, 2014). Therefore, novice teachers are entering inclusive classrooms without all the resources that they need to work with their students with ASD.

Once in the classroom, most teachers report that their training about autism came from half- or full-day workshops (Morrier, Hess, & Heflin, 2011; Teffs & Whitbread, 2009). However, few teachers implement EBP in their classrooms and they continue to report concerns regarding a lack of knowledge, time and resources to work with a student with ASD in inclusion (Morrier, Hess, & Heflin, 2011; Sansosti & Sansosti, 2012). New teachers may not be aware of professional development (PD) trainings that are offered or how to access them (Gehrke & Murri, 2006). Therefore, beginning teachers (BT) are asked to provide instruction without the necessary personal knowledge and no guarantee that mentors are available to demonstrate EBP use.

A student with autism can present specific challenges to the classroom. Although nearly 70% of students with ASD have the cognitive ability to participate in general curriculum instruction, the skills to do so can be impacted by difficulties with communication and social skills. Additionally, a student with autism may have difficulty processing sensory information and may engage in repetitive or ritualistic behaviors (Baio et al., 2018). As a spectrum disorder, the expression of these characteristics can range from mild to severe (APA, 2013). Students with more communication deficits or who exhibit disruptive behaviors are less likely to be considered for inclusive settings (Sansosti & Sansosti, 2012). Faced with a student who has overt needs, teachers express a lack of knowledge of how to deliver instruction using autism-specific
strategies, manage behavior, and manage social-communication needs (Roberts & Simpson, 2014). There are also concerns about the amount of time required to adapt lessons for students with ASD who may be working below grade level and the impact of disruptions on the learning of other students (Busby, Ingram, Bowron, Oliver, & Lyons, 2012; Sansosti & Sansosti, 2012).

The same legal mandates that guide inclusion require that students with disabilities including those with ASD be assessed on the same educational standards as their peers without disabilities. Schools and individual teachers are held accountable for student performance and growth on annual assessments with accolades and penalties attached to the outcome (ESSA, 2015; IDEIA, 2004; NCLB, 2001). This creates a high stress environment with pressure to increase student scores that can be overwhelming for a novice teacher (Ingersoll, Merrill, & Stuckey, 2014).

An analysis of trends indicate that the teaching work force is increasingly composed of teachers with five or less years’ experience (Ingersoll, Merrill, & Stuckey, 2014). After one year in the classroom, 13% of BT leave the profession. Within the first five years, 41% of new teachers leave the classroom (Ingersoll, Merrill, & Stuckey, 2014). Although the exodus of BT has not been directly linked to the increase of students with autism and other disabilities in the classroom, stated reasons for leaving bear a close resemblance to teacher concerns about ASD and inclusion. For example, BT who leave express a lack of classroom resources in the form of materials or support, difficulties managing student behavior, the pressure of accountability measures, and lack of opportunities for professional development (Ingersoll, Merrill, & Stuckey, 2014). According to teacher development theories, teachers with three or less years’ experience are in a survival stage of their career, primarily concerned with developing classroom competence and a sense of efficacy (Day, Sammons, & Stobart, 2007; Huberman, 1993;
Zhukova, 2018). Novice teachers are also in the process of changing their identity from that of college student to educational professional (Beauchamp & Thomas, 2009). Professional development designed for veteran teachers may not provide the level of support or cover the concerns BT need to build confidence and effectiveness. In an effort to retain novice teachers and support successful inclusion of students with ASD, it will be important to examine specific BT needs and response to provided training.

**Purpose of the Study and Research Question**

The purpose of this qualitative case study was to explore the experiences of novice teachers’ who received professional development specifically designed to help them work with students with autism in general education classrooms. A review of the literature indicated that few studies have concentrated on the specific needs of BT to work in inclusion or with students with ASD. Concerns about including students with ASD and new teacher retention reflect needs in the areas of knowledge, behavior, and resources. These concerns are similar to the interactive tenets of Social-cognitive Theory which framed the design of the intervention and analysis of the data. Novice teachers were given the opportunity to participate in PD designed to specifically address their potential concerns as BT for working with students with autism. These concerns included knowledge about autism characteristics, academic teaching strategies, behavior interventions, and classroom support resources. Information collected reflects participating BT perceptions and response to the specially designed training. Thus, the research question that guided this study was, *What are the experiences of beginning teachers’ who received professional development specifically designed to help them work with students with autism in general education classrooms?*
Significance of Study

This study will contribute to the literature in multiple areas: 1) novice teacher support and development, 2) preparing teachers to work with students with ASD in inclusive settings, and 3) use of the Social-cognitive Theory framework to design PD for BT.

First, the findings will increase understanding of how BT experience and respond to PD designed for their needs to support teaching students with ASD in inclusive settings. Little research has been done on the use or effectiveness of PD to address the specific needs of novice teachers. When BT leave the classroom, they report lack of resources, difficulty managing student behavior, and lack of PD opportunities among their reasons for departure (Ingersoll, Merill, & Stuckey, 2014). Novice teachers assigned to work with students with ASD in inclusive classrooms could develop similar concerns based on a lack of prior training for the task. In general, BT require strong early support to develop a sense of efficacy and make positive career growth (Day, Sammons, & Stobart, 2007). Thus, this study will provide insight into how BT perceive specific PD on working with students with ASD in inclusion which may lead to development of further supports which may increase teacher longevity in the field.

Second, a lack of teacher knowledge about ASD and EBP is a frequent barrier to inclusion opportunities for students with autism (Sansosti & Sansosti, 2012). New teachers entering the classroom often have not been prepared through their undergraduate programs to work with students with ASD in the regular education classroom (Roberts & Simpson, 2016). Information from this study will provide insight into BT experiences after receiving PD that provides them with knowledge of autism characteristics, teaching and behavior strategies for working with students with autism. Teachers with increased levels of knowledge are more likely to have positive attitudes and implement recommended practices in the inclusive classroom.
Thus, this study will provide a foundation to guide teacher preparation efforts and support inclusion opportunities for students with autism.

Finally, this study uses Social-cognitive Theory as a guiding framework for intervention development and data analysis. Factors of Social-cognitive Theory include cognitive beliefs, a combination of knowledge and attitudes, resources, and previous behaviors enacted or observed. Studies of pre-service teacher (PST) field experiences found Social-cognitive Theory appropriately described salient features of participant observations and responses (An & Meaney, 2015; Colombo-Dougavito, 2015). Few studies have focused on the specific training needs for BT working with students with autism. Concerns about including students with ASD and new teacher retention reflect needs in the areas of knowledge, behavior, and resources. Findings from this study will further the use of Social-cognitive Theory, which emphasizes the interactive components of knowledge, behavior, and resources, to design PD for novice teachers.

**Operational Definition of Terms**

For this study, there are several terms that are unique to this field that require clarification to enhance understanding of the research problem, design, and findings.

**Autism.** In the *Diagnostic and Statistical Manual of Mental Disorders, 5th edition* (DSM-5), *autism* is included in the category of *autism spectrum disorders* (ASD). Core features of ASD involve significant difficulties with social communication and social interactions. Additionally, students with ASD have difficulty processing sensory information and may engage in repetitive and ritualistic behaviors (American Psychological Association [APA], 2013).

**Inclusion or inclusive settings.** General curriculum classrooms or school activities where students with and without disabilities participate and learn in the same environment for at least part of the day (Hallahan, Kauffman, & Pullen, 2013).
Beliefs. Cognitive states that include the knowledge that a person believes to be true as well as emotional responses to that information (Bandura, 1986; Silverman, 2007). For this review, beliefs include the teachers’ knowledge of ASD characteristics and effective teaching strategies plus attitude toward whether students with ASD can be successfully included into general curriculum environments.

Evidence-based practices. Interventions and practices supported by quality experimental research conducted by more than one group (Wong et al., 2015). According to the National Professional Development Center on Autism Spectrum Disorders (2018), for an intervention or technique to be considered an evidence-based practice for individuals with ASD, efficacy must be established through peer-reviewed research in scientific journals using:

- **Randomized or quasi-experimental design studies.** Two high quality experimental or quasi-experimental group design studies conducted by at least two different researchers or research groups, OR

- **Single-subject design studies.** Five high quality single subject design studies conducted by three different investigators or research groups and having a total of at least 20 participants across studies, OR

- **Combination of evidence.** One high quality randomized or quasi-experimental group design study and at least three high quality single subject design studies conducted by at least three different investigators or research groups (across the group and single subject design studies).

Iceberg model. A visual analogy used to illustrate that observable behaviors in a student with ASD are only the surface problem which result from underlying deficits related to autism (Van Bourgondien & Coodrod, 2013). In this study, the iceberg model will be used as a problem-
solving strategy that allows teachers to fill in an observable behavior at the top of the visual and list potential contributing characteristics of autism underneath.

**Summary**

The overall purpose of this study was to explore the experiences of beginning teachers’ who received professional development specifically designed to help them work with students with autism in general education classrooms. Findings from this study could guide development of future BT supports to increase longevity and training to improve instruction of students with autism in inclusive settings. This chapter provided an overview of the problem namely that BT lack of preparation to work with students with ASD in inclusive settings impacts student success and may contribute to reasons novice teachers leave the classroom. The next chapter will provide a description of the theoretical framework and its application to the current study. Then, relevant literature will be reviewed through the lens of Social-cognitive Theory. The chapter will also discuss needed areas of study including the development of my research question and study methodology.
CHAPTER 2: LITERATURE REVIEW

The purpose of the study is to explore the experiences of beginning teachers’ (BT) who received professional development specifically designed to help them work with students with autism in general education classrooms. In this chapter, I will use the theoretical framework of Social-cognitive Theory to organize the current literature on this topic and lay the foundation for my study. Articles for the review were retrieved from electronic databases (ERIC, PsycInfo, PsychArticles) using combinations of the search terms autis* or asperger*, novice or beginning teachers, knowledge, attitudes, beliefs, inclus* or mainstream*. First, I will explain the tenets of Social-cognitive Theory and develop the appropriate use of this theory in educational research on working with ASD and supporting novice teacher growth. Then, relevant literature will be examined as representing elements of Social-cognitive Theory while developing the basis for needed areas of study. Additionally, I will review current BT training practices and studies reflecting possible new directions. Finally, I will discuss the development of my research question and study methodology.

Theoretical Framework

As defined, beliefs refer to the cognitive combination of both knowledge and attitudes (Bandura, 1986; Silverman, 2007). Although both are important to understand, I also recognize that neither occur in a vacuum. In Social-cognitive Theory, Bandura (1986) posits that our cognitive beliefs are in constant interplay with environmental circumstances and other behaviors to guide learning and future cognitive and behavioral choices. For this study, the cognitive beliefs of interest are the knowledge of autism characteristics and teaching strategies. A teacher who has a higher level of knowledge regarding student characteristics and appropriate teaching strategies is more likely to have a positive attitude toward inclusion and employ the practices
recommended (Silverman, 2007; Segall & Campbell, 2012). Unfortunately, teachers frequently report feeling unprepared to work with students with autism due to a lack of knowledge about ASD and appropriate instructional strategies (Roberts & Simpson, 2016; Sansosti & Sansosti, 2012). That feeling of unpreparedness can lead to stress which negatively impacts teachers’ ability to provide instruction and student supports (Jennett, Harris, & Mesibov, 2003). For novice teachers, feelings of inadequacy can impact their identity development by reducing their sense of efficacy and willingness to stay in the field (Day, Sammons, & Stobart, 2007).

The second factor in the Social-cognitive Theory framework is the instructional environment which includes teacher access to resources and support. For BT working with students with autism, needed resources include tangible materials and support from other professionals such as behavior specialists (Ingersoll, Merrill, & Stuckey, 2014; Teffs & Whitbread, 2009). Yet access to resources relates back to the knowledge of what is needed and how to get it. For example, a district may offer a variety of consultation and training supports but the BT may not know the offerings exist or how to access them (Gehrke & Murri, 2006). As BT develop a professional identity and navigate the survival stage of their career, they need ongoing support and training to meet the daily demands of their classroom (Brunetti & Marston, 2018; Day, Sammons, & Stobart, 2007; Zhukova, 2018). One of the concerns teachers state about working with students with autism in general education classrooms is a lack of needed supports and resources (Roberts & Simpson, 2016; Sansosti & Sansosti, 2012). Which is similar to one of the general concerns novice teachers attribute for leaving the profession early (Ingersoll, Merrill, & Stuckey, 2014). Thus, it is important to explore the supports and resources needed specifically for BT working with students with autism.
As the third factor within the Social-cognitive Theory framework, the feedback and information obtained from personal behavioral actions or observations of others’ actions contributes to the confirmation or further development of previous beliefs (Bandura, 1986, p. 19). Many BT indicate that they model their classroom management and instructional styles based on observations of other teachers during program training (Sandoval-Lucero, Shanklin, Sobel, Townsend, Davis, & Kalisher, 2011). Unfortunately, few teachers report learning about evidence-based practices (EBP) for autism as part of their undergraduate coursework and thus do not necessarily implement recommended practices in their classroom to serve as models for new teachers (Morrier, Hess, & Heflin, 2011). Therefore, effective training of BT to work with students with autism must consider previous interactions and behaviors as well as provide options for future behavioral choices. In recognition of their triadic nature, modification in any of the three Social-cognitive Theory factors impact the evolution of the remaining two (Bandura, 1986, p. 19).

Thus, when investigating strategies that may influence teachers’ beliefs toward ASD and inclusion, a Social-cognitive Theory framework provides a lens to consider all the elements of possible interventions that may prove effective. In 2015, An and Meaney conducted a phenomenological study of four elementary physical education (PE) teachers working with students with ASD and other disabilities. The study sought to understand the common shared experiences of the PE teachers engaged in inclusive instruction. Findings interpreted through a Social-cognitive Theory lens indicated that inclusion practices (teacher's behaviors) were influenced by the interactions between teachers' disability knowledge level and desire to learn about their students (personal factors) and children's needs and learning goals (environment). Thus, the researchers found Social-cognitive Theory’s triadic features a useful tool for
understanding how the inclusion teachers perceived their experiences and constructed their knowledge about working with students with autism and other disabilities.

Similarly, Colombo-Dougavito (2015) conducted ethnographic interviews and observations of preservice teachers working with students with ASD in public schools to become Adapted Physical Education (APE) specialists. The job of an APE specialist is to provide PE instruction adapted to the specific needs of a student with a disability either directly or in conjunction with a general PE class (Colombo-Dougavito, 2015). Since training to become an APE specialist varies widely, this study sought to determine factors influencing instructional decision-making and teaching confidence. Findings were consistent with Social-cognitive Theory in that the physical environment (resources), knowledge of appropriate instructional strategies (cognitive), behavioral issues encountered with students (behavior), and personal attributions of instructional impact (attitudes) were key factors. For example, when participants had a low level of knowledge about autism and appropriate practices for students with autism, they felt ineffective as teachers and reported negative feelings about the experience (Colombo-Dougavito, 2015). Therefore, the researcher recommended that teacher preparation programs address the interactive components of Social-cognitive Theory at play when designing training and experiences for new teachers. However, there are no studies to date which apply this model directly to investigation of BT needs especially for working with students with autism.

Interestingly, both studies focused on PE classes as the inclusive setting. In my teaching experience, PE is a frequent choice to give students with ASD interaction time with their typically developing peers. However, 39.7% of students with ASD attend general education classes for 80% or more of the school day (Snyder, deBrey, & Dillow, 2016). In a typical seven-hour school day, this amount of time indicates that the students with autism are involved in
Instruction with typical peers for a variety of curriculum topics beyond non-academic classes. Exploring the experiences of BT through a Social-cognitive Theory lens allows for insight into the multiple variables which may impact the implementation of inclusive practices during instruction (see Figure 1). The following sections will examine the literature for the relationships between the inclusion of students with ASD in general education classrooms and the components of Social-cognitive Theory, expressed as knowledge and attitudes (cognitive), previous experiences (behavior), and access to resources and support (environment).

![Figure 2.1. Social-Cognitive Theory factors impacting inclusion teaching behaviors.](image)

**Teacher Knowledge Level Regarding ASD and Inclusion**

Core features of ASD involve significant difficulties with social communication and social interactions. Additionally, students with ASD have difficulty processing sensory information and may engage in repetitive and ritualistic behaviors (American Psychological Association, APA, 2013; Crosland & Dunlap, 2012). Teachers working with students with ASD require knowledge of a variety of possible skills and strategies to effectively manage behavior and deliver instruction (Crosland & Dunlap, 2012). Research in evidence-based practices (EBP) recommends 27 techniques and interventions that have proven effective in working with students...
with ASD (Wong, Odom, Hume, Cox, Fettig, Kucharczyk, Brock, Plavnik, Fleury, & Schultz, 2015) (see Figure 2.2). However, a survey of teacher preparation programs across the country revealed that most do not cover all the recommended EBP and those practices that do receive mention, such as functional behavior assessment, are not covered in detail (Barnhill, Sumutka, Polloway, & Lee, 2014).

| Evidence-based Practices for Children, Youth & Young Adults with ASD (Wong, Odom, Hume, Cox, Fettig, Kucharczyk, Brock, Plavnik, Fleury, & Schultz, 2015) |
|---------------------------------|---------------------------------|---------------------------------|
| Antecedent-based Interventions  | Naturalistic Interventions      | Self-management                 |
| Cognitive Behavioral Intervention | Parent-implemented Interventions | Social Narratives               |
| Differential Reinforcement      | Peer-mediated Instruction & Intervention | Social Skills Training          |
| Discrete Trial Training         | Picture Exchange Communication System | Structured Play Groups          |
| Exercise                        | Pivotal Response Training       | Task Analysis                   |
| Extinction                      | Prompting                       | Technology-aided Instruction & Intervention |
| Functional Behavior Assessment  | Reinforcement                   | Time Delay                      |
| Functional Communication Training | Response Interruption/Redirection | Video Modeling                  |
| Modeling                        | Scripting                       | Visual Supports                 |

Figure 2.2. Evidence-based practices for children, youth, and young adults with ASD.

Several identified EBP are based in the principles of applied behavioral analysis (ABA; Wong et al., 2015). When queried, 88.8% of special educators and 96.2% of general educators had not been trained in any of the major ABA practices either by their undergraduate programs or PD (Loiacono & Valenti, 2010). When asked about practices employed in the classroom for students with ASD, less than 10% of the described strategies had any empirical support. Over
40% of interventions reported had no research base at all (Hess, Morrier, Heflin, & Ivey, 2008). It is no wonder then that teachers report feeling unprepared to work with students with ASD (Roberts & Simpson, 2016; Sansosti & Sansosti, 2012). Unfortunately, BT are most susceptible to translating feelings of unpreparedness to feelings of ineffectiveness which may negatively impact their teacher identity development and career growth (Day, Sammons, & Stobart, 2007).

Once in the classroom, teachers can avail themselves of local PD opportunities to increase their knowledge of autism and EBP. In a survey of special and general educators who taught students with ASD, most of the participating teachers reported that they received their ASD training from half- or full-day workshops. However, fewer than 5% of respondents reported utilizing the EBP as recommended by other literature (Morrier, Hess, & Heflin, 2011). In a similar study, Teffs and Whitbread (2009) surveyed general education teachers to explore their experiences and feelings regarding students with ASD in their classrooms. Results indicated that most of the respondents had learned about ASD in a one-day workshop or had received no training at all. Unfortunately, the researchers did not provide information about the type of training offered or the perceived impact of that training on teacher efficacy. Not surprisingly, most felt under-prepared to meet the needs of a student with ASD in the general education classroom. In addition to the lack of training, other challenges noted by the respondents included student behavioral difficulties, lack of time or resources, and lack of assistance in adapting the curriculum (Teffs & Whitbread, 2009). Each of these concerns echoes reasons reported by novice teachers who leave the profession early (Ingersoll, Merrill, & Stuckey, 2014). Although the reviewed studies collected respondent demographics including years’ teaching, findings were not linked to experience level and thus provided no specific information on BT levels of knowledge or inclusion perceptions.
A lack of teacher training and knowledge can impact whether a student with ASD is incorporated into a general education classroom. Sansosti and Sansosti (2012) used focus groups and interviews with both general and special educators to obtain an understanding of the decision process for determining the appropriate placement for students with ASD. Not surprisingly, findings indicate that students with ASD exhibiting fewer behaviors and more typical academic skills were more likely to be accepted as members of the regular class. General educators resistant to inclusion expressed a lack of pre-service and in-service training as well as a lack of experience with ASD overall. Inadequate training and a limited understanding of autism characteristics was identified as the most significant barrier to inclusion experiences. Without accurate knowledge, educators tend to rely on stereotypical or media portrayals of a person with autism as someone with limited skills and extreme behaviors which can limit expectations of real student ability (Sansosti & Sansosti, 2012). Teachers who attribute poor student outcomes to a lack of ability can have detrimental impacts on the student’s efforts to succeed setting up a negative cycle of performance (Hareli & Weiner, 2002).

When general education teachers lack knowledge to work with students with ASD, they look to special educators to provide inclusive support (Fuchs, 2010). Hendricks (2011) surveyed Virginia special educators working with or supporting students with ASD to understand teacher characteristics, autism knowledge level, and use of EBP during instruction. Although 86.7% of respondents reported full special education license status, results indicated only low or intermediate knowledge of autism and evidence-based teaching practices.

Unfortunately, a shortage of special education teachers persists in the United States (Boe & Cook, 2006; Personnel Center, 2011). With a lack of appropriately trained candidates, some districts hire over 50% of their first-year special education teachers without the correct
certification or preparation (Boe & Cook, 2006). Therefore, a significant number of special education teachers may enter the classroom through alternate certification routes. In a mixed-methods study of alternately certified (AC) novice special educators working with students with ASD in Texas, participants did not have a high level of knowledge regarding autism or EBP. However, the BT who reported participation in PD workshops demonstrated significantly higher levels of autism knowledge than the rest of the group (Hauber, Mehta, & Combes, 2015). Qualitative analysis of open-ended questions indicated that BT would like specific training in implementing EBP and behavior management skills.

**Teacher Attitudes toward ASD and Inclusion**

As components of cognitive beliefs, knowledge and attitude are closely linked (Bandura, 1986). Teachers in diverse classrooms acknowledge that a positive attitude is necessary to make inclusion successful (Finke, Finke, McNaughton, & Drager, 2009; Segall & Campbell, 2012). In a quantitative study, Segall and Campbell (2012) investigated the relationship between knowledge of autism characteristics and EBP, previous experience with ASD, training and attitudes towards inclusion of students with ASD. Questionnaire responses indicated that prior experience with autism and knowledge levels were related to higher positive attitudes towards inclusion. Teachers with more positive attitudes were more likely to implement EBP during instruction (Segall & Campbell, 2012).

Nonverbal students with autism in general education classrooms often require the use of augmentative and alternative communication (AAC) devices. Research has shown that students with more intense needs are less frequent candidates for inclusion (Sansosti & Sansosti, 2012). However, teachers need to be prepared for the possibility of such a student in their classroom. As part of an online focus group discussion, general education teachers working with students
with ASD and AAC devices wrote about their experiences in the classroom (Finke, Finke, McNaughton, & Drager, 2009). Pseudonyms assigned to the BT participants allowed for insight into agreement or differences based on level of teaching experience. Findings indicated common challenges regarding adapting lessons and classroom noise disruptions. All teachers appreciated the support of special education staff in learning how to work with students with ASD and AAC as well as assisting during classroom instruction. In general, participants including the BT attributed having a positive attitude to the success of the inclusive experience.

During undergraduate training, studies of preservice teachers’ attitudes toward students with ASD in inclusion revealed generally positive beliefs accompanied, however, by frequent misconceptions about characteristics and expectations (Park, Chitiyo, & Choi, 2010; Barned, Knapp, & Neuharth-Pritchett, 2011). Unfortunately, once in the classroom, BT may demonstrate a shift in attitudes to question their ability to accommodate special needs and whether students with ASD can be appropriately served in regular classrooms (McKay, 2016; Busby, Ingram, Bowron, Oliver, & Lyons, 2012). Therefore, further exploration is necessary to understand BT needs and develop supports that can sustain positive attitudes and build long-term success in the classroom.

Impact of Teachers’ Previous Experiences

While teachers’ attitudes are clearly linked with knowledge levels, mindsets towards inclusion of students with ASD are also influenced by previous experiences (Leatherman & Niemeyer, 2005; Segall & Campbell, 2012; Teffs & Whitbread, 2009). In 2015, a study was conducted to compare teachers’ attitudes towards students with and without ASD in general education classrooms (Chung, Chung, Edgar-Smith, Palmer, DeLambo, & Huang, 2015). General and special educators responded to a questionnaire based on sample student descriptions
depicting characteristics of ASD or typical development. Results indicated a positive relationship between levels of teacher experience with students with ASD and attitudes toward their inclusion in regular education classrooms. Previous experience was defined as years teaching in a class with a student with autism. Although years of teaching was used as a data analysis variable, information on respondents was summarized, not detailed, so that input from BT could not be specifically determined. Impact from other sources of experience such as having a family member with ASD were not considered.

During preparation for the classroom, pre-service teachers (PST) most frequently take an introductory course on special education which includes some information on ASD (Barnhill, Sumutka, Polloway, & Lee, 2014). During an investigation of course impact on student attitudes toward inclusion, PST with the highest scores were also those who had reported previous experiences with people with ASD, either as family members, friends, or prior work interactions. Students without previous ASD experience did increase their positivity but also reported an increase in concern about being able to work with a student with ASD in a regular classroom (Ajuwon, Lechtenberger, Griffin-Shirley, Sokolosky, Zhou, & Mullins, 2012). Therefore, BT entering the classroom may approach inclusive instruction based not solely on information gained from their preparation program but also on their knowledge and attitudes arising from previous experiences with ASD.

**Impact of Resources and Support**

Within the inclusive classroom, teachers report that the availability of resources and support are critical to making inclusion successful (Finke, Finke, McNaughton, & Drager, 2009; Roberts & Simpson, 2016). In a qualitative study, Fuchs (2010) used focus groups and interviews to explore general education teachers’ perceptions of barriers to inclusion. Findings
indicated that most challenges centered around a perceived lack of support from administrators and special education staff. Teachers also lamented a lack of resources both in the form of materials and PD training.

Special education teachers need support, too, especially those new to the field. In a mixed methods study of eight special educators in their first and second year, the three BT working with students with ASD indicated that they would not be returning to the classroom at the end of the year (Gehrke & Murri, 2006). As a policy, the district offered monthly BT meetings across disciplines, but the special education teachers expressed frustration that content focused on procedures rather than practical information. According to the findings, the special education BT felt a lack of support by the staff and administrators in their school as well as a lack of relevant training. Although, the district did offer PD for specific topics, the BT were unaware of workshop availability and thus were not able to access possibly useful resources (Gehrke & Murri, 2006).

When support and resources are available, new teachers working with ASD can be successful. Using an ethnographic case study, Boyer and Lee (2001) recounted the experiences of a first-year teacher in a class for students with autism. In the account, BT success was attributed to supportive staff and administrators as well as regular PD specific to ASD offered by the district.

**Beginning Teacher Induction and Training for Inclusion**

Newly licensed teachers hired by a school district undergo a process of induction into the profession throughout their first three years in the classroom. Induction meetings that focus solely on policy and basic classroom management are not viewed as satisfactory. Instead, BT frequently express a need for information on lesson planning and problem solving (Corbell,
Osborne, & Reiman, 2010). Outside of meetings, BT are usually assigned a mentor to provide guidance and support during the induction period. General education BT are likely to have same grade or subject mentors within their building, but special education BT often do not (Youngs, Jones, & Low, 2011). Many schools only have one special education teacher in the building and if this person is newly licensed, a sense of isolation can ensue (Youngs, Jones, & Low, 2011). Administrators in the building can set the tone for inclusive classroom expectations. As the school leader, administrators can build positive relationships among BT and other staff, avoiding isolation, as well as establish a school climate conducive to inclusion with positive expectations for success (Young, Jones, & Low, 2011).

Another source of specific BT support could be the development of peer support networks. In a longitudinal case study, a group of three novice general education teachers met on a regular basis as a Teacher Learning Cohort during their first two years of teaching (Brownell, Yeager, Sindelar, vanHover, & Riley, 2004). During the meetings, BT discussed their needs, shared strategies, and developed plans for personal PD. Findings indicated that BT’s demonstrated confidence implementing variety of instructional strategies and accommodations, lower stress levels, an increase in reflective teaching practices, and an understanding of responsibility for all students’ learning. By forming a cohort, BT’s were able to use each other as resources psychologically and instructionally (Brownell, Yeager, Sindelar, vanHover, & Riley, 2004). Although the results are encouraging, only three teachers were involved in the cohort and there was no comparison to the experiences of other BT receiving the district’s induction program. However, study implications suggest that BT can benefit from regular interactions with veteran teachers in more of a professional learning community format rather than a formal induction meeting.
As an alternative to face-to-face support, Baker, Gentry and Larmer (2016) studied the impact of online BT mentoring. At the beginning of the process, novice general educators participated in a full-day workshop to share inclusive classroom management strategies. Then, BT had access to weekly online modules with additional video examples and information. After implementing selected strategies, BT reflected on the results and engaged in online discussions with other participants and the instructor. As with the direct peer support network, findings indicated that BT found the sharing of experiences, information, ideas, and resources valuable in creating successful classrooms and positive job outlook. While an online support community could potentially reach BT across districts and distances, the study was unable to control for participant drop out. Of 13 participants who initially enrolled, only six completed the course. Without some direct interactions, there is no accountability for continuing membership in the program. Although both BT support strategies offer an alternative to traditional induction meetings, neither provided any specific focus on working with students with ASD and thus no information on their impact in developing teacher beliefs toward students with autism in inclusive settings.

**Methodology and Research Question**

From the literature, a pattern emerges that supports the interactive effects of cognitive, environmental, and behavioral factors from Social-cognitive Theory on the development of teacher beliefs and practices regarding students with ASD in inclusive settings. However, few studies recognized the specific needs of BT to work with students with autism either as general or special educators. A review of research regarding teacher training to work with ASD indicates a focus on strategies to improve student communication skills (Alexander, Ayres, & Smith, 2015). Yet, novice teachers who leave the profession early report concerns about a lack of
needed knowledge, availability of resources, and difficulties with student behavior (Ingersoll, Merrill, & Stuckey, 2014). Thus, it is important to explore the needs and experiences of BT seeking training to work with students with ASD not only to support successful inclusive classrooms but to increase the potential teacher longevity in the profession. Based on Social-cognitive Theory factors and concerns from the literature, the research question guiding this study is *What are the experiences of beginning teachers’ who received professional development specifically designed to help them work with students with autism in general education classrooms?*

Previous research regarding inclusion training for in-service teachers indicated that participants generally increase their scores on quantitative measures of knowledge and attitude immediately following the activity (Alexander, Ayres, & Smith, 2015; Cook, 2002; Gao & Mager, 2011). However, teacher concerns about students with communication and behavioral challenges, such as those with autism, continue to arise (Busby, Ingram, Bowron, Oliver, & Lyons, 2012; Kahn & Lewis, 2014; Sansosti & Sansosti, 2012). Therefore, quantitative measures alone are not able to provide the full picture of how teachers respond to a specific PD including impact on beliefs and ongoing concerns.

An instrumental case study allows for an in-depth exploration of a question related to a specific real-time situation (Creswell, 2013; Merriam, 2015; Yin, 2018). In this research, the study explores crucial components of the topic including how BT engage in the PD, their thoughts and responses to issues addressed in the PD, and their reflective elaboration of the experience. To develop a thorough understanding of their experience, it is important to collect multiple sources of data (Creswell, 2013; Merriam, 2015; Yin, 2018). In this case, information will be collected in a variety of ways including audio-recordings of activities, questionnaires, and
semi-structured interviews. The PD workshop will be offered by the researcher. Integrating myself into the experience as PD facilitator will enable me to directly observe participant interactions and adjust the flow of information based on expression of their needs. (Bogdan & Biklin, 2003).

Summary

The reviewed literature, interpreted through the Social-cognitive Theory framework, summarized the lack of training and ongoing concerns of teachers working with students with ASD in inclusive settings. Given that most educators in today’s schools have five or less years’ experience (Ingersoll, Merrill, & Stuckey, 2014), the review highlighted a missing focus on the needs of novice teachers. This gap is particularly concerning since the reasons that early career teachers state for leaving the classroom closely parallel the misgivings of teachers working with students with autism (Roberts & Simpson, 2016; Sansosti & Sansoti, 2012). Further study is needed to explore the needs and beliefs of BT to work with students with ASD in inclusive settings. The next chapter details the methods of an instrumental case study to explore this topic.
CHAPTER 3: METHODS

To answer the research question, I implemented a qualitative case study anchored in a Social-cognitive Theory framework. Elements of Social-cognitive Theory, stated as knowledge, attitude, behavior, and resources, were reflected throughout the design of the intervention, data collection, and analysis. This chapter includes a review of the design, researcher perspectives, and a description of the case study context. The professional development activity developed to address BT needs identified in the literature including knowledge of autism characteristics, teaching and behavior strategies is detailed including information covered, activities implemented, and resources provided. Procedures for participant selection, protections, data collection and analysis are explained.

Design Overview

The purpose of the study was to explore the experiences of beginning teachers’ (BT) who received professional development (PD) specifically designed to help them work with students with autism in general education classrooms. To understand this topic, I used an instrumental case study situated in the context of a BT workshop designed to provide information about autism characteristics, teaching and behavior strategies, as well as resources for working with students with ASD in inclusive settings (Creswell, 2013; Merriam, 2015; Yin, 2018). Data was collected in the form of small group discussion, reflective questionnaires, and semi-structured interviews. To explore elements of Social-cognitive Theory, a priori categories of knowledge, attitude, behavior, and resources were used to initially sort identified codes with the option for additional categories to naturally emerge. Information from all data sources were considered collectively during coding and classification to confirm emerging themes (Creswell, 2013; Merriam, 2015; Yin, 2018). Codes and categories were continuously compared and reorganized.
until consistent themes were identified (Bogdan & Biklen, 2013).

**Researcher Positionality Statement**

As the primary researcher for this study, I bring many perspectives to the issue. I have taught students with autism grades K-12 in the public schools, in settings from self-contained to full inclusion, for over 28 years. In my role as a special educator, I experienced the successes and challenges of supporting a student with autism in both special and general education classrooms.

As a veteran teacher, I mentored interns and first year teachers. Additionally, I taught special education courses and developed interactive student experiences for undergraduate education majors at Barton College, North Carolina Wesleyan College, and North Carolina State University. Thus, I’m aware of requirements and content of traditional teacher preparation programs which frequently do not cover the topic of autism with detail (Busby, Ingram, Bowron, Oliver, & Lyons, 2012). I enjoy sharing my expertise with young teachers and helping them build their skills to work with students with autism and other diverse needs.

Throughout my career, I provided PD on working with students with autism to teachers and staff locally and in districts across the country. On one occasion I was invited to train teachers in Ireland on techniques for students with autism in regular classrooms, giving credence to the global nature of this topic. Thus, I have witnessed teachers who are frustrated and do not want a student with autism in their class. On the other hand, I have also worked with teachers who welcomed the opportunity to learn about autism and created accepting classroom environments. In either instance, I’ve seen the power of training to both empower the teacher and give the student with autism opportunities with his or her peers.
As an experienced PD provider, I facilitated the workshop offerings myself. Embedding myself as a form of participant observer gave me the opportunity to observe body language, facial expressions, and general responses to the presentation, activities, and setting that could not be captured on a recording alone (Bogdan & Biklen, 2003; Yin, 2018). However, to preserve objectivity, I collected audio-recordings of small group activity discussions and interviews. At the conclusion of the workshop, participants completed a reflective questionnaire to capture their perceptions of students with autism and inclusion immediately after training. Thus, information from multiple sources was collected, compared, and analyzed to allow a true picture of the situation to emerge (Yin, 2018)

**Beginning Teacher Institute Context**

Since 2015, the College of Education at North Carolina State University has offered a summer Beginning Teacher Institute to support teachers in their first, second, or third year of classroom experience. Since the Institute is open to any NC teacher with three or less years’ experience, participants may represent any area of teaching licensure including elementary, secondary, subject-specific (i.e., Math, Social studies, PE, etc.), and special education. Additionally, newly licensed teachers may attend the Institute whether they came to the position via a traditional teacher preparation program or alternate licensure pathway.

The purpose of the Institute is to provide ongoing development to newly licensed teachers during their early career classroom experiences and address needs as they arise (N.C. State College of Education Beginning Teacher Institute, n.d.). According to the most recent estimates, 41% of BT leave the profession within 5 years, 13% leave after just one year (Ingersoll, Merrill, & Stuckey, 2014). Previous studies identified lack of support and resources as key factors impacting a BT’s decision to leave the classroom (Algozzine, Gretes, Queen&
While most school districts’ implement new teacher induction programs, they frequently focus on local and state procedures or classroom management basics (Corbell, Osborne, & Reiman, 2010). Studies of induction practices and PD for BT indicated that new teachers benefit from workshops and training that provide exposure to veteran teachers and advanced teaching skills (Watzke, 2007). Training in an environment away from their district allows novice teachers to network and feel comfortable asking questions they may not ask of supervisors and mentors responsible for evaluating them (McIntyre, Hobson, & Mitchell, 2009). The multi-day Institute is free to NC teachers and features workshops focused on practical skill development regarding lesson planning, classroom management, working with diverse learners and other current topics. Participants in the Institute also have access to an online community of fellow BT to respond to workshop topics, share resources, or connect throughout the school year. Due to overwhelming previous response to the Institute, the 2018 workshops were offered as separate, consecutive 2-day sessions. The first session focused on elementary issues and the second focused on secondary school topics.

**Participants**

Participants for this study were attendees of the 2018 Beginning Teacher Institute, Elementary and Secondary sessions, enrolled in a workshop offered by the researcher entitled *Solving the Puzzle: Teaching Students with Autism in General Education Classrooms*. Workshop participants consisted of a total of 17 teachers, 1 Pre-kindergarten, 6 Elementary, and 10 Secondary. Most of the participants identified as female (82%) and Caucasian (59%). According to participant responses, ten teachers (59%) identified their curriculum teaching assignment as Special Education. The remaining teachers were licensed in either Elementary Education (n = 3) or specific general curriculum topics (n = 4) such as Math. In North Carolina, special education
teachers may be licensed to either work with students with disabilities on the general curriculum, which leads to a high school diploma, or on the adaptive curriculum, which does not. Of this group, 7 teacher participants reported their licensure as Special Education-General Curriculum. Teachers arrived at their licensure through different pathways, 41% (n = 7) completed traditional undergraduate preparation programs, 29% (n = 5) obtained graduate degrees, and 24% (n = 4) were granted lateral entry licensure. In NC, lateral entry teachers must have a bachelor’s degree in a related field or at least 5 years’ relevant work experience within the school district and pass required licensing examinations. A lateral entry license is only granted after a school district has offered a teaching position to the candidate. All but one participant (n = 16) indicated previous experiences with autism. Nearly half (n = 8, 47%) reported having a family member with autism while 65% (n = 11) listed interactions with students with autism either from previous classroom or work experiences.

Of the workshop participants, 12 teachers completed forms to volunteer for follow-up interviews conducted 6 to 8 weeks into the new school year. Initial interview contact messages were sent via email to all volunteers. After the first round of responses, additional efforts were made to purposefully recruit interviewees that represented the varied demographic groups who attended the workshop. Purposeful sampling allowed for in-depth and different perspectives (Bogdan & Biklen, 2003). However, efforts to recruit interviewees was hampered by an unexpected event. In September, a major hurricane impacted many school systems in North Carolina. Many schools and homes were damaged, leaving a large number of teachers and students alike temporarily or permanently displaced. Since geographic information was not collected, it is unknown how many interview volunteers were affected by the storm and whether this event impacted their willingness or ability to further participate in the study. A total of 4
teachers participated in the follow-up interviews representing elementary and secondary settings, general and special education curriculum, undergraduate and graduate preparation programs, and lateral entry licensure. All interviewees were female with 3 identifying as Caucasian and 1 as Asian-American (see Table 3.1). Interviewees were given a $25 gift card as compensation for their time.

Table 3.1

*Interviewee Demographic Information.*

<table>
<thead>
<tr>
<th>Name</th>
<th>Teaching assignment</th>
<th>Grade level</th>
<th>Years teaching</th>
<th>Certification area</th>
<th>Licensure path</th>
<th>Race</th>
<th>Previous ASD experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anna</td>
<td>Developmental Preschool</td>
<td>PK</td>
<td>2</td>
<td>Birth-Kindergarten</td>
<td>Graduate</td>
<td>C</td>
<td>Family member, Students in class</td>
</tr>
<tr>
<td>Jessica</td>
<td>SE- AC</td>
<td>9-12</td>
<td>2</td>
<td>Visually Impaired</td>
<td>Graduate</td>
<td>C</td>
<td>Personal friend, Students in class</td>
</tr>
<tr>
<td>Miranda</td>
<td>GE Art</td>
<td>9-12</td>
<td>2</td>
<td>Visual Arts</td>
<td>Undergraduate</td>
<td>C</td>
<td>Childhood exposure, Students in class</td>
</tr>
<tr>
<td>Esther</td>
<td>SE- GC</td>
<td>K-5</td>
<td>1</td>
<td>Secondary Social Studies</td>
<td>Graduate Add-on licensure</td>
<td>AS</td>
<td>Family friend, Students in class</td>
</tr>
</tbody>
</table>


**Protections and recruitment.** Permission to conduct this study was obtained from the Institutional Review Board. During registration on the first day of the Beginning Teacher Institute, a flyer was available on the registration table that described the workshop and the
The flyer stated that registrants were able to attend the workshop even if they elected not to participate in the study. At the beginning of the workshop, participants were given a description of the study and asked to sign an Informed Consent form. The consent form indicated that permission to participate or use information collected in the study could be withdrawn at any time. During the background portion of the reflective questionnaire, participants indicated descriptors such as their teaching experience level, licensure area, and class assignment but no identifying information was collected. Teachers interested in participating in follow up interviews completed a separate Interview Volunteer form which requested background demographic information and contact email. From the pool of volunteers, participants were purposefully selected to represent the demographic make-up of the workshop attendees. Interviewees were assigned an anonymous pseudonym for data analysis and reporting. Participants were informed that they may request that their responses be withdrawn from the study at any time.

**Teacher Professional Development Workshop**

Teachers frequently express feeling unprepared by their teacher preparation program to work with students with autism (Roberts & Simpson, 2016; Sansosti & Sansosti, 2012). Even when attitudes are generally positive about inclusion, teachers express concern about appropriately adapting instructional materials and managing behavior issues for students with autism (Roberts & Simpson, 2016; Sansosti & Sansosti, 2012). To address the stated concerns, participants in the study were provided a workshop focused on strategies for differentiating instruction and addressing behavior challenges in general education settings based on the characteristics of autism.

The design of the workshop reflected elements of Social-cognitive Theory which
indicates that teachers’ use of strategies is influenced by the interplay of knowledge and attitudes (cognitive beliefs), access to supports and resources (environment), and previous behavioral actions or observations (behaviors; Bandura, 1986). The workshop began with information about the prevalence of ASD in NC, currently one in 57 students (Baio et al., 2018), and primary diagnostic characteristics such as deficits in social communication and interactions in conjunction with restricted or repetitive behaviors and disordered sensory processing (American Psychological Association, APA, 2013).

After the overview, the characteristics of autism were elaborated one at a time for potential impact in the classroom, followed by an academic or behavioral strategy to address the issue. For example, as a characteristic, students with ASD have difficulty with expressive language. This may impact classroom performance because they may not be able to verbally express a response, personal need, or request. As a what to do strategy, teachers learned about providing students with written or pictorial communication choices for expressive supports (Wong et al., 2015). This is an academic strategy in that it allows students to expressively participate in class activities. Communication choice boards are also a behavioral strategy since being able to communicate reduces frustrations. As an additional behavioral step, teachers learned how to help students practice the right thing to say by using scripts and role plays. To help teachers implement this strategy back in the classroom, I provided them with school (speech-language therapist) and online (Proloquo2go app) resources for continuing support.

Since the Beginning Teacher Institute was divided into two sessions, Elementary and Secondary, the workshop presentation was adjusted to reflect age-appropriate examples and strategies per session. The Elementary presentation featured images of young students while the Secondary showed adolescents. Similarly, strategies discussed reflected materials and options available at
the appropriate grade level. For instance, an example Elementary role play featured how to join in with kids on the playground while the Secondary role play featured how to join in with a group at lunch in a high school cafeteria.

After presenting information for the academic areas of reading, writing, and math, groups of 2-3 participants engaged in a problem-solving activity. Groups read a description of a sample student with ASD and a NC Standard Course of Study curriculum standard. The groups were instructed to design a lesson activity adapted to meet the sample student’s ASD characteristics which met the curriculum standard and promote student success. Group discussions during the activity were audio recorded to provide insights into participant perceptions of the process and their use of the knowledge shared in the workshop.

Following the academic activity, participants were introduced to the iceberg model to problem-solve additional behavior issues that may arise in the classroom. In this strategy, the observed behavior, such as yelling, is considered the tip of the iceberg. Underneath, the larger portion of the iceberg is the contributing factors related to characteristics of autism (Van Bourgondien & Coonrod, 2013). Once the underlying traits of autism were identified, teachers used characteristic-specific strategies to ameliorate the behavior problem. For example, if the observed behavior for a student with ASD is *yelling in class*, participants learned to look for underlying factors such as difficulty with expressive language and sensitivity to noise. As a potential behavioral strategy, participants could use a communication board developed with the school’s speech-language pathologist and request noise-reducing headphones from the occupational therapist. In small groups, participants were given an iceberg handout with a potential behavior issue at the top. Collectively, the group problem-solved underlying characteristics of ASD and designed positive behavior supports to address the dilemma.
Table 3.2

PD Curriculum Components for Solving the Puzzle: Teaching Students with Autism in General Education Classrooms.

<table>
<thead>
<tr>
<th>ASD characteristic</th>
<th>Academic strategy</th>
<th>Behavioral strategy</th>
<th>School resource</th>
<th>Other resource</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expressive language difficulty</td>
<td>Communication choices: words, pictures* or technology</td>
<td>Role play/ Scripts for what to say</td>
<td>Speech- language pathologist</td>
<td>Proloquo2Go (app)</td>
</tr>
<tr>
<td>Receptive language difficulty</td>
<td>Written steps or instructions</td>
<td>First-Then schedule*</td>
<td>Autism specialist</td>
<td><a href="http://www.autisminternetmodules.org">www.autisminternetmodules.org</a></td>
</tr>
<tr>
<td>Social skills difficulty</td>
<td>Social stories</td>
<td>Count-down timer*; Iceberg problem-solving</td>
<td>Behavior specialist</td>
<td>afirm.fpg.unc.edu</td>
</tr>
<tr>
<td>Sensory processing problems</td>
<td>Sensory tools: headphones, weighted vest, therapy ball</td>
<td>Relaxation area and techniques: stress ball*</td>
<td>Occupational therapist</td>
<td>theautismhelper.com</td>
</tr>
<tr>
<td>Reading comprehension difficulty</td>
<td>Visual aids: Pictures, graphic organizers</td>
<td>Token board*</td>
<td>Special education teacher</td>
<td>do2learn.com</td>
</tr>
<tr>
<td>Math skills difficulty</td>
<td>Use manipulatives and visuals; Written rules or steps</td>
<td>Token board*</td>
<td>Special education teacher</td>
<td>touchmath.com</td>
</tr>
<tr>
<td>Fine motor skills difficulty</td>
<td>Handwriting alternatives: Multiple choice, typing, sticker responses, technology</td>
<td>Token board*</td>
<td>Special education teacher, Occupational therapist</td>
<td>DoodleBuddy (app)</td>
</tr>
</tbody>
</table>

*Notes. PD = professional development, ASD = autism spectrum disorder, * = take away item*
After groups shared their problem-solving results, I shared a resource list for additional information and supports that teachers can access throughout the school year (see Appendix D). As the final activity, participants used provided materials to make take-away tools mentioned in the workshop to use as interventions in their own classrooms including a first-then schedule, a token board, a count-down timer, a communication board, and a stress ball.

**Data sources**

To gain an in-depth understanding of BT experiences and responses to the autism-specific PD, information should come from multiple sources (Creswell, 2013; Merriam, 2015). Using multiple data sources allowed for corroboration and triangulation of the emerging information (Creswell, 2013; Yin, 2018). In line with Social-cognitive Theory, inclusive teaching behavior choices are influenced by a teacher’s knowledge, attitudes, resources, and previous behaviors enacted or observed (Bandura, 1986). The workshop provided in the study addresses these components by giving participants knowledge about autism characteristics and teaching strategies as well as resources for support in their individual classrooms. Data sources were developed to gain insight into how BT engaged in the PD, their thoughts and responses to knowledge provided in the PD, and their reflective elaboration of the experience after being in the classroom.

**Small group problem-solving sessions.** During small group problem-solving activities, discussions were digitally audio-recorded. Capturing the interactive discussions of the BT provided a window into the shared sense-making of the group as they applied new information (Coburn, 2005; Weick, Sutcliffe, & Obstfeld, 2005). The conversations provided insights into participant perceptions of the process and their use of the knowledge shared in the workshop. Discussion transcripts served as a source of information to corroborate and validate data from the
Reflective questionnaire. At the end of the workshop, participants completed a reflective questionnaire. The questionnaire consisted of background items and Likert-type scale responses regarding autism knowledge, attitudes and resources (see Appendix A). For this study, background items of interest included the number of years teaching experience, licensure area, teaching assignment, path to licensure, previous experience with autism, gender, and race. The purpose of requesting this background information was to explore how different factors may influence participant perceptions of the PD experience. In Social-cognitive Theory (Bandura, 1986), previous knowledge, behaviors, and observations are in constant interplay with new knowledge, behaviors, and resources to determine future beliefs and actions. Therefore, it was prudent to consider the different background experiences participants bring to the current study.

The Likert-type scale questions provided information on general views of participants after the PD. Since knowledge, attitudes, and resources can affect teaching behaviors, the questions allowed participants to rate their confidence in being able to use the workshop information in the classroom as well as their feelings towards working with students with ASD and their ability to access resources for support. Participants were asked to rate their agreement with questionnaire statements on a scale from 1 = Strongly disagree to 5 = Strongly Agree. Statements included in the questionnaire for Likert-type scale rating were adapted from items used in the Autism Self-Efficacy Scale for Teachers (ASSET; Ruble, Toland, Birdwhistell, McGrew, & Usher, 2013) and the Teacher Attitudes Toward Inclusion Scale (TATIS; Cullen, Gregory, & Noto, 2010). Items in this section were selected to reflect material addressed in the workshop including knowledge of autism characteristics and teaching strategies, behavioral problem-solving, and resources. Information from the questionnaire served as a comparison and
corroboration to data gathered from the discussions and interviews. Additionally, responses were reviewed to identify potential unique response groups with strong positive or negative views that should be represented in the interview process. However, once reviewed, participants’ responses clustered together with no outliers identified. Responses were reported as mean values on the 5-point Likert scale.

**Semi-structured interviews.** After the Institute, volunteers who completed interest forms were contacted via email to participate in follow-up interviews. In this study, semi-structured interviews allowed the researcher to better understand the individual participant’s perceptions of the PD experience, the knowledge presented, their attitudes toward students with ASD in general education classrooms, and their ability to access resources and support (Bogdan & Biklen, 2003). Purposeful sampling allowed for selection of interviewees that represent different groups attending the workshop and thus a variety of viewpoints from which to develop a common understanding of the PD experience (Bogdan & Biklen, 2003). To accommodate participant schedules and preferences, the researcher travelled to meet two participants at a convenient location of their choice and conducted two interviews via the Zoom video conferencing platform.

To insure consistency, each interview was conducted using a guiding protocol (see Appendix C). The protocol items were developed to determine how BT engage in the PD, their thoughts and responses to knowledge provided in the PD, and their reflective elaboration of their experiences after returning to their classrooms.

Since prior knowledge and experiences can impact development of new teaching attitudes and behaviors (Bandura, 1986), the interview started with an exploration of teacher backgrounds. Many teachers report feeling unprepared by their undergraduate preparation
program to work with students with ASD (Busby, Ingram, Bowron, Oliver, & Lyons, 2012). However, due to a teacher shortage, many districts are hiring as many as 50% of new teachers via alternate licensure options (Boe & Cook, 2006). This means that teachers from different preparation backgrounds will bring a variety of knowledge levels and experiences that may impact their perception of the PD and working with students with ASD in inclusion. Teachers who have been in the classroom or who have had previous experience with autism can demonstrate different attitudes toward inclusion based on their interactions and observations (Ajuwon, Lechtenberger, Griffin-Shirley, Sokolosky, Zhou, & Mullins, 2012; Leatherman & Niemeyer, 2005; Teffs & Whitbread, 2009). Information from this question contributed to understanding of how previous behaviors and observations influenced perceptions of the PD experience.

To understand teacher views of the PD experience as an event, interviewees were asked about their motivations for attending the workshop and their feedback regarding the shared information and activities. Data from these questions provided insight into thoughts and attitudes toward personal preparedness and perceived support in improving teaching abilities.

To explore elements of Social-cognitive Theory impacting perceptions, questions were specifically grouped around teacher knowledge, attitudes, and resources. Increased levels of knowledge are frequently associated with more positive attitudes toward inclusion and increased likelihood to employ the practices recommended (Segall & Campbell, 2012; Silverman, 2007). Therefore, the protocol asked teachers about their knowledge of autism characteristics, how they would teach a student with ASD, and how they feel about having a student with autism in a general education classroom. Information from this section provided insight into how teachers incorporated knowledge from the PD into their developing attitudes.
Teachers working in inclusive classrooms report concerns about a lack of resources and support to work with students with ASD (Roberts & Simpson, 2016; Sansosti & Sansosti, 2012). Access to resources and support are also an interactive factor for inclusive teaching behavior choices (Bandura, 1986). During the interview, teachers were questioned about their perceived ability to access resources from their current classroom as well as what support they would like to have. At the end of the interview, participants were invited to share any other thoughts or feelings about the PD experience and working with students with ASD in inclusive settings.

Interview responses were digitally audio-recorded and transcribed for analysis. After initial receipt of the transcripts, interviewees were sent a copy of their write-up for a member check. Participants were invited to confirm the accuracy of the transcript and make suggestions to clarify their intended message. Member-checking of the transcripts added validity to the data used in the study (Yin, 2018). Information from the interview data was compared and corroborated with other sources to develop a rich picture of the teachers’ experience.

**Data analysis**

**Validity.** To maximize accuracy, audio-recordings of group discussions and interviews were transcribed using a professional service. Once complete, individual interview transcripts were sent to interviewees to member check for content accuracy. Interviewees were able to note suggested corrections to best represent their intended response. This form of member check plus the multiple sources of data introduced a level of internal validity and credibility to the study (Creswell, 2013; Merriam, 2015; Yin, 2018).

**Reliability.** In qualitative research, reliability can be introduced in the form of inter-rater agreement during coding and data analysis (Creswell, 2013). However, in this study, I am the sole researcher. When considering reliability as the potential that other researchers could
replicate my work, I kept an audit trail to document all procedures, maintained as a case study database created in Microsoft Word and stored on a password protected laptop. This database will be available for future review should questions arise regarding the study (Yin, 2018).

Coding procedures. Using Nvivo software, transcripts from group discussions and interviews were individually subjected to line by line open coding for recurrent words or phrases (Creswell, 2013; Strauss & Corbin, 1998). During analysis, as initial codes were identified, grouping began with a priori categories that reflected the elements of SCT, namely knowledge, attitudes, behavior, and resources. As coding proceeded, primary concepts were grouped together. The emergent groupings were found to be consistent with the apriori categories suggested by the theoretical framework (see Table 3.3). Using a constant-comparative method, categories and themes were constantly developed, revised and reviewed as patterns emerged in the data from the different sources (Bogdan & Biklen, 1998; Strauss & Corbin, 1998).

Table 3.3

Descriptive of Categories and Codes Used During Data Analysis.

<table>
<thead>
<tr>
<th>Category</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>Participant</td>
<td>stated knowledge of autism characteristics and teaching strategies</td>
</tr>
<tr>
<td></td>
<td>Autism</td>
<td>characteristics Description of autism and impact of characteristics in the classroom</td>
</tr>
<tr>
<td></td>
<td>Teaching</td>
<td>strategies Awareness of instructional strategies</td>
</tr>
<tr>
<td>Attitudes</td>
<td>Participant</td>
<td>expressions of feelings about inclusion and students with autism</td>
</tr>
<tr>
<td></td>
<td>Families</td>
<td>Statements regarding parent involvement and roles</td>
</tr>
<tr>
<td></td>
<td>Inclusion</td>
<td>overall Feelings toward the practice of inclusion</td>
</tr>
<tr>
<td></td>
<td>Students</td>
<td>with autism Feelings about students with autism attending general education classrooms</td>
</tr>
</tbody>
</table>
Table 3.3 (continued).

<table>
<thead>
<tr>
<th>Category</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavior</td>
<td></td>
<td>Participant descriptions of previous and current behaviors observed or participated in related to autism and/or inclusive teaching</td>
</tr>
<tr>
<td>Autism experiences</td>
<td></td>
<td>Previous and current interactions with people with autism</td>
</tr>
<tr>
<td>Teaching experiences and training</td>
<td></td>
<td>Previous and current teaching experiences including training and inclusion practices</td>
</tr>
<tr>
<td>Resources</td>
<td></td>
<td>Participant access to materials and supports as well as reflections on the provided PD</td>
</tr>
<tr>
<td>Outside resources</td>
<td></td>
<td>Supports available to participant outside of their school district</td>
</tr>
<tr>
<td>School supports</td>
<td></td>
<td>Access to in-school and district resources, materials, and personnel</td>
</tr>
<tr>
<td>Response to PD</td>
<td></td>
<td>Feedback, reflections, and use of information provided in PD</td>
</tr>
</tbody>
</table>

*Note. PD = Professional development*

**Triangulation of data.** Using multiple data sources allowed for corroboration and validation of the emerging information (Creswell, 2013; Yin, 2018). The purpose of the analysis was to develop an understanding of the individual participant’s perceptions of the PD experience, the knowledge presented, their attitudes toward students with ASD in general education classrooms, and their ability to access resources and support. Information from all three sources of data was converged during the creation of codes, categories, and themes. The analysis concluded when main themes emerged across the accumulation of data sources (see Figure 3.1).
Data analysis spiral:

Interpretation of findings:
- Find & interpret meanings in data as themes

Classification:
- Code identification
- Sort codes into emergent & a priori categories
- Comparisons & re-sorting

Perusal:
- Overall look at data
- Notes on impressions

Organization:
- Create database
- File data

Data collection:
Interviews, questionnaires, small group discussions

Figure 3.1. Data analysis spiral.
CHAPTER 4: FINDINGS

The purpose of this qualitative case study was to explore the experiences of novice teachers’ who received professional development specifically designed to help them work with students with autism in general education classrooms. To answer this research question, the primary source of information consisted of participant interviews conducted at the end of the first school quarter following the workshop. Information from reflective questionnaires (see Table 4.1), and small group problem-solving sessions served to provide a snapshot of participant reactions at the end of the workshop and highlight areas for further exploration during the interviews.

Table 4.1

Mean Responses (5-point Likert) by PD Participants to Reflective Questionnaire Statements.

<table>
<thead>
<tr>
<th>Questionnaire statement</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>I can describe a student's characteristics that relate to autism.</td>
<td>4.29</td>
</tr>
<tr>
<td>I can adapt teaching activities for a student with autism.</td>
<td>4.12</td>
</tr>
<tr>
<td>I can determine the causes of problematic behaviors of a student with autism.</td>
<td>3.65</td>
</tr>
<tr>
<td>I can implement positive behavioral supports for a student with autism.</td>
<td>4.18</td>
</tr>
<tr>
<td>I can teach a student with autism how to socially interact appropriately with others in my classroom.</td>
<td>4.06</td>
</tr>
<tr>
<td>I can teach academic skills to a student with autism.</td>
<td>4.00</td>
</tr>
<tr>
<td>I would be comfortable teaching in a classroom that has at least 1 student diagnosed with autism.</td>
<td>4.53</td>
</tr>
<tr>
<td>In most cases, a student with autism can be successfully integrated into a regular classroom provided that training and support are available.</td>
<td>4.65</td>
</tr>
<tr>
<td>I would currently know how to access professional support and resources to assist me in meeting the needs of a student with autism.</td>
<td>4.35</td>
</tr>
</tbody>
</table>

Notes. PD = Professional development
During analysis of interview transcripts, three themes emerged to describe the beginning teachers’ (BT) experiences after receiving the specially designed training: 1) Response to the PD, 2) Development as inclusive teachers, and 3) Challenges to inclusion implementation.

Additionally, one theme developed to represent the recommendations BT expressed for improving inclusion opportunities for students with autism (see Table 4.2).

Table 4.2

_Emergent Themes and Coded Concepts._

<table>
<thead>
<tr>
<th>Theme</th>
<th>Coded concepts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response to PD</td>
<td>Desire for more information about autism&lt;sup&gt;K&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>Increased understanding of autism&lt;sup&gt;K&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>Positive feelings about students with autism in the GE classroom&lt;sup&gt;A&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>Concerns about student behavior&lt;sup&gt;A&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>Previous teaching experiences with autism&lt;sup&gt;B&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>Collaborative learning with other BT&lt;sup&gt;B&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>Positive response to PD features&lt;sup&gt;R&lt;/sup&gt;</td>
</tr>
<tr>
<td>Development as inclusive teacher</td>
<td>Awareness of characteristics of autism&lt;sup&gt;K&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>Awareness of teaching strategies for students with autism&lt;sup&gt;K&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>Positive feelings about inclusion overall&lt;sup&gt;A&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>Positive feelings about students with autism&lt;sup&gt;A&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>Family involvement important&lt;sup&gt;A&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>Personal experiences with people with autism&lt;sup&gt;B&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>Previous teaching experiences and training important&lt;sup&gt;B&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>Use of workshop teaching strategies&lt;sup&gt;B&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>Use of strategies to include students with autism&lt;sup&gt;B&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>Awareness of outside resources&lt;sup&gt;R&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>Access to school and district supports&lt;sup&gt;R&lt;/sup&gt;</td>
</tr>
<tr>
<td>Challenges to inclusion implementation</td>
<td>Need knowledge and strategies to address student behavior&lt;sup&gt;K&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>Lack of autism knowledge by other teachers&lt;sup&gt;K&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>Perception that other teachers are afraid of students with autism&lt;sup&gt;K&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>Unable to observe other teachers&lt;sup&gt;B&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>Lack of material resources&lt;sup&gt;R&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>Lack of outside resources&lt;sup&gt;R&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>Reluctance to contact district resources&lt;sup&gt;R&lt;/sup&gt;</td>
</tr>
</tbody>
</table>
In this chapter, I will present the information represented by the identified themes as they give insight to BT experiences who have received PD to help them work with students with autism in general education classrooms. Due to the interconnected nature of the participants’ perceptions of the PD, their current teaching experiences and the ways in which it ties to previous literature on teacher development, the findings will weave in both a presentation of the data and discussion of those data. The following chapter will engage in a more in-depth elaboration of the data to the literature as well as implications of the findings for extending an understanding of BT needs for working with students with autism in general education classrooms.

**Theme 1: Response to Professional Development**

In answering the research question, *What are the experiences of beginning teachers’ who received professional development specifically designed to help them work with students with autism in general education classrooms?*, the first theme represented participant reactions and thoughts concerning the specially designed workshop provided by the researcher. According to teacher development theories, novice teachers are at the beginning stage of their career.

<table>
<thead>
<tr>
<th>Theme</th>
<th>Coded concepts</th>
</tr>
</thead>
</table>
| Beginning teachers’ recommendations for improvement | Provide autism and inclusion strategies training to all teachers<sup>K</sup>  
Provide autism training for behavior specialists<sup>K</sup>  
Provide opportunities for teachers to interact with students with autism<sup>A</sup>  
Provide opportunities to observe experienced teachers or personnel<sup>B</sup>  
Provide more autism PD opportunities<sup>R</sup>  
Provide access to more autism-specific materials<sup>R</sup>  
Create teacher support networks<sup>R</sup> |

*Note. Superscripts indicate data analysis category assigned to coded concept, K = knowledge, A = attitude, B = behavior, R = resources; PD = professional development, BT = beginning teachers*
development often characterized by self-concern for survival, competence, and confidence (Day, Sammons, & Stobart, 2007; Huberman, 1993; Zhukova, 2018). Professional development designed for veteran teachers may not provide the level of support or cover the concerns BT need to build confidence and effectiveness. In this area, participants shared their reasons for selecting to attend the PD, knowledge and strategies they gained as well as feedback on PD features.

When asked about reasons for attending the workshop, interviewed participants indicated a desire to learn new information in order to better work with their students with autism. Sixty-five percent of the workshop participants (n = 11) reported having a student with autism in a previous classroom teaching experience. Ann, who had previously attended a privately offered autism training, indicated that, “It had been so long since I had done anything and I just wanted to see what's new, what's happening, what are some fresh ideas I could use.” Esther, who was originally licensed as a secondary Social Studies teacher, chose to attend the workshop in preparation for her new role as an elementary resource special education teacher. “I had just accepted this position and I did not know if I was going to have any autistic students, but I figured I needed all the brushing up on special ed materials I could get.” Jessica attended the workshop because her current teaching assignment includes students with autism from the previous year and she would like new ideas for meeting their needs.

During the interviews, participants cited a lack of professional preparation to work with students with autism as another reason for attending the workshop. When describing the information about autism that she learned from her professional preparation program, Miranda indicated that it was, “Not a whole lot. I learned how to kind of read the data a little bit better with their testing, what environments typically help, what setup or questioning helps.” Although Miranda had some previous experience with autism, she chose to attend the workshop,
Because I did have some struggles and some gaps in understanding and I would get frustrated. I was trying to figure out strategies for me and the kids that would help keep me from starting to micro manage or get frustrated.

Responses to the reflective questionnaire indicated that most participants felt comfortable describing a student’s characteristics of autism (\(\bar{x} = 4.29\)) (see Table 4.1). During the interviews, Esther felt that the workshop enhanced her understanding of autism and related student behaviors.

One of the things that was really instructive to me was the band-aid. I had never seen autism described like that before- I mean I hadn’t had a lot of experience with autism but I had a little bit, and that was really eye opening to me.

It gave me some insight into - especially last year when I was at the high school in a TA position, some of the teachers would be like he just lied to me. It's like well, no, he's not lying to you. I was like oh, he wasn’t really lying to them.

Thus, participants found the workshop a useful source of knowledge to add to their feelings of competence and confidence as novice teachers navigating the survival stage of their career development (Day, Sammons, & Stobart, 2007; Huberman, 1993; Zhukova, 2018). An increased level of knowledge also increases the likelihood that the participants would be more accepting of a student with autism in their classroom (Sansosti & Sansosti, 2012).

According to questionnaire responses, participants were generally comfortable with the statement that students with autism could successfully be integrated into a regular education classroom with appropriate support and training (\(\bar{x} = 4.65\)). Most participants were also comfortable with teaching a student with autism in their classroom (\(\bar{x} = 4.53\))(see Table 4.1). During the interviews, Anna expressed her opinion as, “I’ve always loved inclusion.” “
her session, Esther stated similar ideas and explained that, “I think everyone should have the opportunity to be in a general ed classroom.”

All but one of the workshop participants reported some form of previous experience with autism. Most of the BT (n = 11) indicated that, even as a first- or second-year teacher, they have already had a student with autism in the classroom. However, according to questionnaire responses, participants were only slightly confident in their ability to teach academic (\(\bar{x} \approx 4.00\)) or social (\(\bar{x} \approx 4.06\)) skills to their students with autism (see Table 4.1). Additionally, participants indicated concerns about behavior issues that might be exhibited by a student with autism in the classroom. Questionnaire respondents agreed with the statement that they could implement positive behavior supports developed by others (\(\bar{x} \approx 4.18\)). Yet, they were less confident with determining causes of problem behaviors (\(\bar{x} \approx 3.65\)) (see Table 4.1). For teachers in the early stage of career development, building confidence in lesson planning and behavior management leads to a sense of efficacy which can result in a positive commitment to the classroom (Brunetti & Marston, 2018; Day, Sammons, & Stobart, 2007; Huberman, 1993).

During the workshop, participants were able to collaborate to solve instructional and behavioral challenges. Working together allowed the participants to share information and collectively apply taught strategies. Connectedness and social learning theories support that collaborative activities build a sense of community, reduce stress, and increase a sense of competence (Baumeister & Leary, 1995; Day, Sammons, & Stobart, 2007; Wenger 1998). During her interview, Esther pointed out that she particularly enjoyed problem-solving with a team.
When you had us working together to try to come up with a situation of how to deal with certain conflicts, like in the cafeteria, and to identify the motivating factor. I thought that was also very helpful. I wish we had had more time.

Sharing ideas and being around other new teachers in similar situations was a highlight for Anna, “What I also liked was just being able to hear from different people different ideas of what works and what didn't work.” In her interview, Jessica expressed her desire for continued collaborative work with other teachers.

I just love being around the new teachers that were excited about this. My favorite thing too is like learning new ideas and being able to use those in my classroom. Even if I use them in totally different ways than somebody else who had said it, my wheels are turning, and I really like to learn new ideas from other teachers forever.

Participants generally found the PD informative and useful to their teaching situations. In her interview, Jessica described the workshop as, “All of the things that we talked about were definitely things I could relate to for one but things that made me think about how I do it now and how I can get better at it.” In addition to the collaboration time, one of the features that the participants particularly enjoyed were the classroom tool activities that enabled them to take materials home. According to Anna, “I really liked the hands-on stuff. It was really great to take resources home with you. That was nice.” Overall, participants were satisfied with the experience and hoped to have similar PD opportunities in the future. The features of the specially designed workshop enabled BT to build their competence levels while benefiting from learning, unpacking, and reflecting new concepts with other teachers at the same level of career development (Brunetti & Marston, 2018; Damico, McKinzie-Bennet, & Fulchini, 2018).
Theme 2: Development as Inclusive Teachers

The theme of *development as inclusive teachers* included statements regarding participants’ knowledge about and experiences with people with autism as well attitudes toward inclusion and access to supports. Theories on teacher identity and agency indicate that novice teachers are navigating the transition from student to professional (Beauchamp & Thomas, 2009). Development of a strong teacher identity is impacted by meeting BT needs for autonomy, competence and relatedness (Day, Sammons, & Stobart, 2007). Throughout this theme, participants further described their understanding of autism and current inclusive teaching skills as well as their recognition of the need and desire to continue professional development regarding students with autism in general education classrooms.

In becoming an inclusive teacher, increased levels of knowledge are frequently associated with more positive attitudes toward inclusion and increased likelihood to employ the practices recommended (Segall & Campbell, 2012; Silverman, 2007). Most participants reported previous experiences with autism either as a former student or a family member (n = 16). Accordingly, participants indicated confidence in their ability to describe the characteristics of autism ($\overline{x} = 4.29$, see Table 4). During the individual interviews, all four participants described themselves as knowledgeable about the characteristics of autism. Jessica described her knowledge level as,

*So before going in I felt like I had enough knowledge to teach kids with autism. I already had some of the experience already. Mainly really experience is a lot. You learn so much from just being around the kids with autism*

When asked to describe autism, participants indicated that the communication skills, sensory sensitivity, anxiety, and unusual behaviors exhibited by students with autism were common characteristics. During her interview, Anna summarized her understanding of autism by stating,
Well, the first thing I always say, if you see one child with autism all you've seen is one child because it's different for everyone. It's just different. It's different for every single person. Something that I noticed is a lot of behaviors. Some children have some behaviors mainly because they're not able to say or speak how they feel so it's frustrating for them. So there's behaviors but that's how they're communicating.

According to attribution theory, how teachers view student performance impacts teacher expectations for student outcomes (Hareli & Weiner, 2002). Thus, when BT attribute student behavior as a function of autism-related communication difficulties rather than misconduct, teachers can apply appropriate strategies to address the concern while maintaining expectations of student success (Accardo, Finnegan, Gulkus, & Papay, 2017). Interviewed participants were able to describe a variety of strategies from the workshop that they use to help students with autism be successful in the general education classroom. Increased levels of knowledge are frequently associated with more positive attitudes toward inclusion and increased likelihood to employ the practices recommended for students with autism (Segall & Campbell, 2012; Silverman, 2007). During her interview, Miranda, an art teacher, described one strategy she learned that helps her student with autism as, “He loves the checklist that helps with getting things done, trying to improve his time management because he’ll sit and draw and work on one small thing all day.” In separate interviews, both Anna and Esther identified visual schedules as a favorite strategy gained from the workshop. Anna credits the use of visual schedules with reducing student anxiety, “First you have to do this, then we can do that. And when I put the picture on there, they get it. They get it.” Although Esther’s student with autism was doing well academically in the general education classroom, she recognized from the workshop information that he sometimes needed breaks from class demands.
We try to rotate him through the computer station where he uses the headphones. He really likes that. That's a good thing for him. So we try to keep that somewhere, kind of spread out through the reading station rotation so that he gets that sort of break from the classroom.

Experienced inclusion teachers recognize the importance of a positive attitude to create a successful inclusive environment (Finke, Finke, McNaughton, & Drager, 2009; Segall & Campbell, 2012). Workshop participants demonstrated an openness to integrating ($\bar{x} = 4.65$) and teaching a student with autism in their classrooms with appropriate support and training ($\bar{x} = 4.53$) (see Table 4.1). In the journey to become inclusive teachers, interviewed participants expressed positive feelings about the benefits of including all students in general education classrooms. Esther shared her thoughts as,

*I just think as much as we can include any special education student in the general curriculum and try to adapt the curriculum and modify instruction to the best of our ability, the more we can keep them in the general education classroom the better off they’ll be.*

In her interview, Anna similarly noted that inclusion has benefits for students with special needs, and she additionally indicated that all students can learn from the experience.

*I think inclusion is important because we want - I want the children to know that the world's made up of very different people and we still take care of each other and we're still kind to each other and we still respect each other.*

When asked specifically about their feelings regarding students with autism, interviewed participants were supportive of students attending general education classrooms. Jessica expressed, “I feel like it's okay for a child with autism to be able to be around peers and be
around others and they learn a lot from others.” In a separate interview, Miranda expressed similar sentiments, noting, “I love it. I feel like it would be wrong to separate them.”

In addition to teacher support, interviewed participants recognized that parent involvement was an important part in student success. According to Anna,

*I’m glad I’m the one there able to help them know if we try this or if you do this or together we can make this a better atmosphere for your child. So, I do work with families a lot. I have a close partnership with the families right from the beginning.*

The positive attitudes expressed by the participating BT towards inclusion and students with autism was encouraging for developing identity as career inclusive teachers (Beauchamp & Thomas, 2009).

However, as BT develop teacher identities, their view of themselves as professionals can also be impacted by previous experiences, current school interactions, training, and behaviors that they observe (Beauchamp & Thomas, 2009). Nearly half of the workshop participants reported having a family member with autism (n = 8). Three of the interviewed participants stated that their personal interactions with a person with autism greatly impacted their teaching behaviors. Anna shared that she is the parent of an adult with autism, “I have a personal story. My son was diagnosed at the age of ten so that really led me to go into special needs and developmental delay classes.” In her interview, Jessica described how she grew up with a friend who has autism.

*My best friend is autistic. He has very high functioning, but I’ve known him forever, since we were in middle school. That was my first experience, I guess, with autism. I learned a little bit from him, actually just being around him as a friend, like kind of how they change.*
Similarly, Esther detailed her long-term acquaintance with a person with autism.

*I also have someone I go to church with. Their son has Asperger's. I've known him sort of all kind of growing up the last ten years or so and actually got to work with him. He worked for me this summer doing odd jobs that I needed help with.*

Although Miranda did not have direct experience with autism prior to becoming a teacher, she grew up with her own challenges related to dyslexia. During her interview, she expressed her childhood confusion as to why her special education classmates did not come to her regular classes, too.

*When I was growing up I didn't see a whole lot of inclusion and because I had dyslexia I would end up in those classrooms for a short period of the day and I'd see everybody except then I'd be very confused at that age as to why they weren't around because I was talking to them. They seemed perfectly fine.*

In addition to personal interactions, interviewed participants also credited their previous classroom and training experiences with preparing them for supporting inclusion. Esther indicated that, “My first teaching job was teaching at [school name] in [city name], North Carolina, which was a full inclusion charter school.” Furthermore, Esther worked as a teacher assistant in a special education classroom for students with autism prior to completing her licensure program. Although licensed as a secondary Social Studies teacher, Esther’s previous experience with autism led to her current position as a resource special education teacher supporting students with autism in the general classroom. Although still an initially licensed teacher in her chosen field of study, Esther is completing the process for an add-on license in special education. Her experience is reflective of the national shortage of special education teachers especially those trained to work with autism (Personnel Improvement Center, 2011).
Previous studies show that school districts are hiring as many as 50% of new special education teachers via alternate licensure options (Boe & Cook, 2006).

As attendees of the Beginning Teacher Institute, the participants actively sought additional training to improve their knowledge of autism and effective teaching strategies for the classroom. One interviewee, Anna, stated that she additionally sought direct autism training through private avenues, “I did a lot of personal training through TEACCH out of [city name] for my own benefit, for my own personal knowledge.” The participants experiences are reflective of the literature which states that most teachers received their training about autism from half- or full-day workshops (Morrier, Hess, & Heflin, 2011; Teffs & Whitbread, 2009). However, seeking additional training as BT, particularly about working with autism, indicates a desire of the participants to improve their teaching skills and confidence in the beginning stage of their career (Brunetti & Marston, 2018; Day, Sammons, & Stobart, 2007; Zhukova, 2018).

Being a part of a general education classroom goes beyond instructional strategies. Although workshop participants expressed confidence in being able to teach a class with a student with autism ($\bar{x} = 4.53$), they were less sure that they could teach appropriate social interaction skills between all students ($\bar{x} = 4.00$). During the interviews, participants elaborated on the techniques that they have used to create an accepting social environment for their students with autism. In separate interviews, Anna and Jessica both indicated that they encourage their students to work together and contribute to the class as a whole. Anna stated that she teaches her students that,

*In our classroom family we take care of each other because we are a family.*

*We talk about taking care of each other and how we’re alike and how we’re different. It’s helped. We’ve noticed this year we’ve had a lot of real friendships.*
In her interview, Miranda iterated that she includes social acceptance expectations as part of her class rules,

- *This is a place of love and everyone needs to be accepted no matter their story.*
- *My rule is that you can sit where you want but you have to have one new person that you don’t know at your table minimum.*

Within the classroom, experienced inclusive teachers consider the availability of resources and support critical to making inclusion successful (Finke, Finke, McNaughton, & Drager, 2009; Roberts & Simpson, 2016). However, there has been some concern that BT as new members of the school may not always be aware of workshop and PD offerings through their district (Gehrke & Murri, 2006). Strong early support is important for developing confidence and feelings of effectiveness in early career stage teachers (Day, Sammons, & Stobart, 2007). Most workshop participants expressed confidence in being able to access support and resources to meet the needs of their students with autism (\(\bar{x} = 4.35\)) (see Table 4.1). During interviews, participants indicated that they were aware of school and district resources to help with questions regarding a student with autism. In similar statements, Anna and Miranda stated that they often relied on the special education department within their respective schools for support. According to Anna, “There is a whole EC (Exceptional Children) wing of teachers that are EC teachers and I've used them for immediate questions and stuff like that.” During her interview, Esther indicated that she was able to contact district level supports for help. “I've contacted a member of the autism team for her (Kindergarten teacher) and they did actually come out just to be in the classroom with him to sort of offer her some support.” In addition to accessing the autism team, Jessica and Esther separately indicated that they were able to call their district behavior specialist for advice on specific concerns. Although each also noted that their behavior specialist lacked
specific knowledge of autism, they appreciated the attempts to help address student behavior challenges.

Information in this theme supports that this group of BT are developing professional identities as inclusive teachers. As novice teachers, navigating the development of a strong professional identity requires support to meet their needs for competence and confidence (Beauchamps & Thomas, 2009; Day, Sammons, & Stobart, 2007).

**Theme 3: Challenges to Inclusion Implementation**

The third theme represented concerns that participants expressed with achieving successful inclusion for students with autism in their school. As part of the first two themes, participants established themselves as BT supportive of including students with autism in general education classrooms and committed to developing their skills as inclusive teachers. However, during the interviews, the BT voiced clear challenges to their attempts at inclusion implementation. In the survival stage of teacher development, BT need strong early support to develop confident professional identities, in this case as inclusive teachers (Day, Sammons, & Stobart, 2007). Negative responses to BT efforts can reduce their sense of efficacy and hinder career growth (Day, Sammons, & Stobart, 2007).

As noted in Theme 2, most participants chose to attend the provided workshop to increase their knowledge about autism and classroom strategies for working with students with autism. Levels of teacher knowledge about autism and intensity of student behaviors can impact the placement of students with autism in inclusive settings (Sansosti & Sansosti, 2012). Although workshop participants were fairly confident about implementing positive behavior supports developed by others ($\bar{x} = 4.18$), they were less confident with determining causes of problem behaviors ($\bar{x} = 3.65$) (see Table 4.1). When describing autism, interviewed participants
individually noted that behaviors were a frequently observed autism characteristic impacting the classroom. Accordingly, the presence or severity of disruptive behaviors by students with autism can impact their placement in general education classroom (Sansosti & Sansosti, 2012). In talking about the current school year, social and behavioral issues were of more concern than academics to the interviewees. In her session, Miranda indicated that, “I wish we could know everything at once but I know we can't. More time and more on some of the behaviors, I guess. And learning more about what could be something that could overwhelm them very easily.” Separately, Anna noted the importance of being able to problem-solve behaviors herself.

This is what's happening in real time and I have to deal with it right now instead of can I call a behavior specialist to come in and observe this child? Well, by then it's already weeks later and the issues are over.

Although the BT are new in their jobs, they perceived other teachers who may have more teaching experience as lacking in knowledge about autism. This deficit was perceived as negatively impacting the success or opportunities for students with autism in general education classrooms. According to Jessica,

At the same time I feel like the teachers not having the knowledge of working with a kid with autism can also make learning very difficult for the child and then make them feel like they're not smart and then that just goes down south and you know, they don't believe in themselves and then the teacher doesn't know how to fix it. It spirals from there.

Indeed, teacher attributions of student behavior to misconduct or inability can impact their expectations and interactions with students with autism in the classroom (Hareli & Weiner, 2002). During interviews, participants discussed encountering apprehension from general education teachers when introducing a student with autism into a regular classroom. As part of
her interview, Jessica summarized these encounters as, “I think they are terrified because they don't know how to work with the kids with autism.” During her session, Esther described a general education teacher’s reaction when a new student who happened to have autism joined her 3rd grade class,

She was very apprehensive about having him in her classroom because she was concerned that he might be hard to get along with, either prone to violent outbursts or she just really didn't know what to expect. She's a lateral entry teacher as well. Although she’s been in the classroom for nearly ten years now, she’d never had a student with autism in her class yet.

Although novice teachers, the interviewees each noted that other longer-certified teachers recognized their knowledge level and positive attitude towards students with autism and were likely to seek out one of them if they had questions. In her interview, Esther stated that if another teacher was having trouble with a student with autism in her school, “they would probably call me first and then I would call the autism team.” Thus, encounters with other staff members with limited knowledge of autism and less than positive attitudes become a barrier to inclusive efforts by the participants on behalf of students with autism. As BT are striving to develop a professional identity, they need strong support from other teachers around them. If other teachers in the building demonstrate lack of knowledge or resistance to inclusive practices, BT will have difficulty with needed acceptance and growth of an inclusive teacher identity (Day, Sammons, & Stobart, 2007).

Often, BT model their classroom management and instructional strategies based on observations of other teachers during program training (Sandoval-Lucero, Shanklin, Sobel, Townsend, Davis, & Kalisher, 2011). Good mentoring supports development of competence and
Participants recognized the value of observing a veteran teacher to learn more about working with students with autism. However, the work involved in locating an appropriate teacher and arranging for time away from their current classroom proved difficult. In her interview, Jessica longed to visit and learn from other teachers, “I can go to a class, a special needs class. Like that is available to me to do. I just haven't been able to do it even yet.” As an elective teacher, Miranda indicated in her interview that she expects to have at least one student with autism per class each semester. While Miranda tries to learn about the students from their paperwork, she would love to see an experienced person who knows the child come into her classroom to demonstrate effective strategies for that student.

_It'd be great if on maybe at least the first day someone helped us get a little more oriented with their needs. Someone who is maybe a caseworker who understands how they work to kind of illuminate some blind spots._

Without available role models, participants felt on their own to develop appropriate teaching strategies and solve behavior problems to support inclusion experiences for their students with autism. Lack of support in developing competence and relatedness could lead to a reduced sense of efficacy and barriers to developing an inclusive teacher identity (Day, Sammons, & Stobart, 2007).

Resources and support are another vital component to making inclusion successful (Finke, Finke, McNaughton, & Drager, 2009; Fuchs, 2010; Roberts & Simpson, 2016). Interviewed participants expressed that they frequently lacked the material supports that might be necessary to help a student with autism in the regular education classroom. During her interview,
Esther shared her concerns as, “There are resources out there but I mean in terms of actual materials and strategies like you shared with us probably not so much. I don't know that I would have known where to go to find those.” Although in her session Anna stated that she had some access to materials, she was frustrated that the resource was not adequate for her students’ needs. We do have a lending library but it's really far out of the way. It's once a month and then you have to return it or they're hounding you. Well, I need them for the year. I have a child that needs it, I need it for the year.

Interviewed participants separately indicated concerns that they weren’t aware of and couldn’t easily access autism resources outside of their school and district. Potential resources may have included conferences and trainings from non-school agencies. However, in her interview, Jessica indicated that, “As far as like any other resources, none were it's just available to me. I would have to go search for the resources.”

Although interviewees stated that they were aware of district resources such as autism support teams and behavior specialists, they individually expressed reluctance accessing these supports. Some interviewed participants found contacting district level personnel to request help an intimidating option for a novice teacher. In her session Esther expressed,

   It's sort of imposing because all the people on this autism team are all like central office people and like the psychology department. And they have really great stuff to provide for us but it's a little bit imposing to call them and say how can you help me in my classroom.

Other interviewees found contacting district specialists involved too much time between a behavior incident and the arrival of help. During her interview, Anna indicated that,
I think like through the workshop learning different tricks of the trade, should I say, that helps more than asking for outside resources. I just don’t feel like I have time for that. I need to be able to know how to deal right now

As BT are striving to develop competence and confidence, support is needed to develop a sense of mastery and encourage career growth (Day, Sammons, & Stobart, 2007). However, admitting difficulties to a perceived supervisor can be intimidating. If BT do not access and accept supports, declining self-efficacy may result, impacting career growth (Day, Sammons, & Stobart, 2007). However, if BT are provided safe spaces to learn and gain support led by non-supervisors, they can develop relationships and connections that will encourage strong teacher identities (Damico, McKinzie-Bennett, & Fulchini, 2018; Day, Sammons, & Stobart, 2007).

Theme 4: Beginning Teachers’ Recommendations for Improvement

The final theme emerged to describe the ideas offered by the participants to improve inclusion efforts and services for students with autism. Participating in the interview gave the volunteers anonymity and the opportunity to explore a topic in a safe space (Damico, McKinzie-Bennett, & Fulchini, 2018). During the interviews, participants were eager to make suggestions based on their experiences within schools and classrooms.

Throughout the interviews, participants expressed the need and desire for all teachers to understand and learn how to work with students with autism. When trying to increase the acceptance and involvement of her students with autism throughout her school, Jessica expressed in her interview that, “I feel like teachers having some training in working with kids with autism would definitely, hundred percent, help in that situation.” When thinking about the Beginning Teacher Institute and training provided to BT, interviewed participants individually indicated
that they would like to see autism information part of PD for all novice teachers in both general and special education. In her interview, Jessica expressed,

*I feel like that might have been like a thing we all had to attend. I don't know. I mean we didn't have to but like something it was universal because it's going to show up eventually like in your classroom.*

To extend their knowledge, interviewed participants expressed the need for an increase in the number of autism PD opportunities. Jessica summarized this best when she stated,

*When I go to the conferences, like I went to the Beginning Teacher one, there was your special one on autism. I wish we had more of that. Like having more of those throughout the year or having an autism specialist come to the school and talk to the whole school about autism. I think that's like something all schools should do.*

However, Jessica reiterated in her session that all teachers, not just BT, would benefit and should be encouraged to attend PD on autism, “I think they're great and I think that not only general ed but like special ed could do workshops like that.” When possible, Anna recommended in her interview that PD opportunities include material resources, too, “I really liked the hands-on stuff. It was really great to take resources home with you.” Based on their own previous experiences, interviewed participants indicated that other teachers might be more open to inclusion if they spent time with a person with autism. During her interview, Jessica who identified as having a best friend with autism stated that, “First of all, it's not scary and second of all, you might learn something from a kid in your class. Don't be so afraid. It's not that scary.”

However, many teachers express that they are concerned about students with autism exhibiting disruptive behaviors in their classrooms (Roberts & Simpson, 2016; Sansosti & Sansosti, 2012). When teachers are faced with challenging classroom behaviors, they often call
on district behavior specialists to help. Based on the interviewed BT experiences, the behavior specialists were not familiar with autism and should have training on autism-specific behaviors, too. Although Esther indicated in her interview that she was able to access her behavior specialist, Esther also noted that the specialist was “not an autism expert but she did come up from the behavior specialist point of view, she was helpful.” During her session, Jessica expressed similar experiences and recommended that, “In the school I feel like a behavior specialist should have a lot more training, especially with kids of autism because they have behaviors that may mean something else.”

When trying to build their skills as an inclusive teacher, interviewed participants identified the inability to observe experienced teachers or other professionals as a barrier to inclusion implementation. During her interview, Jessica stated that she would love to visit the classroom of an experienced teacher working with students with autism. As Jessica expressed, “It's good that you learn from other teachers. I love it.” Although observing another teacher is something Jessica recommends, she has yet to find the time or an appropriate classroom to visit. Miranda recommends that an experienced person help demonstrate effective strategies for students with autism new to a teacher’s classroom.

> I wish they had someone who could see with at least the freshmen or those that might need helping hands, a teacher's assistant that might help teachers, either (for) new teachers (or those) that haven't had them before, someone who is maybe a caseworker who understands how they work to kind of illuminate some blind spots.

Regardless whether the experienced model is someone who comes to the classroom or is available for observation at another site, the interviewed BT suggested that seeing successful strategies in action would be helpful.
In addition to being able to observe an experienced teacher work with a student with autism, interviewed participants expressed the desire for contact with a veteran teacher for support. Although aware of district resources, the participants were hesitant to call central level staff for help. When asked about available supports, Esther indicated in her interview that, “I wish there was a classroom teacher on that autism list that might be less threatening to reach out to than calling - especially as a new teacher.” In her interview, Jessica similarly expressed the desire to have an experienced teacher to reach out to for advice, “They don't have to work there but give me a phone number, give me somebody, give me an email to contact at least.” Previous studies support that BT can benefit from interactions with veteran teachers and are more comfortable asking questions in a safe space from mentors who are not in a direct supervisory role (Brownell, Yeager, Sindelar, vanHover, & Riley, 2004; McIntyre, Hobson, & Mitchell, 2009; Watzke, 2007). As BT navigate the survival stage, they can use safe spaces with non-supervisory mentors to engage in critical conversations that explore new topics (Charner-Laird, Szczesiul, Kirkpatrick, Gordon, & Watson, 2016; Damico, McKinzie-Bennet, & Fulchini, 2018). Participating in such a novice teacher learning community can create feelings of connectedness essential to developing a strong teacher identity (Day, Sammons, & Stobart, 2007).

Summary

The purpose of this study was to explore the experiences of BT who received PD to help them work with students with autism in general education classrooms. Concepts expressed by participants emerged as four themes: 1) Response to PD, 2) Development as inclusive teachers, 3) Challenges to implementing inclusion, and 4) BT recommendations for improving inclusion experiences. The following chapter will discuss the impacts of the insights shared during this exploration of BT experiences on the areas of novice teacher support and development, preparing
teachers to work with students with ASD in inclusive settings, and use of the SCT framework to design PD for beginning teachers.
CHAPTER 5: DISCUSSION AND CONCLUSION

Increasingly, classrooms are staffed by teachers with less than five years’ experience (Ingersoll, Merrill, & Stuckey, 2014). At the same time, more students with autism are attending instruction in general education classrooms (U.S. Department of Education, 2017). Unfortunately, as teachers enter the profession, few are prepared by their undergraduate program to use evidence-based practices with students with autism (Morrier, Hess, & Heflin, 2011). Teachers who leave the classroom in less than five years state reasons that include a lack of necessary knowledge, lack of resources or support, and difficulties with student behavior (Ingersoll, Merrill, & Stuckey, 2014). These reasons echo factors teachers state for not including students with autism in regular classrooms (Sansosti, & Sansosti, 2012). Novice teachers in the early stage of their career need to build confidence and competence with their daily classroom instruction and management skills (Day, Sammons, & Stobart, 2007). Thus, it is important for new teachers to build their skills and knowledge regarding autism both for their own sense of efficacy and to increase opportunities for students with autism to learn and grow with their typical peers.

Findings of this study provide insight into the experiences of novice teachers’ who received professional development specifically designed to help them work with students with autism in general education classrooms. As a result, the study begins to contribute to the understanding of novice teacher support and development, preparing teachers to work with students with autism in inclusive settings, and use of the Social-cognitive Theory framework to design PD for beginning teachers. Overall, findings from the participants’ experiences emerged as four themes: Response to PD, development as an inclusive teacher, challenges to inclusion implementation, and BT recommendations for improvement. This chapter will further connect
and discuss the study’s contributions to current literature on BT development and the inclusion of students with autism.

**Novice Teacher Support and Development**

According to teacher development theories, teachers with three or less years’ experience are in a survival stage of their career, primarily concerned with developing classroom competence and a sense of efficacy (Day, Sammons, & Stobart, 2007; Huberman, 1993; Zhukova, 2018). Novice teachers are also in the process of changing their identity from that of college student to educational professional (Beauchamp & Thomas, 2009). Thus, PD activities intended for a broader more experienced teacher group may not meet the needs of BT (Brunetti & Marston, 2018; Zhudova, 2018). When BT engage in PD, they are primarily concerned with developing classroom expertise particularly in the areas of instruction and classroom management (Brunetti & Marston, 2018). Findings from this study indicated that participating BT were seeking specific instructional and behavioral strategies to improve their practice for working with students with autism. While more experienced teachers may be concerned about overarching student performance goals or systemic educational impact, BT require PD that addresses their need for core teaching skills (Brunetti & Marston, 2018).

As BT develop their professional identities, building competence as well as autonomy and a sense of connectedness support positive career growth (Beauchamps & Thomas, 2009; Day, Sammons, & Stobart, 2007). Findings from this study concur with the literature that participants desired to increase their teaching skill levels. Features of the specially designed PD gave participants the opportunity to actively engage in different activities with help when needed to increase the perception of autonomy and sense of mastery (Ryan & Deci, 2002). Support in
developing a sense of efficacy empowers new teachers to develop a strong professional identity (Day, Sammons, & Stobart, 2007).

Although participants in the study expressed awareness of how to access supports in their school or district, findings indicated a reluctance for BT to request the help they needed. For example, Esther expressed, “It's sort of imposing because all the people on this autism team are all like central office people… it's a little bit imposing to call them and say how can you help me in my classroom.” Similarly, when PD is provided for BT, it can be inhibiting for a mentor, someone who is responsible for assessing teaching performance, to be present (McIntyre, Hobson, & Mitchell, 2009). To develop the proficiency and confidence needed by BT for identity development, specific PD for their needs should be delivered in a non-threatening situation (Day, Sammons, & Stobart, 2007; McIntyre, Hobson, & Mitchell, 2009). Safe spaces enable BT to explore new, possibly anxiety-provoking topics in a comfortable environment (Damico, McKinzie-Bennet, & Fulchini, 2018). During general in-service PD activities, BT often find themselves in a position where their ideas or input is undervalued or even ignored (Charner-Laird, Szcesziul, Kirkpatrick, Gordon, & Watson, 2016). For this study, BT were given the opportunity to learn new information, engage in problem-solving, and create tangible resources in a collaborative setting with other BT and without job-related supervisors. Thus, the provision of BT specific PD allowed the participants to develop their knowledge base and express their competence while building connections to other new teachers. Such experiential learning in a safe space can develop critical thinking and insight into presented topics (Kisfalvi & Oliver, 2015). This combination increases the likelihood for the growth of positive teacher identities (Day, Sammons, & Stobart, 2007).
In the examination of teacher identity development, establishing a feeling of relatedness is an important part of needed supports (Beauchamp & Thomas, 2009; Day, Sammons, & Stobart, 2007). Studies based in social learning theory indicate that being part of a supportive social group decreases stress and increases motivation to succeed (Baumeister & Leary, 1995; Juvonen, 2007; Juvonen & Wentzel, 1996; Wenger, 1999). However, many BT report feelings of isolation or lack of recognition as a valued contributor to their professional setting (Charner-Laird, Szczesiul, Kirkpatrick, Gordon, & Watson, 2016; Sanderson, 2003). Findings from this study indicated that BT enjoyed collaborating with other novice teachers. When BT have the opportunity to interact on topics of concern such as inclusive practices, they can co-construct knowledge and reflect on learning together which builds deeper understanding and connections (Charner-Laird, Szczesiul, Kirkpatrick, Gordon, & Watson, 2016; Damico, McKinzie-Bennet, & Fulchini, 2018; Zhukova, 2018). While many induction practices for BT focus on procedural topics, BT should be provided regular time to learn and collaborate around self-identified needs, such as working with students with autism, in order develop a sense of belonging as well as a sense of mastery (Charner-Laird, Szczesiul, Kirkpatrick, Gordon, & Watson, 2016; Damico, McKinzie-Bennet, & Fulchini, 2018; Day, Sammons, & Stobart, 2007).

Preparing Teachers to Work with Students with Autism in Inclusive Settings

In this study, the PD was designed to specifically address identified BT needs for working with students with autism in general education classrooms. As noted in this discussion, specific PD for BT to meet their areas of concern is both necessary and beneficial. With the increasing number of students with autism attending general education classrooms, it’s important for all teachers to learn about autism but especially for BT who are most vulnerable to negative
experiences impacting their sense of efficacy, jeopardizing their positive teacher identity growth (Day, Sammons, & Stobart, 2007).

Findings from this study indicated that BT desired to develop their skills for working with students with autism in general education by observing or talking to experienced teachers implementing appropriate practices. For example, Esther stated, “I wish there was a classroom teacher on that autism list that might be less threatening to reach out to”. Jessica similarly indicated, “They don't have to work there but give me a phone number, give me somebody, give me an email to contact at least.” As BT build their skills in the first developmental stage of their career, they are dependent on colleagues for advice and mentoring to address the demands of their classroom (Brunetti & Marston, 2018). Unfortunately, many veteran teachers are not prepared to work with students with autism themselves (Roberts & Simpson, 2016; Sansosti & Sansosti, 2012). Finding opportunities for interactions with inclusive role models is important to validate BT beliefs and develop strong classroom practices (Brunetti & Marston, 2018; Damico, McKinzie-Bennet, & Fulchini, 2018; Day, Sammons, & Stobart, 2007). Since an inclusive mentor may not be available within a specific school, perhaps a local expert who is in a non-supervisory role could be identified to demonstrate effective teaching strategies and answer questions. Demonstrations could take place as part of BT specific PD activities or accessed via video-conferencing techniques. Supporting BT development as inclusive teachers for students with autism through good role modeling and mentoring will provide a sense of skill mastery and belonging to a larger professional group (Damico, McKinzie-Bennet, & Fulchini, 2018; Day, Sammons, & Stobart, 2007).

Most of the participants in this study reported previous experiences with a person with autism either as a family member or a formerly taught student. Previous experience with autism
generally leads to more positive attitudes towards inclusion (Chung, Chung, Edgar-Smith, Palmer, DeLambo, & Huang, 2015; Segall & Campbell, 2012). Interviewees in this study noted that other teachers in their building seemed fearful of students with autism and attributed this concern to a lack of knowledge or interactions with people with autism. This observation led to BT feeling isolated in their support of inclusive opportunities for students with autism. When BT feel isolated, it’s difficult to develop the support and relationships needed for positive teacher identity development (Charner-Laird, Szczesiul, Kirkpatrick, Gordon, & Watson, 2016; Sanderson, 2003; Damico, McKinzie-Bennet, & Fulchini, 2018; Day, Sammons, & Stobart, 2007). To counter this isolation, BT recommended that all teachers be encouraged to interact with students with autism even if that student is not on their class roster. Perhaps these interactions could occur through classroom visits during teacher planning or non-instructional activities such as volunteering for events like Special Olympics. Another option might be for the identified local experts to guide BT in developing autism awareness events for their assigned schools. This exercise would give BT the opportunity to share their expertise and be seen as a valued contributor by their fellow teachers thereby giving BT both validation and belonging important for their teacher identity development (Charner-Laird, Szczesiul, Kirkpatrick, Gordon, & Watson, 2016; Day, Sammons, & Stobart, 2007).

Similar to other teachers in their early career stage of development, findings indicated that BT desired more opportunities to continue development of their instructional and behavior management skills for working with students with autism (Brunetti & Marston, 2018; Charner-Laird, Szczesiul, Kirkpatrick, Gordon, & Watson, 2016; Day, Sammons, & Stobart, 2007; Zhudova, 2018). Effective PD for continued support should be relevant to teacher needs, allow for collaboration and reflection as well as be sustained over time (Garet, Porter, Desimone,
Birman, & Yoon, 2001; McComb & Eather, 2017). Since BT are considered to be in the survival stage of teacher development for their first three years in the classroom, a single workshop would most likely not provide enough information and support to singularly meet teacher needs (Damico, McKinzie-Bennet, & Fulchini, 2018). Most school districts offer an induction program to support BT during their first three years as teachers. However, induction meetings often focus on policy and procedures instead of lesson planning and problem solving desired by BT (Corbell, Osborne, & Reiman, 2010). BT could benefit from using part of their induction sessions to learn and collaborate around self-identified needs especially regarding working with students with autism. Using induction opportunities to learn practical information with other BT can develop a sense of belonging as well as a sense of efficacy (Charner-Laird, Szczesiul, Kirkpatrick, Gordon, & Watson, 2016; Damico, McKinzie-Bennet, & Fulchini, 2018; Day, Sammons, & Stobart, 2007).

In conjunction with training and supports, BT need access to resources to implement recommended practices (Billingsley, 2010; Gehrke & Murri, 2006; Ingersoll, Merrill, & Stuckey, 2014). From this study, BT expressed frustration with difficulty obtaining needed materials for the students with autism in their classrooms. As part of the provided PD, BT were appreciative that they could create autism-specific intervention tools to take back for their students. Having this opportunity, enabled BT to feel a sense of achievement and control over their own classroom management which contributes to their positive teacher identity growth (Day, Sammons, & Stobart, 2007).

Use of the Social-cognitive Theory Framework to Design PD for Beginning Teachers

For this study, the components of SCT provided a framework for the design of the PD and analysis of the concepts. Bandura’s (1986) social-cognitive theory describes the constant
interplay between cognitive beliefs (knowledge and attitude) environmental circumstances and other behaviors to guide learning and future cognitive and behavioral choices. While SCT has been used to guide studies of pre-service teacher experiences (An & Meaney, 2015; Colombo-Dougavito, 2015), this study explored the theory’s application to meeting BT needs.

In line with Social-cognitive Theory, the specially designed PD addressed the areas of knowledge about autism characteristics (cognitive knowledge), teaching and behavioral strategies (behavior), and classroom intervention tools plus follow-up support information (environment resources). Findings from the study indicated that BT found the workshop informative and applicable to their practice. They also enjoyed building knowledge with fellow BT and creating real materials for use in their classrooms.

BT who leave the profession early cite common factors: Lack of necessary knowledge, lack of resources or support, and difficulties with student behavior (Ingersoll, Merrill, & Stuckey, 2014). Teachers who have concerns about working with students with autism in inclusive settings express similar worries (Roberts & Simpson, 2016; Sansosti & Sansosti, 2012). Thus, framing the PD design using an SCT framework naturally accounted for BT to gain the information, strategies, and support needed to address their concerns. Although other theoretical factors are in play, SCT provided a useful tool for organizing research on BT development.

Limitations

This study explored the experiences of BT who received PD to meet their needs regarding students with autism in general education classrooms. Although this study did provide insight into novice teacher supports, preparing teachers to work with students with autism in inclusive settings, and the use of an SCT framework to design PD for BT, there were some limitations.
First, the participants in this study were limited to attendees of a specific program, the North Carolina State University College of Education Beginning Teacher Institute. In response to increasing numbers of BT attending the annual program, additional workshops were offered to expand the number of topics while reducing group size to allow for more individual interactions and support. Thus, the total participant pool for the study was relatively small (n = 17).

As program attendees, participants self-selected to attend the researcher provided PD. Most of the participants had previous experience with people with autism and expressed a desire to learn more as one of their reasons for attending the workshop. However, this also limits the findings of the study since the views of BT without previous autism experience was not represented.

Of the 17 participants, 12 volunteered to complete follow-up interviews. However, an unexpected event, Hurricane Florence, impacted multiple school systems just after the start of the school year. Many schools were closed, and families of teachers and students alike were displaced for weeks. Thus, I was either unable to contact all potential interviewees due to displacement or they did not have school experiences on which to reflect.

**Future research**

The exploratory nature of this study highlighted several areas for future study. First, since BT are at a different stage of career development than their veteran colleagues, they require PD that is specifically designed for their needs to develop confidence and competence in the classroom. This is especially true in the area of working with students with autism since it is unlikely that BT are entering the classroom fully prepared by their teacher education program. Therefore, further work is needed to develop, implement, and evaluate ongoing PD to prepare and support BT working with students with autism. Since most BT are involved in district-level
induction programs during their first three years of teaching, specific PD that incorporates
instructional and behavioral strategies for working with students with autism could be integrated
within the existing process. Providing PD for working with students with autism to all BT
within a district could counter the limitation of self-selected participation by teachers who have
previous experience with autism. To study the implementation of autism PD during BT induction
programs, research could be conducted as a simultaneous explanatory mixed-methods design.
The quantitative phase of the study could measure participant responses to efficacy and
knowledge surveys at the beginning and end of the school year, teacher retention rates, and job
satisfaction ratings. Effects on students with autism within participating classrooms could be
measured by changes in amount of time with typical peers and skills inventories for changes to
academic, social, and behavioral performance. In the qualitative phase, researchers could
observe classrooms for evidence of strategy implementation and conduct focus groups or
interviews to enrich understanding of BT response to the intervention.

Second, findings from this study indicated that BT enjoyed collaborating with each other
and desired continuing connections to learn and grow together as inclusive teachers. Work is
needed to create sustainable BT support networks in either face-to-face or alternate formats.
Through this network, BT could also identify and design additional PD to meet their specific
needs regarding working with autism or any other topic thereby empowering them to take charge
of their growth in the profession. Study of this network should examine the effects of readily
available collaboration and connections on teacher efficacy and retention as well as student
outcomes. This research could be designed as simultaneous mixed methods study. Sources of
qualitative data could include interviews, field notes from network conversations, and classroom
observations. Quantitative measures could include surveys of teacher efficacy, retention rates,
job satisfaction measures, and inventories of performance levels for students with autism in the areas of academic, social, and behavior skills.

Last, interviewed participants in this study expressed a reluctance to contact district resources that have a perceived supervisory role for help with their students with autism. However, they also expressed a desire to have a connection to a veteran teacher to contact for advice or observe in action. Thus, efforts should be made to establish novice teacher learning communities that use non-supervisory mentors and safe spaces to allow BT to explore new or challenging topics. Perhaps local experts could be identified as supports and role models to answer BT questions and provide observation opportunities either in person or through technology. Similar to the BT support network, study of this endeavor could be designed as an instrumental case study with data collected from interviews, field notes from learning community meetings, surveys, and classroom observations.

**Conclusion**

As the number of students with autism attending general education classrooms continues to grow, preparing and supporting inclusive teachers will be an ongoing endeavor. New teachers entering the classroom often have not been prepared through their undergraduate programs to work with students with ASD in the regular education classroom (Roberts & Simpson, 2016). A lack of teacher knowledge about autism and evidence-based practices is a frequent barrier to inclusion opportunities for students with ASD (Sansosti & Sansosti, 2012). Although autism is considered a low-incidence disability, only representing about 1% of all public-school students (U.S. Department of Education, 2018), the characteristic communication and behavioral challenges of students with ASD can greatly impact the classroom. Teachers working with students with ASD require knowledge of a variety of possible skills and strategies to effectively
manage behavior and deliver instruction (Crosland & Dunlap, 2012). In this study, as in earlier research, BT express concerns about adapting instruction to meet diverse learning needs and managing behavior for all their students (Ingersoll, Merrill, & Stuckey, 2014). Knowledge and training in EBP for autism such as prompting, reinforcement, and task analysis would enable BT to have skills they can apply to modify instruction for a wide range of learners including those who have learning disabilities, attention-deficit disorders, cognitive impairments, or who are learning English as a Second Language. Other EBP such as antecedent-based interventions, functional behavior assessments, and self-management could help BT problem-solve and manage individual as well as classroom behavior. Thus, an investment in training BT to work with students with autism in general education settings could build confidence and competence in strategies that support success in the classroom overall.

This study indicates that beginning teachers have potential to become inclusive educators with appropriate training and support. When novice teachers feel knowledgeable and supported, they are more likely to remain in the profession (Ingersoll, Merrill, & Stuckey, 2014). However, this support should be specific to their needs for core classroom skills especially for meeting the academic, social, and behavioral needs of their students with autism. Additionally, BT should have opportunities to collaborate with each other and non-supervisory mentors in safe spaces to develop their confidence and deeper understanding of the complexities of inclusive teaching. Teachers who understand the impact of autism on learning and classroom behaviors can have more positive expectations of their students with ASD thus giving them a greater opportunity to succeed. At the same time, experiencing inclusive teaching success contributes to the BT sense of confidence and effectiveness further building their positive career growth (Day, Sammons, & Stobart, 2007). Thus, providing specific PD opportunities for BT regarding working with
students with ASD in general education classrooms becomes a positive cycle of growth for both educators and students with autism.
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APPENDICES
### Appendix A. Reflective questionnaire

### BTI: Teaching Students with Autism in General Education Classrooms

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td><strong>Curriculum teaching assignment:</strong></td>
</tr>
<tr>
<td></td>
<td>○ Special Education</td>
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<tr>
<td></td>
<td>○ General Education</td>
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<tr>
<td>2.</td>
<td><strong>Grade level teaching assignment:</strong></td>
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<td></td>
<td>○ K-5</td>
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<td></td>
<td>○ 6-9</td>
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<tr>
<td></td>
<td>○ 9-12</td>
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<tr>
<td>3.</td>
<td><strong>Years classroom teaching experience:</strong></td>
</tr>
<tr>
<td></td>
<td>○ 0, Newly licensed</td>
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<tr>
<td></td>
<td>○ 1</td>
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<td></td>
<td>○ 2</td>
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<tr>
<td>4.</td>
<td><strong>Gender:</strong></td>
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<td></td>
<td>○ Male</td>
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<td></td>
<td>○ Female</td>
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<tr>
<td>5.</td>
<td><strong>Race:</strong></td>
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<td></td>
<td>○ African American</td>
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<td></td>
<td>○ Hispanic/ Latino</td>
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<td></td>
<td>○ Asian</td>
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<tr>
<td></td>
<td>○ Caucasian</td>
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<td></td>
<td>○ Native American</td>
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<td></td>
<td>○ Other:</td>
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<tr>
<td>6.</td>
<td><strong>Subject certification (choose all that apply):</strong></td>
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<tr>
<td></td>
<td>○ ELA</td>
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<tr>
<td></td>
<td>○ Math</td>
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<tr>
<td></td>
<td>○ Science</td>
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<td></td>
<td>○ Social Studies</td>
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<td>○ CTE</td>
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<td></td>
<td>○ PE</td>
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<td></td>
<td>○ Special education, General curriculum</td>
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<tr>
<td></td>
<td>○ Special education, Adaptive curriculum</td>
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<tr>
<td></td>
<td>○ Other:</td>
</tr>
<tr>
<td>7.</td>
<td><strong>Path to licensure:</strong></td>
</tr>
<tr>
<td></td>
<td>○ Undergraduate teacher preparation program</td>
</tr>
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<td></td>
<td>○ Graduate program</td>
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<tr>
<td></td>
<td>○ Lateral entry/ Alternate licensure program</td>
</tr>
<tr>
<td></td>
<td>○ Other:</td>
</tr>
<tr>
<td>8.</td>
<td><strong>What is your previous experience with a person with autism?</strong></td>
</tr>
</tbody>
</table>

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9. **Rate your level of agreement with the following statements by recording a number from 1 to 5 using the scale given below:**

<table>
<thead>
<tr>
<th>Strongly disagree (1)</th>
<th>Disagree (2)</th>
<th>Not sure (3)</th>
<th>Agree (4)</th>
<th>Strongly agree (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I can describe a student's characteristics that relate to autism.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I can adapt teaching activities for a student with autism.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I can determine the causes of problematic behaviors of a student with autism.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I can implement positive behavioral supports for a student with autism.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I can teach a student with autism how to socially interact appropriately with others in my classroom.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I can teach academic skills to a student with autism.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I would be comfortable teaching in a classroom that has at least 1 student diagnosed with autism.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>In most cases, a student with autism can be successfully integrated into a regular classroom provided that training and support are available.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I would currently know how to access professional support and resources to assist me in meeting the needs of a student with autism.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
Appendix B. Interview volunteer form

**BTI: Teaching Students with Autism in General Education Classrooms**

*If you are willing to participate in a follow-up interview, please provide a contact email below. Selected participants who complete the interview process will be offered a $25 gift card as compensation for their time. Interviewees will be assigned a pseudonym for anonymity.*

☐ No, thanks  
☐ Yes, please contact me at (email): ______________________________________________

1. **Curriculum teaching assignment:**
   - ○ Special Education
   - ○ General Education

2. **Grade level teaching assignment:**
   - ○ K-5
   - ○ 6-8
   - ○ 9-12

3. **Years classroom teaching experience:**
   - ○ 0, Newly licensed
   - ○ 1
   - ○ 2

4. **Gender:**
   - ○ Male
   - ○ Female

5. **Subject certification (check all that apply)**
   - ○ ELA
   - ○ Math
   - ○ Science
   - ○ Social studies
   - ○ CTE
   - ○ PE
   - ○ Special Ed- General curriculum
   - ○ Special Ed- Adaptive curriculum
   - ○ Other: ____________________________

6. **Path to licensure:**
   - ○ Undergraduate teacher preparation
   - ○ Program
   - ○ Graduate program
   - ○ Lateral entry/ Alternate licensure program
   - ○ Other: ____________________________
7. **Race:**
   - ☐ African American
   - ☐ Hispanic/ Latino
   - ☐ Asian
   - ☐ Caucasian
   - ☐ Native American
   - ☐ Other:

8. **Previous experience with autism:**
   - ☐ None
   - ☐ Family member
   - ☐ Have autism
   - ☐ Classmate
   - ☐ Student in class I taught
   - ☐ Other
Appendix C: Semi-structured interview protocol

Introduction

Hi, I’m Malinda Pennington from NC State. I’m here today to discuss your experience at the autism professional development that you attended at the Beginning Teacher Institute. This project is part of my dissertation research at NC State University. The purpose of the project is to explore how professional development impacts beginning teacher beliefs regarding students with autism in general education classrooms. Your feedback will be useful in understanding the needs and concerns of new teachers working with students with autism in inclusive settings.

During our time together, I will ask you questions about your previous experiences preparing to be a teacher, teaching in the classroom, and interacting with people with autism. I will also ask you questions about your knowledge and attitudes about students with autism in a general education classroom as well as your ability to access resources for support.

I’m going to record our conversation, if that’s alright, so that I can review later to take notes. I will also take some notes as we talk. Later, I will send you a transcript of our conversation that you can check for accuracy. If you feel something in the transcript needs to be clarified, you will be able to note comments. All the data collected here will be kept confidential. If your information is referenced in any written report, you will be assigned a pseudonym. Does this sound good to you?

If you’re ready, I’m going to go ahead and start the recorder.

[Once they say “yes”, I will turn on recorder, and “label” the recording by saying the following: This is Malinda Pennington, speaking with TEACHER NAME on DATE AND TIME].
**Previous experiences**

As we begin our conversation, I would like to know more about you as a teacher.

1) How did you become a teacher?

2) Prior to the workshop, what were your previous experiences with autism?

**Current experience**

3) Describe your school and classroom that you’re working in this year.
   
   a) What is the neighborhood like?

4) Do you have a student with autism in your class this year?
   
   a) If so, how are things going academically?
   
   b) Behaviorally?
   
   c) Are you using any of the strategies that you learned in the workshop? If so, how?

**Professional development workshop reflection**

Now let’s talk about the Beginning Teacher Institute, I would like to know more about your experience during the autism professional development.

5) Why did you choose to attend this professional development?
   
   a) What worked well?
   
   b) What could have been better?

**Reflection based on components of Social-cognitive Theory**

During the workshop, we discussed a variety of strategies and tools that you could use with a student with autism in your classroom. Let’s reflect on your thoughts and feelings after the workshop.

**Knowledge:**

6) Before the professional development, how would you describe your knowledge of autism spectrum disorder?

7) After the professional development, how would you describe the characteristics of a student with autism?

8) How would these characteristics impact student performance in your classroom?

9) What would/do you do to make a student with autism a part of your classroom?
Attitudes:
10) How did you feel about students with autism and inclusion before the professional development?
11) After the professional development, how do you feel about having a student with autism in a general education classroom?

Resources:
12) Before the professional development, how did you feel about your access to resources or support to work with a student with autism?
13) What would you do in your current school if you needed help with a student with autism?
14) What support or resources do you currently have? What other support or resources would you like to have?

Conclusion
As we wrap up, is there anything you’d like to share that I didn’t ask about? Do you have any other reflections about the professional development or working with students with autism that you’d like to share? Thank you for taking the time to meet with me today. When the transcript of our conversation is complete, I will send a copy for your review and approval. I wish you the best for a great school year.

[Once they stop the conversation, I turn off the recorder].
Appendix D. Autism resource links

http://www.do2learn.com/
**Do2Learn**: Website with activity ideas and supports for everything from behavior to fine motor to academics. Also, includes helpful information about autism and related disabilities.

http://www.autisminternetmodules.org/
**Autism Internet Modules** provide videos, resources, and step-by-step instructions for using evidence-based practices across ages and settings. Training clusters include:
- Recognizing Autism
- Autism in Infants & Toddlers
- Autism at Home
- Autism in the Classroom
- Autism in the Workplace
- Autism in the Community
Access modules by creating a **free account**. (A **fee-based** option exists to earn **PD or CEU** credits for completing modules.)

http://afirm.fpg.unc.edu/
**AFIRM: Autism Focused Intervention and Resources Modules**- Provides **free** online modules with video examples and step-by-step instructions to implement a variety of evidence-based practices. Participants can sign up to receive a **free** PD certificate of completion. Current modules available for:
- Antecedent-based Intervention
- Discrete trial training
- Exercise
- Functional behavior assessments
- Modeling
- Peer-mediated instruction and intervention
- PECS
- Prompting
- Reinforcement
- Social narratives
- Social skills training
- Task analysis
- Time delay
- Visual supports

http://theautismhelper.com/
**The Autism Helper**: Teacher’s tips and shared resources from a classroom teacher. Includes many free sections and some products for purchase.
http://csesa.fpg.unc.edu/
**Center on Secondary Education for Students with Autism Spectrum Disorder** - Excellent resources, strategies and staff training materials for middle and high school students!

http://ncautismteam.ncdpi.wikispaces.net/
**NC Autism Team**: Regional consultants for the public school system, resources for professional development and class supports

http://teacch.com/
**TEACCH Autism Program**: Regional centers, statewide training opportunities, school and family resources.

http://www.autismsociety-nc.org/
**Autism Society of NC**: Autism support, advocacy and services. Has links to comprehensive bookstore and different free resources available.

https://www.autismspeaks.org/
**Autism Speaks**: Autism support, advocacy and resources. Has links to a wide variety of information topics and sources for assistance. Has templates for creating custom social stories.