Birth-Kindergarten Licensure Graduates’ Perceptions of Their Current Practices and Pre-Service Preparation Relative to Individualization Strategies for Young Children

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Abstract

MARGARET C. GILLIS: “Birth-Kindergarten Licensure Graduates’ Perceptions of Their Current Practices and Pre-Service Preparation Relative to Individualization Strategies for Young Children” (Under the direction of Harriet Able and Sharon Palsha).

The purpose of this study was to examine the current practices and pre-service preparation of recent graduates of North Carolina Birth-Kindergarten (B-K) teacher licensure programs related to individualizing curriculum and instruction for children. Participants were 142 individuals who graduated from B-K licensure programs in four-year institutions from 2007 to 2010. Participants completed the Birth-Kindergarten Licensure Graduates Survey, providing ratings of their perceptions of the frequency with which they engaged in specific assessment, instructional, and collaborative practices and ratings of their perceptions of their B-K preparation for each practice. Participants also provided information regarding their work settings and their familiarity with recent innovative practices and policy, such as evidence-based practice, early intervening services, and Response to Intervention.

Results were analyzed through descriptive statistics and gamma correlations. Results indicated B-K graduates report using a variety of assessment, instructional, and collaborative practices frequently. The practices participants reported using least frequently were using supplemental literacy and math curricula and collaborating with other professionals for a variety of tasks. Results also indicated that participants felt well prepared for most individualizing tasks. Participants reported being least prepared to conduct assessments for screening and to use supplemental literacy and math curricula.
Gamma correlations were calculated to examine the relationships between perceived preparation and practice for each assessment, instructional, and collaborative task. Significant relationships were found for conducting screenings, using supplemental literacy curricula, and using supplemental math curricula. This suggests individuals who felt more prepared for each of these tasks were more likely to incorporate them into their practice. Participants also reported some familiarity with the concepts of evidence-based practice, early intervening services, and Response to Intervention.

The findings of this study suggest B-K licensure programs prepare graduates well for a variety of assessment, instructional, and collaborative practices related to individualizing for children. The findings also suggest graduates frequently employ a variety of strategies to meet individual children’s needs. However, further research is necessary to understand how early childhood educators use these strategies. Further research is also needed to determine if early childhood educators use assessment, instructional, and collaborative strategies in a systematic manner to identify and address children’s individual needs. Limitations, future directions, and implications for practice and preparation are also discussed.
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Chapter One: Statement of the Problem

The population of young children in the United States has become increasingly diverse over the past several decades and will likely only continue to become more diverse (National Center for Education Statistics [NCES], 2009). With increased demographic diversity comes an increased range of learning needs to which educators of young children must be able to respond in order to promote the success of all children (Horn, 2003). There are more children considered at risk than ever before, and research on early intervention and early childhood education programs targeted towards children at risk demonstrates the positive impact of early experiences on individuals throughout their lifetimes, both educationally and socially (Campbell & Ramey, 1995; Campbell, Ramey, Pungello, Sparling, & Miller-Johnson, 2002; Schweinhart & Weikart, 1985).

Research on the efficacy of early childhood programs has increased national political attention on the education of children before they enter school, and policy initiatives have made provisions for children with disabilities and children who are at risk to receive support for their development and learning. Provisions of “early intervening services” for children who are not yet eligible for special education services are aimed to prevent learning difficulties from developing into more serious problems and to reduce over-identification of learning disabilities (Coleman, Buysse, & Neitzel, 2006). Early intervention has focused on models of individualization that tailor curriculum and instruction to children’s individual needs, such as Universal Design for Learning (Coyne et al., 2006), Differentiated Instruction
Response to Intervention (RTI) is a model that has gained national attention in primary grades and is emerging practice in early childhood. RTI combines curriculum, assessment, and collaboration in a preventive intervention framework. Targeted interventions are arranged from least intensive to most intensive in tiers (that is, Tier 1 is least intense, Tier 3 is most intense). Teachers work with other professionals and parents to assess children on key skills and concepts and to determine whether children need additional instruction and support to learn skills and concepts (Barnett, VanDerHeyden, & Witt, 2007). To implement a model such as RTI, teachers conduct assessments for screening and progress monitoring, implement research-based core curricula for the entire class, use evidence-based targeted interventions with small groups and individual children who need additional support, and collaborate with professionals and parents to make instructional decisions (Haager, Klingner, & Vaughn, 2007). Many of these new roles for teachers are outside traditional job descriptions for classroom teachers, and specialists may find themselves taking on the role of consultant rather than direct service provider. Rather than specialists, such as speech-language pathologists, coming into classrooms to work one-on-one with specific children or pulling children out of their regular classrooms for speech therapy, specialists may provide classroom teachers with strategies for teachers to implement within the regular classroom. The role of direct service provider shifts from the speech-language pathologist (SLP) to the teacher, and the SLP becomes a consultant. In an RTI model, teachers and specialists implement many strategies that are derived from special education, and professional preparation impacts teachers’ knowledge and skills for individualizing instruction (Spodek &
Implementation of RTI in early childhood settings is increasing, yet state level pre-kindergarten, IDEA Part B, and Head Start administrators identify lack of trained personnel as their greatest challenge (Linas, Carta, & Greenwood, 2010). In professional preparation programs, early childhood educators gain knowledge and skills for individualizing. However, the majority of early childhood educators do not hold bachelor’s degrees (Lieber et al., 2009).

Early childhood professionals have a wide range of educational backgrounds, ranging from a high school diploma to a master’s degree and specialized training in early childhood education (National Research Council, 2001). However, research highlights the positive impact of professional education on aspects such as teacher effectiveness (Howes, Phillips, & Whitebook, 1992), program quality (Kontos, Howes, & Galinsky, 1996), and child outcomes (Darling-Hammond, Wise, & Klein, 1999). With research supporting the influence of professional education for early childhood professionals, Isenberg (2000) recommended that states develop free-standing teacher licensure for early childhood. All fifty states and Washington, D.C., have some form of early childhood licensure, certification, or endorsement that is required for teachers in public schools. The age range covered by licensure, certification, or endorsement varies by state from birth to fourth grade (Jones, Martin, & Crandall, 2009). North Carolina is one of six states offering a license covering birth through kindergarten and one of five states in which licensure integrates early childhood special education and early childhood education. In North Carolina there are currently 23 colleges and universities approved by the state Department of Public Instruction to prepare pre-service professionals to obtain a Birth-Kindergarten (B-K) license (North Carolina Department of Public Instruction, 2007).
Birth to Kindergarten licensure programs in North Carolina and early childhood licensure programs across the country prepare individuals according to standards developed by the National Association for the Education for Young Children (NAEYC) and the Division for Early Childhood (DEC) of the Council for Exceptional Children. Program standards outline competencies in knowledge and skills in child development, curriculum development, assessment purposes and strategies, collaboration with other professionals, and working with families (NAEYC, 1993). These standards serve as the foundation for early childhood preparation programs, and candidates for licensure must demonstrate competence on each standard to earn licensure. In order to individualize for children or work within an RTI framework, teachers must have the skills to conduct assessments, use assessment results to inform instruction, and collaborate with professionals and families to make instructional decisions (Danielson, Doolittle, & Bradley, 2007). They must also be able to work with small groups and individual children to provide more intensive, targeted instruction on key skills (Haager et al., 2007).

Despite the growing demands on teachers, little attention has been paid thus far to preparation of pre-service teachers to implement models such as RTI (Danielson et al., 2007). Although they are prepared according to high standards, many teachers have reported feeling unprepared to meet the needs of children with disabilities and English learners (Lobman, Ryan, & McLaughlin, 2005). Research indicates teachers continue to teach the way they were trained in their pre-service education (Ball & Cohen, 1996; Haager et al., 2007; Lieber et al., 2009). There is a need to prepare pre-service professionals for research-based, innovative practices, such as RTI, if schools require them to employ these methods. Early
childhood professionals are expected to perform a variety of tasks to individualize curriculum and instruction for children, yet little is known about how prepared they are in this capacity.

The purpose of this study is to examine the perceptions of recent graduates (i.e., individuals who graduated from 2007 to 2010) of B-K licensure programs in North Carolina regarding their current practices and their undergraduate B-K preparation related to individualizing curriculum and instruction. The study is a correlational study employing survey methodology. There are four primary research questions of interest in this study:

RQ1) Which assessment and instructional strategies do early childhood professionals report using frequently?

RQ2) How strongly is perception of preparation for a specific assessment or instructional practice related to perceived frequency of use of that practice?

RQ3) Which collaborative practices do early childhood professionals report using frequently?

RQ4) How strongly is perception of preparation to collaborate for specific tasks related to perceived frequency of collaboration for those tasks?
Chapter Two: Literature Review

Almost one-third of the population of children under age 18 in the United States is under the age of five (21 million; National Association for the Education of Young Children [NAEYC], 2009). As the population of young children in the United States becomes increasingly diverse, early childhood professionals must develop strategies to meet the more diverse needs of individual children. The overall percentage of children ages three to four enrolled in preschool rose from 20% in 1970 to 55% in 2007 (NCES, 2009). During the same timeframe, the percentage of public school students who were White decreased from 78% to 56%. The number of children who are culturally and linguistically diverse has risen dramatically since the 1970s. In addition to cultural and linguistic diversity, the population of children receiving special education services has increased greatly since the 1975 enactment of the Education for All Handicapped Children’s Act (P.L. 94-142), which ensured a “free and appropriate public education” to children ages six to 21 with disabilities (most recently reauthorized as the Individuals with Disabilities Education Improvement Act of 2004; IDEA). In the first year of enactment (1976-77), 3.7 million children (approximately 5% overall) received services under P.L. 94-142, compared to 6.7 million children (approximately 9% overall) during the 2006-07 school year under IDEA (NCES, 2009). This increase is partially attributable to the extension of special education services to children from ages three to five with the passage of the Education of all Handicapped Amendments of 1983 (P.L. 98-199) and to children from birth to age three with the 1986 passage of P.L. 99-457. Additionally, young children are more likely than any other age group to live in poverty, with 18% of
children under age 6 living in poverty, 8% of whom live in extreme poverty (i.e., below 50% of the poverty line; Horm, 2003).

The dramatic changes in the demographics of children in the United States impact the ways in which teachers educate all children. A teacher must be able to teach the child whose first language is Mandarin, the child who is homeless, the child who has limited fine motor skills, the child who has autism, and the child who is gifted, all within the same classroom and alongside their peers whose abilities and learning styles range as well. In order to teach each child, the teacher must first learn where the child is on the developmental continuum for relevant skills and concepts and then adapt the curriculum to individualize for the child. New teachers often experience a gap between their preparation and the demands of the diverse contemporary classroom (Horm, 2003). Given the diversity of children being served in 21st century classrooms, there is a great need for individualization to respond to children’s needs (Horm, 2003). Early childhood is a time of great growth and development, making it the ideal time to begin responding to children’s individual needs to promote learning and development (Perez-Johnson & Maynard, 2007).

Support for Early Childhood Education and Intervention

Research documents that early intervention can help reduce the need for special education in later grades, making it a cost-effective method of addressing learning difficulties (Campbell & Ramey, 1995; Schweinhart & Weikart, 1985). Seminal studies such as the Perry Preschool Project and the Abecedarian Project provided early education and intervention to children considered at risk and followed them into adulthood (Campbell & Ramey, 1995; Schweinhart & Weikart, 1985). The Perry Preschool Project was a randomized control study that provided high quality preschool experiences to cohorts of 3- and 4-year-old children.
olds from 1962-1967 and has followed participants into adulthood (Schweinhart & Weikart, 1985). The most recent results show that at age 40, recipients of the preschool experience were more likely to have a job, made higher salaries, were more likely to have graduated from high school, and had committed fewer crimes than their comparison peers who did not receive the preschool experience (Schweinhart et al., 2005). Likewise, the Abecedarian Project was a longitudinal study of individuals from low-income families born between 1972-1977. Infants were randomly assigned to either an early intervention group or a control group for comparison. Infants in the intervention group were enrolled in a full-time early intervention program from infancy through age 5, and infants in the control group did not receive early intervention (Campbell & Ramey, 1995). Follow-up studies at ages 12, 15, and 21 indicate that children in the intervention group had higher cognitive skills from toddlerhood through age 21, were more likely to attend a 4-year college, and were older when their first child was born (Campbell et al., 2002). Results of a recent study also indicate that individuals in the intervention group reported fewer symptoms of depression than the comparison group at age 21 (McLaughlin, Campbell, Pungello, & Skinner, 2007). Cost-benefit analyses of the Perry Preschool and Abecedarian projects found that the programs produced return benefits of $8.74 and $3.78 per dollar invested, respectively (in 2002 dollars) (Reynolds & Temple, 2006). These studies confirm the positive impact that early education has on children’s lives. Documenting the positive impact that early education has on children’s lives, Perez-Johnson and Maynard (2007) stated:

We conclude that early, vigorous interventions targeted at disadvantaged children offer the best chance to substantially reduce or altogether eliminate gaps in school readiness, lay a stronger foundation for learning, and increase the overall productivity
of educational systems in the United States. Among alternative investments, early childhood interventions offer the highest potential returns. (p. 588)

Providing early experiences to meet children’s needs and promote positive impacts throughout their lives is too important to ignore. Research on the efficacy and cost benefit of early childhood education and early intervention has led to changes in policy and recommended practices.

**Educational Policy Initiatives**

Early childhood has gained increasing national attention through policy initiatives such as the *No Child Left Behind Act* (NCLB; 2001) and the *Good Start, Grow Smart Initiative* (2002) and through increased investments in early childhood programs. President Obama’s *American Recovery and Reinvestment Act of 2009* also set aside funds to support early childhood programs such as Head Start, the *Individuals with Disabilities Education Improvement Act* (IDEA; 2004) parts B and C, and Title I. NCLB increased educational accountability, emphasizing the use of research-based curricula and high stakes testing to determine teachers’ and schools’ effectiveness. Although education below kindergarten is not specifically addressed in the Act, the Act does have implications for early childhood as pre-kindergarten programs consider kindergarten readiness. *Good Start, Grow Smart*, the early childhood counterpart to NCLB aims to improve education prior to kindergarten by strengthening Head Start, improving early learning, and emphasizing research-based practices (GSGS Interagency Workgroup, 2006). As part of the goal to improve early learning, the Child Care Bureau has partnered with states to develop early learning guidelines (i.e., content standards of what children ages 3-5 should know and learn at different ages that
align with K-12 standards), provide professional development to improve teaching practices, and develop state plans for coordination among programs serving young children.

The 2004 reauthorization of IDEA, a piece of legislation that mandates special education services for children with disabilities, included a landmark statement allowing children to receive “early intervening services” prior to referral to special education. Another statement in the reauthorization allows for a child’s “response to intervention” (rti; i.e., how the child responds to a high quality general curriculum and increased instructional support) to be used to determine learning disability status. This marks a distinct shift in the thinking about preventive interventions in that it allows schools to use funds formerly reserved for children with identified disabilities to serve children who demonstrate signs of struggle but who are not yet eligible for special education. This change in the law has the potential to reduce the incidence of learning disabilities by providing early intervention targeted towards early difficulties with learning, ameliorating the risk of a child’s developing a learning disability.

Moving from Policy to Practice

From “little rti,” the general concept of response to intervention as described in IDEA, came “big RTI,” Response to Intervention. “Big RTI” refers to a model for implementing the concepts described in IDEA under a common framework. RTI is a multi-tier model for preventive intervention that grew out of the preventive intervention framework from medicine and public health and has been gaining momentum since the reauthorization of IDEA in 2004 (Kratochwill, Clements, et al., 2007). RTI is the focus of the present research because it is being implemented widely at the primary level and is emerging at the early childhood level, garnering more widespread attention than other individualizing
models. The RTI model has been used primarily in elementary grades but increasingly is being adapted and applied to early childhood (Linas et al., 2010). RTI concepts are even beginning to be applied with infants and toddlers (Carta, Greenwood, Walker, & Buzhardt, 2010). The RTI framework involves using increasingly intensive tiers (i.e., primary [Tier 1], secondary [Tier 2], tertiary [Tier 3]) of intervention to target learning difficulties and measuring growth in key skill areas. At Tier 1, teachers provide high-quality general curriculum and instruction for all children and monitor children’s progress periodically throughout the year (e.g., fall, winter, spring). At Tier 2, children who do not meet Tier 1 benchmarks receive small group instruction targeted towards key skills, often using a supplemental curriculum (e.g., literacy, math), and teachers monitor progress on key skills more frequently (e.g., every four weeks). At Tier 3 teachers provide more intense, one-on-one instruction for children who do not meet Tier 2 benchmarks and monitor children’s progress on key skills even more frequently (e.g., bi-weekly).
RTI is closely tied to the evidence-based practice movement, which emphasizes the use of effective curricula and strategies, as evidenced by research. Other aspects of RTI, such as the use of a problem-solving process and data for decision-making to guide instruction, were inspired by the work that has been done in behavioral analysis and consultation (Bergen & Kratochwill, 1990). These approaches led the developers of the RTI framework to create a comprehensive educational intervention including direct measurement of student growth and behavior within the natural context of the classroom (Gresham, 2007).

With the IDEA reauthorization, RTI models for school-age children quickly gained the attention and support of national organizations, including the National Center for Learning Disabilities (NCLD), the Council for Exceptional Children (CEC), the National Association of State Directors of Special Education (NASDSE), and the National Association
Many of these organizations have formally endorsed RTI as a promising method for preventing academic problems from developing into disabilities and have developed position papers on the topic (e.g., CEC Position Paper on RTI [Council for Exceptional Children, 2007]). These organizations also see RTI as a way to distinguish between children with learning disabilities and children whose underachievement is due to another factor, such as inadequate instruction (Coleman et al., 2006). There is currently a push in educational research to explore the use of RTI with pre-kindergarteners, as evidenced by U.S. Department of Education Institute of Educational Science-funded projects such as the Center for Response to Intervention in Early Childhood (CRTIEC) and Recognition & Response: A Response to Intervention Model for Early Childhood. Although currently RTI is gaining more widespread implementation with school-age children, many states and research groups (e.g., CRTIEC [http://www.crtiec.org/], Recognition & Response [http://randr.fpg.unc.edu/]) are actively working to adapt the model for use in early childhood and are implementing components of RTI in early childhood programs (Coleman, Roth, & West, 2009) as they strive to individualize curriculum and instruction for young children. At the infant and toddler level, RTI concepts are being applied as a way to improve child outcomes and program quality by highlighting areas for adjustment in intensity of services (Carta et al., 2010). A survey of state pre-kindergarten, IDEA Part B, and Head Start coordinators representing 46 states, Washington, DC, and two territories found an increase in the number of states providing professional development on RTI and beginning to implement RTI in early childhood from 2009 to 2010 (Linas et al., 2010). In Head Start programs, four percent of states are fully implementing RTI and 73% of states are discussing or beginning to implement RTI, while 23% of states are not discussing or implementing the model. The
survey found that overall states are implementing Tier 1 evidence-based curriculum and identified lack of interventions for Tiers 2 and 3 as a challenge (Linas et al., 2010).

Models of Individualization

Although the terminology “Response to Intervention” may be new, the concepts and processes involved are not. Response to Intervention builds on aspects of other models of individualizing instruction, such as Differentiated Instruction (NCAC, 2002) and Universal Design for Learning (Coyne et al., 2006) yet organizes them systematically with an increased emphasis on the use of data-based decision-making to guide instruction and make decisions about the intensity of instruction necessary to help individual children acquire knowledge and skills. Differentiated Instruction, Universal Design for Learning, and Response to Intervention have shared goals and processes yet have many differences.

**Differentiated instruction.** Differentiated Instruction is a process for tailoring teaching for children of differing abilities within the same class (NCAC, 2002). Although the concept was first applied in practice to teaching gifted children who may not have been sufficiently challenged within the classroom, the approach has been applied with children of all abilities. Differentiated Instruction involves recognizing the diversity of children’s language, readiness, prior knowledge, interests, and learning styles, and responding appropriately to those factors. This approach intends to promote success through “meeting each student where he or she is” and guiding him or her through the learning process (NCAC, 2002, p. 2). Elements of the curriculum that may be differentiated include content, processes, and products (Tomlinson, 2001). Content involves the alignment of tasks with learning goals to outline steps of skill-building and a focus on broad-based concepts rather than minute details. Process includes classroom management and use of flexible grouping to
allow for peer learning. Products include initial and on-going assessment of children’s skills, children’s active exploration of the curriculum, and varied expectations and requirements for evaluation of children’s learning (e.g., providing an alternative environment for assessment).

Differentiated Instruction relies on both formative and summative assessment to monitor progress and adjust instruction as needed (Moon, 2005). Although Differentiated Instruction as a “package” lacks empirical support, it is rooted in theory and research relating to child development (NCAC, 2002). In particular, Differentiated Instruction is based on Vygotsky’s work and his zone of proximal development (ZPD; Vygotsky, 1978). This is the range between what the child is able to do him or herself and what the child can do with support. It is the range within which learning takes place. A teacher recognizes what a child is able to do on his or her own and plans instruction challenging the child to reach the next level of complexity with a task the child can do with the help of a more experienced peer or a teacher.

One way in which a teacher might incorporate Differentiated Instruction into the classroom is through the use of small groups of children with similar interests yet a range of skill levels in a particular target skill area. For example, a teacher might gather a group of children with an interest in gardening to plant seeds in a garden bed on the playground with the intent of focusing on children’s letter identification and letter sound knowledge. She may ask one child to identify the letter “C” on a packet of carrot seeds; ask another child what sound the “C” makes; and ask another child what sound “garden,” “green bean,” and “grape” have in common. Each of these tasks requires a different level of skill in phonemic awareness, yet the activity is centered on the children’s shared interest in gardening so it is motivating and allows them opportunity to learn from their more skilled peers as they observe their responses.
**Universal design for learning.** Another approach to individualizing education for children that is based on the work of Vygotsky is Universal Design for Learning (UDL) (Coyne et al., 2006). UDL grew out of the belief that when education fails, the fault lies with the curriculum rather than the learner. UDL is the educational equivalent of the universal design movement in product development and architecture, which aims to provide equal access for all individuals with accommodations such as closed-captioned televisions, ramps, and automatic doors. While these modifications were originally intended to accommodate individuals with disabilities, they ultimately ease access for everyone. For example, when pushing a grocery cart, automatic doors enable individuals to exit the building without manually opening the door and curb cuts enable individuals to push their grocery carts smoothly off the curb and into the parking lot. Both of these accommodations were originally developed for individuals with physical disabilities, but they make a trip to the grocery store easier for all.

Informed by neuroscience and subtle changes in brain activity that affect the ways in which individuals gather and process information, plan and perform tasks, and are engaged and motivated, UDL incorporates research on learner differences, new technologies, and effective assessments and teaching practices to create a framework for flexible learning opportunities that reach every learner (Rose & Meyer, 2006). The goal of UDL is “to minimize barriers and maximize learning” by providing multiple means of presentation to accommodate various methods of acquiring knowledge, multiple means of expression for demonstrating learning, and multiple means of engagement to accommodate interests and motivate learners (Rose & Meyer, 2006, p. viii). For example, drawing on the gardening example described previously, to accommodate learning styles, a teacher may present
children who are visual learners a picture sequence of instructions for planting a seed, while
the teacher may sing a song outlining the same instructions for children who are auditory
learners. To engage and motivate children, the teacher may provide opportunities for the
children to learn vocabulary related to planting a seed by playing a game, creating stories, or
creating artwork that incorporates new words. To accommodate various means of expression,
the teacher may create opportunities for children to demonstrate their learning about seeds by
drawing a picture of the steps in planting a seed, arranging picture cards of the planting
process in sequence, or acting out planting a seed. Each mode of delivery, motivation, and
expression targets the same skills and concepts but allows for flexibility based on children’s
learning preferences.

Response to intervention. Building on the concepts of Differentiated Instruction and
Universal Design for Learning, Response to Intervention (RTI) combines elements of
prevention and diagnosis to meet the educational needs of all children while most effectively
allocating resources (Jimerson, Burns, & VanDerHeyden, 2007). RTI also builds on the
Mastery Learning model, which involves sequentially organized and defined learning
objectives, regular monitoring of student learning with feedback, and evaluation of learning
that is based on criterion-referenced standards (Guskey & Gates, 1986). The basic model of
RTI includes the following: (a) research based core curriculum and effective instruction; (b)
targeted interventions provided according to a standard treatment protocol, a problem-solving
process, or a combination of both; and (c) a system of integrated assessment through
screening and progress monitoring (Jimerson et al., 2007; National Joint Committee on
Learning Disabilities, 2005). Research based core curriculum and effective instruction refers
to the general classroom curriculum used to teach all children within the class. The general
classroom curriculum should be high quality and research based, and teachers should use intentional teaching strategies to accommodate individual differences on a daily basis. Intentional teaching involves having goals in mind and a plan for accomplishing goals (Epstein, 2007). Intentional teachers use a balance of both adult-guided and child-guided experiences while providing planned and spontaneous learning opportunities. Universal screening of all children on specific developmental indicators helps to determine the adequacy of the general classroom curriculum and instruction for meeting the needs of the majority of children (Barnett et al., 2007).

Targeted intervention involves the delivery of discrete interventions that are well planned, relatively brief, and organized in sequence according to intensity (Barnett et al., 2007). In school-age models of RTI, a standard treatment protocol is often used to advance to a higher level of intensity and provide more intensive instruction in a standardized manner (Jimerson et al., 2007). However, in early childhood, emerging models rely more heavily on a problem-solving process wherein teachers, specialists, administrators, and families make decisions about individual children’s needs and goals based on child characteristics and data from assessments (Barnett et al., 2007). This difference between elementary and early childhood models is largely attributable to the desire for early childhood approaches to RTI to fit within the value system of early childhood, which emphasizes collaboration among professionals and families (Coleman et al., 2006). Models combine explicit (i.e., teacher-directed activities or supplemental curricula) and embedded (i.e., curricular modifications or environmental arrangements built into regular classroom routines and activities) approaches to deliver more intense instruction that is individualized for a child’s needs and goals (Barnett et al., 2007; Justice & Kaderavek, 2004).
The gardening example discussed previously looks quite different using an RTI model as opposed to UDL or Differentiated Instruction models. A teacher may have a lesson using gardening as the context to teach phonemic awareness skills, such as beginning sounds. The teacher’s Tier 1 instruction for the entire class might include reading a book with the children and completing an activity in which the children identify the beginning sounds of words related to gardening, such as “carrot,” “green bean,” and “tomato.” Additionally, when the teacher observes children on the playground examining plants, she may engage them in conversation about the plants. After a period of time, the teacher may assess all of the children using a progress-monitoring measure to determine whether they could identify the beginning sounds in the target vocabulary. She might find four children in a class of twenty who were unable to demonstrate mastery of this skill. She might decide to provide those children more intense instruction.

When considering how to provide increasingly intense instruction, the teacher may work with other teachers of children the same age and a speech-language pathologist. Through this collaboration, they may decide to work with the four children in a small group during center time once a day for two weeks. This Tier 2 small group instruction might consist of the teacher and small group using picture cards of the target vocabulary. The teacher may model for the children how to pronounce vocabulary by breaking down words into their sounds and then blending the sounds again to say the word. After the two weeks, the teacher may repeat the assessment she conducted with the children following Tier 1 instruction to determine whether they learned the concepts through the small group instruction. From the group of four, one child may be unable to demonstrate mastery. The
teacher may collaborate further with a speech-language pathologist to plan more intensive, one-on-one instruction with the child who was unable to demonstrate mastery.

Tier 3 instruction may involve the speech-language pathologist working with the child one-on-one in the classroom one time per day for two weeks. During this one-on-one instruction, the speech-language pathologist may use even more strategies for teaching the child the vocabulary, such as prompting or picture cues. Following the two weeks of one-on-one instruction, the teacher may repeat the assessment to determine whether the child learned the concepts. If the child remained unable to demonstrate mastery, the teacher may refer the child for further assessment. The sequence of instruction and assessment provides increasingly intensive opportunities for children to learn key skills and concepts in a structured manner.

**Continual monitoring.** Integrated assessment and instruction involves continuously monitoring children’s progress in order to determine the outcomes of instruction or intervention (Barnett et al., 2007). The ongoing goal of RTI is to provide the least amount of intervention needed for children to accomplish objectives on key skills and concepts within the general classroom (Barnett, Daly, Jones, & Lentz, 2004), so decisions about whether to increase or decrease the intensity of instruction are based on a child’s performance on progress-monitoring measures (Barnett et al., 2007). Progress-monitoring measures are designed to be quick assessments of the rate and level of children’s learning towards benchmarks (Carta et al., 2010). If children are able to accomplish learning goals, as evidenced by progress monitoring, the level of intensity of instruction may be decreased and children’s progress monitored to ensure they continue to make progress with the decreased level of support. Conversely, if children continue to struggle with skills or concepts, the level
of intensity may be increased or the teacher or specialist may try alternative methods of instruction. At the highest level of intensity, children who continue to struggle may be referred for a full evaluation to determine eligibility for special education services (Barnett et al., 2007).

**Collaboration.** At the heart of at least one model of RTI for early childhood is collaboration among professionals and families (Coleman et al., 2006). Early childhood education is ideally an interdisciplinary practice, with teachers collaborating with special educators, school psychologists, occupational therapists, physical therapists, and speech-language pathologists to meet children’s needs. The Division for Early Childhood (DEC) has defined collaboration as: “working with others to accomplish shared, identified goals and cooperating willingly” (Sandall, McLean, & Smith, 2000, p. 165). Within an RTI framework, collaboration allows teachers, families, and other professionals to share information and impressions from their perspectives in order to understand children’s needs and to develop a plan to meet those needs in a way that builds upon children’s interests. For example, a speech-language pathologist might provide suggestions for activities to build phonemic awareness, and families and teachers might identify a child’s interest in construction vehicles and building to use as a basis for the activities. In an RTI model, teaching assistants’ roles are also expanding to include more responsibility in teaching duties (Hauerwas & Goessling, 2008). For example, a teacher may rely on her assistant to lead small group activities while she works intensively with one or two children on specific skills.

Another aspect of collaboration for RTI is flexible role definitions or role sharing (Richards, Pavri, Golez, Canges, & Murphy, 2007). Assessment is a new role for many classroom teachers in RTI models for the prevention of reading disabilities, decreasing
instructional time and the teacher’s attention to the whole class (Haager et al., 2007). Additionally, the classroom teacher is no longer responsible for delivering uniform instruction to all the children within the class (Richards et al., 2007). Classroom teachers additionally use small groups and individual instruction. Classroom teachers may take on the role of the specialist to deliver targeted interventions with small groups and individual children with support from specialists, such as speech-language pathologists, physical therapists, and occupational therapists. Alternatively, specialists may work with small groups within the classroom rather than individual children in the classroom or on a pull-out basis (Haager et al., 2007). Specialists or special educators may provide indirect or direct consultation to classroom teachers, assist classroom teachers in analyzing assessment results, and assist teachers in using assessment information to differentiate instruction for small groups. At the tertiary or Tier 3 level of intensity of instruction, special educators may work more intensively with individual children and use a greater variety of strategies to support their learning (Haager et al., 2007).

**The Role of the Early Childhood Professional**

Early childhood professionals have a large impact on young children’s learning and development, as they become very familiar with children and as they interact with them on a routine basis within the classroom (National Research Council, 2001). High-quality teachers encourage children’s learning in all domains of development (Howes et al., 2008). Skilled teachers use a balance of teacher-directed instruction and opportunities for children to explore and investigate on their own, learning problem solving and reasoning skills in the process (Meyer, Wardrop, Hastings, & Linn, 1993). Effective instruction leads to positive learning outcomes for children (Hamre & Pianta, 2005), and providing high-quality feedback
and opportunities to extend children’s knowledge through engaging activities further enhances learning (Meyer et al., 1993). The social and emotional climate in the classroom created by teachers also influences children’s sense of security, impacting engagement with the curriculum, in turn leading to positive outcomes for children (Howes & Smith, 1995; NICHD ECCRN, 2002). The education early childhood professionals receive prior to entry into the field and during their careers influences the way in which they plan and carry out the classroom curriculum in order to reach every child. Research indicates what teachers know and can do is one of the most important influences on student learning (Holm & Horn, 2003). Research also shows that innovative instructional activities and targeted instruction led by teachers can increase achievement in math and literacy skills for young children who are at risk (Lieber et al., 2009).

Early childhood professionals are very diverse in their educational experiences preparing them to work with young children. Fewer than half of early childhood teachers hold bachelor’s degrees (Lieber et al., 2009). Some have as little as a high school diploma while others have bachelor and master’s degrees with specialized training in early childhood as well as teacher licensure. Teacher education in early childhood is characterized by a mélange of pre-service and in-service opportunities for education and credentials (National Research Council, 2001). Pre-service refers to individuals who have not yet entered the field of education, while in-service refers to individuals who are working in the field. Educational requirements for early childhood professionals vary across states, localities, programs, and roles. Programs such as Head Start and state pre-kindergarten programs have also increased educational requirements for teachers (Lieber et al., 2009). Prior to 1965, few states outlined qualifications for early childhood teachers in their licensing standards (Bowman, 1990;
National Research Council, 2001). Early childhood teachers who were college-educated attended liberal arts colleges or studied in home economics departments as opposed to schools of education. They completed little coursework related to curriculum or pedagogy, especially for early childhood education. Preparation of early childhood teachers has evolved over the decades to focus more on the skills and knowledge necessary to work in diverse settings with young children; however, a mismatch exists between preparation and compensation of early childhood professionals. Expectations of parents and policy makers advocate for increased teacher education, yet compensation does not reflect the specialized education necessary (Bowman, 1990). As a result, more highly educated individuals often take positions outside the classroom receiving increased compensation. However, it is important that children have access to highly educated caregivers, as much research indicates teachers’ education significantly impacts program quality and child outcomes (Darling-Hammond et al., 1999; Howes et al., 1992; Kontos et al., 1996). It has been asserted that states must fund pre-kindergarten programs at levels that enable them to employ teachers with skills and education commensurate to teachers in K-12, a bachelor’s degree and teaching license (Guernsey & Mead, 2010).

The Role of Teacher Autonomy

In addition to increasing expectations placed on teachers that warrant higher education levels, policies such as NCLB have influenced the ways in which instruction is delivered and the subjects that are emphasized (Crocco & Costigan, 2007; Powell, Higgins, Aram, & Freed, 2009). Pressure to increase student performance in reading and math has led to what many perceive as a “narrowing curriculum,” emphasizing these subjects at the expense of others, such as science and social studies (Crocco & Costigan, 2007; Powell et al.,
Many schools or districts also have mandated curricula or implemented scripted lessons, which restrict teachers’ options for pedagogy. Educators’ perceived autonomy (i.e., freedom to plan and carry out curriculum and instruction the way that they wish) influences aspects of teaching, such as creativity and flexibility (Milosovic, 2007; Powell et al., 2009).

Beginning teachers who are expected to follow a scripted curriculum perceive a difficulty in developing a satisfying teaching career with their personalities and creativity limited in such a way (Crocco & Costigan, 2007). Teachers also perceive scripted curricula as negatively impacting their ability to build relationships with and to individualize for children (Crocco & Costigan, 2007; Milosovic, 2007; Powell et al., 2009). However, some teachers are able to overcome the challenges associated with teaching in the age of increased accountability. Factors influencing success in navigating the system include school leadership and teacher preparation (Crocco & Costigan, 2007).

Social Cognitive Theory

In order to effectively individualize for children, early childhood professionals need to feel that they themselves or their collective group of professionals are capable of making a difference (Bandura, 1989; Bandura, 2002). The foundations of social cognitive theory suggest that those who feel more prepared to individualize are more likely to be motivated to individualize (Allinder, 1994; Bandura, 1989; DeForest & Hughes, 1992; Gibson & Dembo, 1984). To begin to understand the relationship between preparation and practice in regards to individualizing, it is necessary to gather information about early childhood educators’ perceptions in these areas.

Social cognitive theory serves to understand human motivation and behavior (Bandura, 1989). The theory differentiates among three different types of action: direct
personal action; proxy action, in which an individual relies on another to act on one’s behalf in order to achieve desired outcomes; and collective action that is taken by a group (Bandura, 2002). Social cognitive theory suggests that teachers often exercise personal action to meet children’s needs; however, because they often cannot control institutional and political aspects of schools, they also rely on proxy action by seeking the expertise of specialists and administrators. Additionally, teachers, specialists, administrators, and families demonstrate collective action when they collaborate in order to meet children’s needs (Bandura, 2002).

Social cognitive theory also describes the impact of self-efficacy beliefs on action (Bandura, 2002). Self-efficacy is the belief that one has the power to produce the intended results. If one does not feel he or she can make a difference, there is little motivation to persevere. These efficacy beliefs extend beyond personal action to include collective efficacy, or the belief that the group can achieve the desired results (Bandura, 2002). Research suggests that personal teacher efficacy is positively influenced by teachers’ relationships with parents and feelings of autonomy and negatively influenced by teachers’ feelings of time pressure (i.e., heavy workloads, working evenings and/or weekends, hectic school days) (Skaalvik & Skaalvik, 2010). Collective teacher efficacy has been strongly related to supervisory support (i.e., emotional and cognitive support, sources of advice, and mutual trust with school leadership) in the school and also significantly related to autonomy and relationships with parents. Additionally, both personal teacher efficacy and collective teacher efficacy have been negatively influenced by teachers’ beliefs that external factors limit the influence they have on student learning (Skaalvik & Skaalvik, 2010).

Research on teachers’ perceived self-efficacy suggests that pre-service teachers have higher levels of teacher self-efficacy and that there is a slight drop in their self-efficacy upon
beginning teaching (Chen, 2007). Teacher self-efficacy rises again once novice teachers gain more experience. Teachers’ self-efficacy impacts their implementation of instructional strategies, their willingness to try out new teaching methods, and their persistence in working with students who are struggling (Allinder, 1994; Gibson & Dembo, 1984). Teachers with high self-efficacy are also more willing to accept consultation services and to implement interventions that consultants suggest (DeForest & Hughes, 1992). Research has found that teachers with low self-efficacy relating to their abilities to handle behavior problems were 23% less likely to refer students for special services than their colleagues (Pas, Bradshaw, Hershfeldt, & Leaf, 2010). Research also indicates the positive impact that teachers’ sense of efficacy has on student achievement (e.g., Ashton & Webb, 1986; Gibson & Dembo, 1984).

Within a social cognitive framework, it could be expected that early childhood educators who perceive they were better prepared report more frequent use of individualizing strategies and collaborative practices than their counterparts who perceive they were not as well prepared. Strategies that educators report using infrequently could represent areas in which their preparation was not as strong or areas in which they do not feel as skilled. This can inform teacher preparation programs seeking to prepare educators who can provide high quality, individualized care and education to young children. Social cognitive theory provides a framework for organizing and understanding participants’ responses to the survey in the proposed study, as responses reflect personal teaching efficacy or collective efficacy.

**The Critical Role of Teacher Education**

Research highlights the importance of teacher education as it relates to program quality (Howes et al., 1992; Kontos et al., 1996), positive caregiving behaviors (Bollin & Whitehead, 1990; Darling-Hammond, 1998), appropriateness of teachers’ classroom
behavior (Arnett, 1989; Berk, 1985; Kontos, Howes, & Galinsky, 1996), teacher effectiveness (Howes, Phillips, & Whitebook, 1992), and child outcomes (Darling-Hammond, Wise, & Klein, 1999). Darling-Hammond et al. (1999) found that, based on measures of education, knowledge, and experience, teachers’ qualifications have the largest impact on children’s achievement as compared to other factors. School-age teachers with coursework in a professional education program promote higher achievement in their students as well (Ashton, 1996). Appropriateness of teachers’ classroom behavior increases with each year of education (Arnett, 1989; Berk, 1985; Kontos et al., 1996). A focus on child development or early childhood education further improves the appropriateness of childcare providers (Epstein, 1999; Kontos et al., 1996). Early childhood professionals exhibit more developmentally appropriate practices and beliefs after completion of as little as 12 hours of community college coursework in early childhood education (Cassidy, Buell, Pugh-Hoese, & Russell, 1995). In one study, the highest ratings of teacher effectiveness and classroom quality, including caregiver sensitivity and responsiveness and decreased negative classroom management strategies, were achieved when teachers had a bachelor’s degree or advanced education (Howes et al., 1992). However, teachers with at least a Child Development Associate degree showed improved effectiveness and classroom quality compared to teachers with no formal education.

While the above research highlights the positive influence of teacher education, other research has found that teacher education made little or no impact on child outcomes. In a meta-analysis of seven major studies in early childhood education, only two studies found that teachers with more education, and a bachelor’s degree in particular, had higher quality classrooms (Early et al., 2007). One study found that bachelor’s level teachers had lower
quality classrooms than their counterparts without bachelor’s degrees. The four remaining studies found no associations between education and classroom quality. When it came to teachers’ education and academic outcomes of children, none of the seven studies included in the analysis found relationships between teacher education and receptive language skills, and few studies found relationships with math and reading (Early et al., 2007). When examining the impact of teachers’ college majors on child outcomes, only one analysis out of 23 indicated the significant effect of a bachelor’s degree in early childhood education or child development (Early et al., 2007).

In addition to their potential impact on program effectiveness, classroom climate, and child outcomes, early childhood teachers who graduate from teacher education programs leave teaching less frequently than teachers without this experience (National Research Council, 2001). Bowman and colleagues suggested that teachers’ pre-service education influences their decision to stay in teaching (National Research Council, 2001). Because a wealth of evidence supports the need for professionally educated early childhood professionals, Isenberg (2000) recommended that states develop licensure for early childhood teachers separate from K-12 licensure. A free-standing license emphasizes the specialized knowledge needed to work not only with children from birth to age five but also children ages six to eight (Isenberg, 2000; NAEYC, 1993).

Due to the diversity in early childhood programs and professional roles, programs should prepare educators for a variety of roles and settings (Isenberg, 2000). The National Institute on Early Childhood Development and Education and the National Research Council further recommend states require all teachers of young children to have a college degree and specialized coursework in child development in early childhood education (Isenberg, 2000).
While this recommendation has not yet become a reality, many states have developed licensure for early childhood professionals, and educational requirements for teachers have been increased by a number of programs and organizations (e.g., NAEYC, North Carolina More at Four public preschool program). States and organizations have varying definitions of what constitutes “early childhood” (e.g., birth to age five, birth to age eight), and states’ early childhood licensure, certification, or endorsements required for individuals who teach in public schools reflect this variation (Jones et al., 2009). All fifty states and Washington, D.C., offer licensure, certification, or an endorsement in early childhood. Thirty states license or endorse teachers to work with children beginning at birth, while others begin at ages three, four, or five (Jones et al., 2009). States also vary in the upper age that early childhood licensure or certification covers. Some allow individuals to teach children through pre-kindergarten while others extend as high as fourth grade. Table 1 lists the age ranges covered by each state’s public school teacher licensure. In five states, licensure integrates regular and special education: Connecticut, Idaho, Kansas, Kentucky, and North Carolina (Jones et al., 2009). Many colleges and universities throughout the U.S. prepare individuals to meet licensure or certification standards to work with young children.
Table 2.1
*Age ranges covered by licensure in early childhood*

<table>
<thead>
<tr>
<th>Age Range</th>
<th>States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth-age 4</td>
<td>Florida</td>
</tr>
<tr>
<td>Birth-prekindergarten</td>
<td>Indiana, South Dakota, West Virginia</td>
</tr>
<tr>
<td>Birth-age 5</td>
<td>Georgia, Maine, Wyoming</td>
</tr>
<tr>
<td>Birth-Kindergarten</td>
<td>Connecticut, Kansas, Massachusetts, Nevada, North Carolina, Oregon</td>
</tr>
<tr>
<td>Birth-2&lt;sup&gt;nd&lt;/sup&gt; grade</td>
<td>Delaware, Nevada, New York, Rhode Island</td>
</tr>
<tr>
<td>Birth-3&lt;sup&gt;rd&lt;/sup&gt; grade</td>
<td>Idaho, Illinois, Iowa, Minnesota, Missouri, Nebraska, New Mexico, North Dakota, Vermont</td>
</tr>
<tr>
<td>Birth-age 8</td>
<td>Arizona, Colorado, New Hampshire, South Dakota, Wisconsin</td>
</tr>
<tr>
<td>Birth-primary</td>
<td>Kentucky</td>
</tr>
<tr>
<td>Nursery-3&lt;sup&gt;rd&lt;/sup&gt; grade</td>
<td>Oklahoma</td>
</tr>
<tr>
<td>Age 3-age 8</td>
<td>California</td>
</tr>
<tr>
<td>Age 4- 3&lt;sup&gt;rd&lt;/sup&gt; grade</td>
<td>Louisiana, South Carolina</td>
</tr>
<tr>
<td>Prekindergarten-kindergarten</td>
<td>Michigan, Mississippi, Montana, Tennessee</td>
</tr>
<tr>
<td>Prekindergarten- 3&lt;sup&gt;rd&lt;/sup&gt; grade</td>
<td>Alabama, Alaska, Hawaii, Maryland, New Jersey, Ohio, Pennsylvania, Utah, Virginia, Washington, Washington D.C.</td>
</tr>
<tr>
<td>Prekindergarten- 4&lt;sup&gt;th&lt;/sup&gt; grade</td>
<td>Arkansas, Texas</td>
</tr>
</tbody>
</table>

*Note.* Adapted from “Early Childhood Public School Teacher Licensure for the Fifty States and Washington, DC: An Inquiry to Ascertaint Student Age Ranges for Public School Teacher Licensure,” by R.C. Jones, S. Martin, and M. Crandall. Copyright 2009 by the Arkansas Agricultural Experiment Station.

**Birth through Kindergarten Licensure in North Carolina**

Approximately 30 percent of all institutions of higher education in the United States have programs in early childhood (Maxwell, Lim, & Early, 2006). Of these, approximately
30 percent offer bachelor’s or higher degrees (approximately 9% overall). The North Carolina Board of Education developed birth-kindergarten competencies that were approved in 1992, and colleges and universities began developing licensure programs to prepare individuals to work with young children with and without disabilities (Myers, Griffin, Teleki, Taylor, & Wheeler, 1998). Out of 70 institutions that award bachelor’s degrees in the state (National Center for Education Statistics, n.d.), North Carolina currently has 23 colleges (33%) and universities approved by the North Carolina Department of Public Instruction offering bachelor’s programs leading to a Birth-Kindergarten license (North Carolina Department of Public Instruction, 2007).

North Carolina’s Office of School Readiness in the Department of Public Instruction provided the following definition of the Birth-Kindergarten License (B-K):

Birth-Kindergarten programs are designed to prepare educators to work with children, birth through age five, with and without disabilities. Each institution of higher education (4-year colleges/ universities) offers an inclusive, interdisciplinary course of study leading to the North Carolina B-K license. Individuals completing the requirements for this license will be prepared to enter the profession teaching infants, toddlers, preschoolers, and kindergarteners in public schools, child care programs, and developmental day centers. Teachers will also acquire skills to assist the families of young children. The interdisciplinary approach includes early childhood education, special education, child and family studies, and elementary education. (North Carolina Office of School Readiness, 2008, p.1)

Birth to Kindergarten preparation programs prepare individuals to work not only as classroom teachers but also to pursue further coursework to work as related service
providers, such as special educators, speech-language pathologists, occupational and physical therapists, developmental specialists, and consultants. A combined focus on both early childhood education and early childhood special education supports the interdisciplinary nature of the field. B-K licensure standards, based on professional development standards provided by the National Association for the Education of Young Children (NAEYC) and the Division for Early Childhood (DEC) of the Council for Exceptional Children (CEC) emphasize interdisciplinary collaboration and individualization of curriculum and instruction.

The fields of early childhood and early intervention have provided a great deal of guidance for professional development programs responsible for educating pre-service teachers (i.e., individuals who have not yet entered the field). Both DEC and NAEYC have developed position papers and standards for programs preparing early childhood professionals (NAEYC, 1996; DEC, 2008). These documents outline the knowledge and skills individuals who work with children and families should possess. NAEYC’s standards state that programs must prepare diverse individuals to work with diverse children and professionals in diverse settings, with a vision of providing high quality instruction and services for all children and families (NAEYC, 1993). NAEYC and DEC define “early childhood” as birth to eight years of age, although individuals may specialize within the range to focus on a narrower age range. Hyson (2003) emphasized that early childhood professionals should have knowledge and skills of the entire birth to eight age range in order to understand children’s past and future, regardless of their range of specialization. NAEYC (1996) recommended early childhood professionals receive coursework in family relations, diversity, inclusion, curriculum, assessment, and child development. Similarly, DEC has emphasized knowledge and skills in developing and adapting curricula for individual
children, using a variety of assessments for a variety of purposes, and working with families and other professionals (DEC, 2008). Isenberg (2000) highlighted the need for early childhood professionals to have a strong background in liberal arts in order to develop meaningful learning experiences for the diverse children in their care.

NAEYC (1993) described the field of early childhood as distinct from other fields of education and stated the need to prepare individuals with this in mind, further supporting Isenberg’s (2000) recommendation for a free-standing teaching license for educators of young children. The North Carolina B-K teaching standards outline the knowledge and skills that individuals must possess in order to receive a teaching license. The standards encompass formal and informal assessment processes and procedures, planning and implementing curricula for children of all needs and abilities, and working with families (North Carolina State Board of Education, 2002).

With shared standards as guidance, B-K licensure programs across the state use a combination of coursework and fieldwork to prepare early childhood professionals. Through coursework and supervised experiences in planning and implementing curriculum, choosing materials, arranging learning environments, and observation and documentation of children’s behaviors, pre-service early childhood professionals develop individually appropriate teaching practices for implementation (Snider & Fu, 1990). A review of required coursework posted on program websites indicates all programs require coursework in child development, curriculum, assessment, early literacy, and working with families. Other coursework in B-K programs ranges from courses in program administration to courses in working in hospitals to childhood nutrition. Students in B-K programs also complete internships working with infants, toddlers, preschoolers, and/or kindergarteners, as well as the semester of full-time
student teaching required for licensure. Many programs have a combined focus on early childhood education and early childhood special education and emphasize adapting curriculum and instruction for children with disabilities throughout coursework and field experiences. Through these experiences, pre-service early childhood professionals develop self-efficacy along with a strong foundation of knowledge and skills for working with young children in classroom settings (Chen, 2007).

**Skills and Knowledge for Individualizing**

Early childhood professionals need a strong knowledge base in order to individualize and meet children’s needs (Spodek & Saracho, 1990). According to NAEYC (1993), an early childhood professional with a bachelor’s degree should possess the knowledge and skills to systematically plan and develop curriculum for individual children and groups. Similarly, DEC stated that early childhood professionals entering the field should have skills in developing, implementing, and evaluating learning opportunities; using a combination of child- and teacher-directed activities; and using a range of instructional and intervention strategies to meet diverse individual needs (DEC, 2008). This level of skill is certainly necessary for teachers to individualize for children using any of the models discussed above. These models require teachers to look closely at individual children’s progress, vary teaching methods to suit individual differences, and use increasing intensity of instruction for individual children who show signs of needing additional support to make adequate progress (Coleman et al., 2006; National Joint Committee on Learning Disabilities, 2005).

Additionally, the North Carolina B-K standards stress individualization for children at risk as well as children with and without disabilities. Children with learning difficulties but not identified disabilities often fall through the cracks because they are not eligible for special
education services, causing their difficulties to go unsupported, possibly even unrecognized, and develop into larger difficulties. However, early childhood professionals can begin supporting children early to put them on the track to success (Coleman et al., 2006).

Most research on teachers’ skills and knowledge to implement RTI or to individualize for children has been conducted at the elementary level; however, it is likely that similar knowledge and skills apply to early childhood professionals. To effectively individualize, teachers need content knowledge in assessment and curriculum and instruction for early childhood, and they need to be able to link assessment and instruction (Richards et al., 2007).

The linking of assessment and instruction is integral to implementation of RTI. Teachers must be able to administer and interpret assessments and be able to incorporate assessment results into the curriculum of the classroom (Danielson et al., 2007; Richards et al., 2007). Teachers also may use a variety of assessments to gather information about children’s strengths and needs, including curriculum-based measures, criterion or norm-referenced assessments, and informal inventories (Haager et al., 2007). RTI emphasizes progress-monitoring, a type of assessment involving continuously evaluating the rate and level of children’s growth in key skills, which is a type of assessment that has not been widely utilized in early childhood and will be new to many early childhood professionals (Haager et al., 2007). Consistent with literature on RTI, the North Carolina B-K standards also emphasize the importance of early childhood professionals conducting ongoing informal assessments, creating responsive environments, and developing integrated curricula (NC State Board of Education, 2002). The licensure standards state that Birth-Kindergarten professionals:
Promote child development and learning for ALL young children with and without disabilities, including those at risk… understand assessment processes including their goals, benefits, and uses… build family and community partnerships… prepare for teaching and learning by connecting with ALL young children with and without disabilities including those at risk and their families… prepare for teaching and learning by conducting appropriate, ongoing formal and informal assessments… prepare for teaching and learning by creating an integrated curriculum and responsive environment… support the learning of ALL young children with and without disabilities, including those at-risk… recognize and respect individual differences in program planning and implementation… demonstrate respectful, reciprocal relationships with families and communities… [and] function professionally. (North Carolina State Board of Education, 2002, p. 4.3-4.8)

To create a curriculum and environment that meet the unique needs of children within the class, classroom teachers may work with colleagues or specialists to design activities or lessons for the whole class, similar to implementing RTI for the prevention of reading disabilities (Haager et al., 2007). Social cognitive theory suggests professionals with higher degrees of self-efficacy who feel better prepared are more likely to accept help from colleagues (DeForest & Hughes, 1992). To individualize beyond the general classroom curriculum, teachers need to be able to provide increasing levels of support utilizing a variety of strategies for children who need additional help to be successful (Danielson et al., 2007; Kratochwill, Volpiansky, Clements, & Ball, 2007; Richards et al., 2007). While classroom teachers may feel competent in developing curricula to meet the needs of most of the
children in the class, they may feel daunted by the task of delivering more intensive intervention (Haager et al., 2007). At the secondary or Tier 2 level of intensity of instruction to prevent reading disabilities, teachers use small groups of children with similar needs and deliver instruction targeted to their learning needs and implement such instruction consistently (Haager et al., 2007). Small groups of children with similar needs will likely be used in early childhood implementation of RTI as well (Coleman et al., 2006). Early childhood professionals who feel better prepared or higher self-efficacy may be more likely to implement innovative practices and persist in working with children who have difficulty learning skills and concepts (Allinder, 1994; Gibson & Dembo, 1984).

Early childhood professionals must be able to take into account the background of the individual child and family in order to approach them with sensitivity, acceptance, and support (Barnett et al., 2007; NC State Board of Education, 2002). They also need to be able to work with other professionals and parents as part of a team to determine how to provide the best possible instruction to children (Haager et al., 2007; Richards et al., 2007). Additionally, teachers should be able to evaluate the relative effectiveness of instructional and intervention strategies to determine what is working and what needs to change to better meet a child’s needs (Barnett et al., 2007; Horm, 2003). Since many of the intervention strategies included in individualization are derived from special education, members of various disciplines will play key roles in helping teachers make decisions about instruction (Barnett et al., 2007). In addition to skills in curriculum and assessment, all early childhood professionals need skills in collaboration in order to work with other professionals and parents and to share roles (National Joint Committee on Learning Disabilities, 2005). The
collective efficacy that professionals feel when working together increases the likelihood that they will collaborate to meet children’s needs (Bandura, 2002).

In summary, in order to individualize effectively, early childhood professionals should have knowledge and skills in assessment, instruction, and collaboration. They should be knowledgeable in administration and interpretation of a variety of assessment methods for screening and progress monitoring, as well as for determining children’s strengths and interests (Haager et al., 2007). They also should be able to link assessment and instruction in order to respond to needs identified by assessment results (Danielson et al., 2007; Richards, et al., 2007). They should have skills to provide increased instructional support for children who need more intensive instruction and to collaborate with other professionals and families to make instructional decisions (Haager et al., 2007). Interdisciplinary pre-service experiences prepare early childhood professionals for role sharing and collaboration to meet all children’s needs (Chang, Early, & Winton, 2005).

**Needs in Pre-service Professional Development**

Despite the increasing use of the RTI model in schools, little attention has been paid thus far to pre-service preparation to implement RTI (Danielson et al., 2007; Kratochwill, Volpiansky, et al., 2007). Birth-Kindergarten programs prepare teachers according to high standards relating to knowledge of child development, assessment, pedagogy, and collaboration with families and other professionals. However, it is not clear whether programs are preparing their teachers for processes directly related to individualizing for children and RTI, and lack of trained personnel has been identified as a significant challenge for states beginning to implement RTI in early childhood programs (Linas et al., 2010). Isenberg (2000) expressed the concern that programs prepare early childhood professionals
without a very strong focus on how early childhood professionals should use their knowledge of child development to plan curriculum and instruction meeting the needs of diverse learners and their families. Further, research has shown a majority of public school teachers do not feel fully prepared to meet the needs of children with disabilities (Lobman et al., 2005; NCES, 2009), and pre-service teachers feel concerned with how to address varying levels of ability to meet all children’s needs within the regular classroom (Hamre & Oyler, 2004). A large number of teachers state they do not feel prepared to meet the needs of English learners as well (Lobman et al., 2005).

Early childhood professionals’ lack of confidence in working with children with disabilities might stem partly from lack of preparation and experience in the areas of early childhood special education and early intervention (Chang et al., 2005). Lack of preparation may lead to lower self-efficacy, which in turn impacts teaching and collaborative practices (Allinder, 1994; DeForest & Hughes, 1992; Gibson & Dembo, 1984). Early and colleagues (2007) suggested their findings on the limited impact of teacher education indicate preparation programs may not have adequately prepared teachers. In a survey evaluating strengths and needs of interdisciplinary teacher preparation programs, graduates indicated more content on planning curriculum and instruction for children with diverse abilities and more content on assessment should be incorporated into the programs (Miller & Losardo, 2002). Respondents indicated strengths of the programs included creating environments, using naturalistic observation to evaluate children’s progress, working with socio-culturally diverse children, and using a variety of teaching methods to meet children’s needs. Areas of need included intervention with infants and toddlers, behavior analysis and classroom management, assessing and developing curricula for infants and toddlers, and knowledge and
skills in emergent literacy and language acquisition (Miller & Losardo, 2002). Further studies have shown many licensed teachers do not have the knowledge or skills in phonemic awareness, a target skill of RTI, necessary to provide research-based reading instruction (Cheesman, McGuire, Shakweiler, & Coyne, 2009). Teachers also were inclined to overestimate their knowledge in phonics and phonemic awareness, although neither topic was emphasized in their pre-service preparation (Cunningham, Perry, Stanovich, & Stanovich, 2004). Similarly, other research indicated that first-year teachers not only had limited understanding about the differences between phonemic awareness and phonics, but they were unable to identify the number of phonemes in written words when it was not apparent by the spelling (Cheesman et al., 2009). No research has yet examined how teacher preparation programs are incorporating RTI practices into pre-service training.

Teachers’ beliefs about their students, their roles and responsibilities, and the content they teach are formed and confirmed during their teacher education programs and impact their practice (Ball & Cohen, 1996). It is important that pre-service programs stay abreast of innovative trends and policy in education, as teachers are reluctant and often unwilling to accept research and adopt new teaching practices unless they fit within their existing beliefs (Hollingsworth, 1989; Kennedy, 1997; Richardson, Anderson, Tidwell, & Lloyd, 1991). Rather than adopting practices incongruent with their beliefs, teachers may adapt them or dismiss them altogether. Interventions attempting to change teachers’ language, literacy, and math practices have demonstrated limited effectiveness and have been very labor-intensive (Lieber et al., 2009), further highlighting the need for pre-service preparation programs to educate early childhood professionals in research-based, innovative practices. It has been asserted that if teachers do not learn about diversity of learning needs in their pre-service
education, they may not be aware of the importance of and how to individualize instruction to meet children’s needs (Haager et al., 2007). If the expectation is for B-K licensure program graduates to use the knowledge and skills acquired during their preparation program, it may be necessary for programs to change what is taught to better prepare pre-service early childhood professional (Denton, Vaughn, & Fletcher, 2003). Moreover, researchers have asserted, “If teachers have not been taught diverse instructional models and their appropriate uses, they will continue to teach the way they know how” (Haager et al., 2007, p. 260). With the current focus on individualizing curriculum and instruction using an RTI model, it is important to know whether B-K licensure graduates are prepared for the processes involved in such an approach.

**Summary**

Children in the U.S. are becoming increasingly diverse (NCES, 2009), and educational policy and trends are in place to ensure all children have opportunities for success (e.g., IDEA, NCLB, *Good Start Grow Smart*, Response to Intervention). Recent trends in individualizing curriculum and instruction have highlighted systematic assessment and instruction increasing in intensity (Haager et al., 2007; Jimerson et al., 2007). In many cases, this means teachers’ and specialists’ roles are shifting, as teachers are implementing small group and individual instruction and specialists are serving as consultants rather than direct service providers (Barnett et al., 2007). Teachers are now expected to conduct more frequent and varied assessments and to implement research-based curricula. Early childhood professionals’ perceptions of their abilities to impact children’s learning (i.e., self-efficacy) influence their willingness to attempt new strategies and to persist when working with children who need additional support to learn (Allinder, 1994; Gibson & Dembo, 1984).
These perceptions of self-efficacy are founded on knowledge and skills learned in pre-service professional preparation (Ball & Cohen, 1996; Chen, 2007).

Although standards for professional development outline knowledge and skills necessary for assessment, curriculum-planning, and collaboration, early childhood professionals report being unprepared to meet the needs of particular groups of children, including those at risk, those with disabilities, and English learners. Because teachers tend to teach in the manner in which they learned during their preparation (Denton et al., 2003) and given recent trends in education emphasizing early intervention and individualization using research-based strategies (Jimerson et al., 2007), it is important that professional education programs prepare early childhood professionals to have the skills to plan curriculum and instruction and to collaborate with each other and with families to meet the needs of ALL children.

**Purpose of the Study**

The purpose of the study is to examine the perceptions of graduates of Birth through Kindergarten (B-K) licensure programs regarding their current practices and their B-K preparation related to individualizing curriculum and instruction. Assessment, instructional, and collaboration practices needed by early childhood professionals to individualize within an RTI framework were identified through the research described previously.

RTI is the organizing framework because it is a model that early childhood policy makers and state-level administrators are discussing and beginning to implement in order to meet young children’s needs (Linas et al., 2010). A significant challenge for administrators has been the lack of trained staff to implement the components of RTI in early childhood. North Carolina was chosen as the setting for the study because it has an established B-K
license that integrates early childhood and early childhood special education and 23 diverse institutions offering programs to prepare individuals for B-K licensure. Additionally, North Carolina has a state funded pre-kindergarten program serving at-risk four-year-olds, with the purpose of providing an academic experience for children in low-income families who have not been enrolled in any formal programs prior (More at Four; Public Schools of North Carolina, n.d.). This type of early childhood setting has been identified as one of the most likely to be implementing RTI (Linas et al., 2010).

**Research Questions**

The proposed study is a correlational and descriptive study employing survey design. There are three primary research questions of interest in this study:

RQ1) Which assessment and instructional strategies do early childhood professionals report using frequently?

H1 Early childhood professionals will report less frequent use of assessment results to plan curriculum and use of supplemental literacy and math curricula than planning for all domains of development. They will report conducting assessments for progress monitoring more frequently than assessments for screening.

This hypothesis is based on the widely held belief that early childhood educators plan curriculum for all domains of development rather than using specific literacy and math curricula (NAEYC, 2011). These curricula are just beginning to be used in early childhood classrooms. This hypothesis is also based on the widely held practice of screening young children at program entry and using informal means of data collection to track children’s progress throughout the year.
RQ2) How strongly is perception of preparation for a specific assessment or instructional practice related to perceived frequency of use of that practice?

H2 Early childhood professionals who perceive that they were better prepared for a given assessment or instructional strategy will report more frequent use of that strategy. This will result in a strong positive relationship between perceived preparation and practice.

This hypothesis derives from research that shows teachers with higher self-efficacy are more willing to try new methods and to persist in working with children who have difficulty learning (Allinder, 1994; Gibson & Dembo, 1984). Underlying this hypothesis is the belief that preparation is related to self-efficacy such that individuals who have high self-efficacy are those who perceive they were well-prepared.

RQ3) Which collaborative practices do early childhood professionals report using frequently?

H3 Early childhood professionals will report collaborating with families often and will report most frequent collaboration with other professionals in order to individualize for children.

This hypothesis is based on NAEYC, DEC, and B-K standards that highlight early childhood educators must work with families and with multi-disciplinary professionals to meet children’s needs, particularly for children with disabilities (DEC, 2008; NAYEC, 1993; North Carolina State Board of Education, 2002).

RQ4) How strongly is perception of preparation to collaborate for specific tasks related to perceived frequency of collaboration for those tasks?

H4 Early childhood professionals who perceive they were better prepared to collaborate with other professionals and families will report higher rates of collaboration.
This will result in a strong positive relationship between perceived preparation and practice.

This hypothesis is based on research that indicates teachers with higher self-efficacy are more willing to accept consultation support (DeForest & Hughes, 1992). Underlying this hypothesis is the belief that personal efficacy impacts collective efficacy, and, similar to the second hypothesis, preparation impacts efficacy, both personal and collective.
Chapter Three: Methods and Procedures

Data for this study were collected through an online survey to gather information about the perceptions of recent graduates from North Carolina Birth-Kindergarten (B-K) teacher licensure programs regarding their preparation to individualize instruction for children and their perceptions of their current practices for individualizing. Because little is known about these aspects of recent graduates’ preparation and practice, this is a descriptive and correlational study. Quantitative descriptive and correlational methods were used to analyze participants’ responses.

Participants

Graduates of four-year colleges’ and universities’ Birth-Kindergarten (B-K) licensure programs in North Carolina who graduated between 2007 and 2010 were recruited to participate in this study. There were 21 B-K licensure programs operating in NC with graduates during that time frame. The number of graduates from each program ranged each year approximately from one to 20, with the majority of programs having fewer than 10 graduates each year. A population estimate of 672 was calculated by estimating eight graduates from each of the 21 programs for each of the four years (population estimate = 8 x 21 x 4 = 672). Recruitment procedures and participant characteristics are described in detail in subsequent sections.

Data Collection Methods

The data sources for examining the research questions were the responses provided by participants on the Internet survey through the Qualtrics program.
Qualtrics is online survey software that provides a user-friendly survey interface and stores raw data that can be exported in formats compatible with statistical software. Participants completed the survey independently and anonymously. According to time stamps in Qualtrics, the survey took participants approximately 15 min. to complete. Data were stored through the Qualtrics website and downloaded by the researcher for analysis.

**Instrumentation**

The researcher-developed survey (*Birth-Kindergarten Licensure Graduates Survey*) included a series of open and closed-ended questions. Bipolar scalar questions, which measure both the direction and intensity of the construct, were presented on a 5-point Likert-type ordinal scale to allow for two levels of differentiation on either side of the neutral category (Dillman, Smyth, & Christian, 2009). Scales with four or five response categories are more reliable and valid than scales with more or fewer categories and allow for “meaningful distinctions for analysis” (Dillman et al., 2009, p. 137). For example, the five response categories for the questions regarding perceived frequency of a practice represented *never* (1), *rarely* (2), *sometimes* (3), *quite often* (4), and *very often* (5). The questionnaire included information about participants’ current and past work positions and settings; ratings of participants’ perceived assessment, curricular, and collaborative practices focused on individualization strategies; ratings of participants’ perceptions of their preparation to perform assessment, curricular, and collaborative tasks relating to individualizing instruction; and ratings of participants’ familiarity with recent trends in general and special education. The questionnaire was developed by the researcher through a literature review of knowledge and skills needed to individualize and to implement RTI. Little research has been conducted
to empirically validate the knowledge and skills necessary to individualize, so critical knowledge and skills were identified through descriptions in conceptual literature outlining professional development and skills for use of RTI with school-age children, for reading disabilities, and in early childhood. The critical components identified as necessary for individualization are in the categories of assessment, instruction, and collaboration. The North Carolina B-K teaching standards and research on RTI indicate competence in administration, interpretation, and incorporation of a variety of formal and informal assessments; competence in evidence-based instructional strategies of increasing intensity; and competence in collaboration with other professionals and families are critical for early childhood professionals.

Survey review. To reduce measurement error, a review of the instrument was conducted to evaluate the wording and design of the survey (Dillman et al., 2009). Four individuals served as initial survey reviewers. Three of the reviewers were similar to the target population in that they had graduated from B-K licensure programs; however, they graduated prior to 2007 or graduated from universities outside of North Carolina and are therefore excluded from the target population for the study. Two of these reviewers were kindergarten teachers and one was a pre-kindergarten teacher, and they had all been teaching for fewer than five years. The fourth reviewer was a researcher and expert in Response to Intervention, as evidenced in part by her work conceptualizing a model of RTI for early childhood (Coleman et al., 2006).

Participants in the review were asked to provide feedback on questions that were confusing, response categories that were confusing or additional response categories that were needed, the flow of the survey, questions that should be added, and any other comments
or questions. Revisions were made to the survey based on feedback from review participants. Additional response categories were included for several questions, as suggested by reviewers. For example, “Professional learning communities/Communities of practice” was added as a choice for individuals with whom participants collaborate. Clarification was given for the categories under demographics of respondents’ classrooms/caseloads. Specifically, “children with behavior problems” was amended to “children with behavior problems who have a behavior plan.”

**Pilot study.** The revised survey was next piloted to further refine the survey, to ensure that respondents answered the questions as the researcher intended, and to ensure the survey elicited a range of responses. The pilot study was conducted with 11 individuals who graduated from B-K programs in North Carolina before 2007.

Results of the pilot survey indicated that there was sufficient variation among responses to warrant a larger study. Participants used the entire range of response categories on questions that asked about the frequency with which they use particular assessment and instructional strategies as well as on questions that asked how well they felt their B-K programs prepared them for assessment and instructional strategies. Responses targeting frequency ranged from *Never* to *Very often*, and responses describing preparation ranged from *Not at all* to *Very well*.

Based on responses to the pilot survey, several survey questions were updated to include additional response categories, one qualitative question was revised into a closed-ended question with a section for additional comments, and many questions were deleted to shorten the survey. For example, several instructional strategies were added to the list for frequency of use and preparation ratings. These included “developing periodic goals for
individual children” and “developing periodic goals for the whole group.” The open-ended question that was revised to a closed-ended question was changed as follows: a question asking participants to describe how they identify and incorporate evidence-based practices into their work with young children became a closed-ended question asking participants to choose from a list ways in which they incorporate evidence-based methods into their practice. Participants were also given space to write in responses that were not included in the list. Many questions that did not directly relate to the research questions were omitted from the survey to decrease the time it would take participants to complete the survey. An example of a question that was omitted is “What types of program or administrative support do you receive to help you meet all children’s needs?”

The final survey included 40 questions, as shown in Appendix B. The Demographic Information block included 17 questions about participants’ current and prior job positions and settings, age ranges of the children with whom they work, length of time they have been in their current positions, highest level of education, B-K licensure status, year of graduation from their B-K programs, and personal demographic characteristics.

The Current Practice block of questions included 11 closed- and open-ended questions regarding participants’ current assessment, instructional, and collaborative practices in addition to challenges or barriers to individualizing and collaboration. For example, this section asked participants to rate on a five-point scale, from never to very often, how frequently they engage in assessment, instructional, and collaborative practices. Participants who indicated that they were not currently employed in the field of early childhood automatically skipped the current practice block of questions.
The B-K Preparation block included seven questions about participants’ perceptions of their preparation for assessment, instruction, and collaborative practices necessary to individualize. These practices corresponded with those in the current practice block of questions. Participants were asked to rate, on a five-point scale from not at all to very well, how well they felt their undergraduate B-K program prepared them for each practice.

Finally, the Recent Innovations block included four questions about participants’ familiarity with early intervening services, evidence-based practice, and Response to Intervention. Participants were first asked to rate questions on a three-point scale from not at all familiar to very familiar. For example, “How familiar are you with Early Intervening Services, as described in the 2004 Reauthorization of the Individuals with Disabilities Education Improvement Act (IDEA)?” This question format was repeated to ask about familiarity with evidence-based practice and Response to Intervention. Participants who indicated they were familiar with Response to Intervention were also asked to indicate how they became familiar with the concept. A final question provided space for respondents to provide any other comments they had.

Procedure

Recruitment. Recruitment was conducted in two ways with help from coordinators of North Carolina colleges’ and universities’ B-K licensure programs and the North Carolina Department of Public Instruction. Coordinators of B-K licensure programs were the individuals at each institution who were responsible for overseeing the B-K program and whose duties included teaching in the program and advising students. These individuals were assumed to have information about program graduates, including year of graduation and email addresses. I contacted the program coordinators face-to-face at the North Carolina
Birth-Kindergarten Higher Education Consortium meeting and through email. Prior to emailing any program coordinators, I attended a meeting of the North Carolina Birth-Kindergarten Higher Education Consortium. The Consortium includes program coordinators and other faculty from a majority of B-K programs throughout the state. During this meeting, I described my study to attendees, notified them that I would be contacting them soon via email, and answered any questions they had about the study. Following the meeting, I emailed each program coordinator to ask if they would be willing to forward an email message from me containing an invitation to participate in the survey and a link to the online survey to graduates from 2007-2010 and outlined what I would need from them, including the number of individuals to whom they sent the email and how current the contact information they had was. To encourage their participation, I reminded program coordinators of their previous interactions with me (Dillman et al., 2009). I sent the request three additional times at two-week intervals to those from whom I did not hear.

To reduce sampling error and ensure maximum participation across colleges and universities in North Carolina with B-K programs, program coordinators received a list of resources (including websites, books, and journal articles describing or supporting individualizing strategies and collaboration) and a $10 Target gift card as an incentive following my receipt of confirmation that they had sent the invitation and to how many graduates (Dillman et al., 2009). Ultimately, seven program coordinators had email contact information for their graduates and agreed to forward the message and reminders. The survey invitation was sent to 170 individuals through program coordinators. However, program coordinators noted they typically had graduates’ institutional email addresses, to which graduates may no longer have had access or which graduates may no longer check. Of those
170, 23 graduates completed the survey (14%). This low response rate suggests that many of the intended recipients did not receive the invitation to participate (Dillman et al., 2009).

The second phase of recruitment occurred with the help of The North Carolina Department of Public Instruction (NCDPI). NCDPI is the agency that implements the state’s policies and procedures governing public education for pre-kindergarten through 12th grade. NCDPI provides leadership and service to public schools in areas including curriculum and instruction, accountability, teacher and administrator preparation, and professional development. The Licensure section of NCDPI examines individuals’ credentials and issues professional teaching licenses, including B-K licensure. I worked with NCDPI to obtain a list of individuals who had graduated from B-K programs in NC between 2007 and 2010 and who were currently employed by North Carolina public schools. I sent the invitation and link to complete the survey to 328 potential participants directly through the Qualtrics online survey program, as well as two reminder messages two and four weeks following the initial invitation. Of those 328, 140 completed the survey, for a response rate of 43%. The overall response rate, including individuals contacted through program coordinators and those identified by NCDPI, was 33% (163); however, it is likely that some of the individuals who received the invitation to participate from the coordinators of their B-K programs were also included on the list from NCDPI and received the invitation sent through Qualtrics. This means that the overall pool of potential participants actually may have contained fewer individuals than it appears by combining the two samples (n=498). Because the survey was anonymous, there was no way to determine the overlap in recruiting methods. This may inflate the percentage of the population that received the survey and impact the overall
response rate. Individuals who received the survey multiple times were restricted by Qualtrics from completing the survey more than once.

The sampling frame included undergraduate-level B-K program graduates from 2007-2010 whose program coordinators agreed to forward an email with a link to the survey to their graduates and B-K graduates who were identified through the NCDPI. Recruitment included graduates from diverse institutions, including large and small public, private, historically Black, and women-only colleges and universities. Recruitment also included individuals working in diverse schools throughout the state, including urban and rural schools. To encourage participation, all survey participants were offered the opportunity to enter a drawing to win one of five $30 Target gift cards upon completion of the survey. They also received a list of resources upon completion of the survey. The list of resources included websites, books, and journal articles that describe or support individualizing strategies and collaboration. A conditional sampling procedure was used according to the following conditions:

- The individual graduated from an undergraduate-level B-K licensure program in North Carolina between 2007 and 2010 and his/her program coordinator agreed to forward the email containing the survey invitation, and the email that the program coordinator had for the individual was current so that the individual received the message; OR

- The individual was identified through the NCDPI as an employee who had graduated from an undergraduate-level B-K program in North Carolina between 2007 and 2010.
Of the 163 individuals who completed surveys, 21 were excluded from data analysis because they graduated from their undergraduate-level B-K program prior to 2007 or because their undergraduate degree was in something other than B-K. The majority of these individuals had graduated from graduate-level B-K programs between 2007 and 2010 but had completed their undergraduate program in elementary education. Data from 142 individuals were analyzed.

**Survey administration.** The survey was administered through the Qualtrics online survey software. Participants completed the survey independently and anonymously. The emailed invitation to participate in the survey contained details about the survey necessary for Institutional Review Board consent and included a link to the survey. When an individual clicked on the link, she or he was directed to the welcome page for the survey, which reiterated the anonymity of survey responses. Participants were asked to indicate whether they consented to participate in the survey. If *no* was indicated, the respondent was directed to the end of the survey. If *yes* was indicated, the respondent was directed to the beginning of the survey. Skip patterns were built in to the survey design so that if an individual indicated that he or she was not currently employed in the field of early childhood or a related field, the participant skipped over the series of questions pertaining to current practice. Upon completion of the survey, the participant was redirected to a completely separate survey in which to enter an email address to enter the drawing to win one of the $30 Target gift cards. The email addresses from the drawing entry survey were not associated with the survey responses.

**Participant Characteristics**

**Characteristics of participants.** The final sample included 142 individuals who
graduated from undergraduate level Birth-Kindergarten licensure programs in North Carolina colleges and universities between 2007 and 2010. The sample included one male and 141 females. Participants’ ages (n = 134) ranged from 22 to 56, with a mean age of 31, a median of 28, and a mode of 25. Seventy-seven participants (57%) were between ages 22 and 29, 18 (14%) were between ages 30 and 39, 22 (16%) were between ages 40 and 49, and 17 (13%) were between ages 50 and 56. Participants were asked to choose all races that described themselves. The majority of participants (112) indicated they were white (79%), while 34 (24%) indicated they were black, and 4 (3%) indicated they were American Indian. This suggests that at least 6% were of mixed race.

Of the 142 participants, 135 (95%) indicated that they were currently employed in the field of early childhood. Thirty-one (22%) participants graduated in 2007, while fifty-one (36%), thirty-five (25%), and twenty-four (17%) graduated in 2008, 2009, and 2010, respectively. Eighteen (13%) respondents indicated their highest degree was a master’s degree, while the remaining 122 (87%) indicated their highest degree at a bachelor’s level. One hundred thirty-five (95%) respondents indicated they held current birth-kindergarten (B-K) licensure, while seven (5%) indicated that they did not hold a B-K license and never had. The individuals who have never held B-K licensure graduated from B-K programs but did not submit the necessary paperwork to be granted licensure. Participant characteristics are presented in Table 3.1.
Table 3.1

**Participant characteristics, n = 142**

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<th>Characteristic</th>
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<td>40-49</td>
<td>22</td>
<td>16</td>
</tr>
<tr>
<td>50-56</td>
<td>17</td>
<td>13</td>
</tr>
</tbody>
</table>

**Participants’ current work settings.** The majority of participants (86; 60.6%) indicated they were currently preschool or prekindergarten teachers. Others indicated they were kindergarten teachers, itinerate teachers, special educators, elementary grades teachers, administrators, and others, as described in Table 3.2. The age ranges that participants indicated they primarily work with are outlined in Table 3.2. One hundred twenty-seven participants indicated they worked in public school settings (94%), while four worked in private schools (3%), two worked in child care programs (1.5%), and one worked in a developmental day program (0.7%), and one worked in an early intervention program (0.7%). Participants had worked in their current positions for a range of six months to 29.5 years (n = 88, M = 3.6, SD = 4.3, median = 2), with the majority being in their current
positions less than four years. Individuals who had been in their positions for over four years were presumed to have been working in programs not requiring teacher licensure. These individuals may have been working with an associate’s degree or minimal education and may have gone through a B-K program for career advancement or opportunities to teach within public schools. Twelve participants indicated they worked for Head Start (8.5%) and one participant indicated she worked for Early Head Start (0.7%).

Participants reported that the demographics of children in their classrooms and on their caseloads reflected diversity. A majority of participants reported working with each of the following: English learners, children who are at risk, and children with diagnosed disabilities. Children with behavior problems, children with autism, and children who are gifted and talented were present in fewer than half of participants’ classrooms or on their caseloads, as outlined in Table 3.2
Table 3.2
Characteristics of participants’ current positions, n = 135

<table>
<thead>
<tr>
<th>Participant’s current position</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preschool/Prekindergarten teacher</td>
<td>86</td>
<td>60.6</td>
</tr>
<tr>
<td>Kindergarten teacher</td>
<td>25</td>
<td>17.6</td>
</tr>
<tr>
<td>Early childhood special education/special education teacher</td>
<td>7</td>
<td>4.9</td>
</tr>
<tr>
<td>Itinerate teacher</td>
<td>4</td>
<td>2.8</td>
</tr>
<tr>
<td>English as a Second Language Specialist</td>
<td>2</td>
<td>1.4</td>
</tr>
<tr>
<td>1\textsuperscript{st} grade teacher</td>
<td>1</td>
<td>0.7</td>
</tr>
<tr>
<td>2\textsuperscript{nd} grade teacher</td>
<td>1</td>
<td>0.7</td>
</tr>
<tr>
<td>Assistant teacher</td>
<td>1</td>
<td>0.7</td>
</tr>
<tr>
<td>Floating or substitute teacher</td>
<td>1</td>
<td>0.7</td>
</tr>
<tr>
<td>Administrator</td>
<td>1</td>
<td>0.7</td>
</tr>
<tr>
<td>Birth-Kindergarten teacher</td>
<td>1</td>
<td>0.7</td>
</tr>
<tr>
<td>Early Head Start family resource educator</td>
<td>1</td>
<td>0.7</td>
</tr>
<tr>
<td>High school early childhood education teacher</td>
<td>1</td>
<td>0.7</td>
</tr>
<tr>
<td>Resource teacher for the hearing impaired (grades K-5)</td>
<td>1</td>
<td>0.7</td>
</tr>
<tr>
<td>Pre-k teacher for the hearing impaired</td>
<td>1</td>
<td>0.7</td>
</tr>
</tbody>
</table>

Work setting
- Public school: 127 (94)
- Private school: 4 (3)
- Child care program: 2 (1.5)
- Developmental day program: 1 (0.7)
- Early intervention program: 1 (0.7)

Age range with which participant primarily works
- Ages 3-5/preschool/prekindergarten: 97 (72.3)
- Kindergarten: 28 (20.8)
- Birth-3/infants/toddlers: 3 (2.1)
- Kindergarten-5\textsuperscript{th} grade: 3 (2.1)
- 1\textsuperscript{st} grade: 2 (1.5)
- Kindergarten-3\textsuperscript{rd} grade: 1 (0.7)
- Kindergarten-6\textsuperscript{th} grade: 1 (0.7)

Demographic group present in participant’s class/caseload
- English learners: 109 (80.7)
- Children who are at risk: 101 (74.8)
- Children with diagnosed disabilities: 96 (71.1)
- Children with behavior problems who have behavior plans: 59 (43.7)
- Children with autism: 48 (35.6)
- Children who are gifted and talented: 31 (23)

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Data Analysis

The research questions and hypotheses, as well as the data sources (i.e., survey question numbers and descriptions) and analyses used to address each research question are described in Table 3.3. To address the first research question regarding individuals’ perceptions of their assessment and instructional practices, descriptive statistics were calculated for four survey questions regarding the types and purposes of assessments participants conduct, the instructional strategies that participants employ, and how they use evidence-based practice. To address the second research question, gamma correlations were calculated for corresponding items on survey questions regarding participants’ current practices and B-K preparation for specific types and purposes of assessment and instructional strategies (Goodman & Kruskal, 1954). The third research question was addressed by examining descriptive statistics for survey questions regarding participants’ collaborative practices with families and other professionals. Finally, the last research question was addressed by calculating gamma correlations between corresponding items on survey questions regarding participants’ current practices and B-K preparation for collaboration with families and professionals.

The gamma statistic is designed to use with ordinal data, such as the ratings in this study, to determine the strength of association. It provides a correlation coefficient with a range of -1 to +1 (Goodman & Kruskal, 1954). Positive values indicate a positive association, and negative values indicate a negative association. The strength of the association increases as the gamma statistic approaches an absolute value of 1. The gamma statistic does not assume a normal distribution, so it is not affected by skewness or kurtosis (Goodman & Kruskal, 1954). A Bonferroni-Holm correction was used to examine
significance of associations based on the gamma values for each family of correlations (Abdi, 2010). The Bonferroni-Holm correction began by dividing the .05 error level \( (p\text{-value}) \) by the number of correlations calculated to answer each question \( (a/k, \text{ where } a = \text{error level and } k = \text{number of correlations}) \). The \( p \)-values were then ordered from smallest to largest, and the smallest \( p \)-value was compared with \( a/k \). If the smallest \( p \)-value was less than \( a/k \), the null hypothesis was rejected and the next smallest \( p \)-value was compared to \( a/(k - 1) \). I continued in this manner, comparing the ordered \( p \)-values to the ordered \( k - 1 \) \( p \)-values until the hypothesis with the smallest \( p \)-value could not be rejected. All remaining null hypotheses were then accepted. SPSS version 19.0 for Macintosh was used for analysis of data.
<table>
<thead>
<tr>
<th>RQ#</th>
<th>Research Question</th>
<th>Hypothesis</th>
<th>Data Source Question # and name</th>
<th>Analyses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Which assessment and instructional strategies do recent B-K graduates report using frequently?</td>
<td>Early childhood professionals will report less frequent use of assessment results to plan curriculum and use of supplemental literacy and math curricula than planning for all domains of development. They will report conducting assessments for progress monitoring more frequently than assessments for screening.</td>
<td>15 (Current Assessment Type), 16 (Current Assessment Purpose), 17 (Current Instruction)</td>
<td>Descriptive statistics</td>
</tr>
<tr>
<td>2</td>
<td>How strongly is perception of preparation for a specific assessment or instructional practice related to perceived frequency of use of that practice?</td>
<td>Early childhood professionals who perceive that they were better prepared for a given assessment or instructional strategy will report more frequent use of that strategy. This will result in a strong positive relationship between preparation and practice.</td>
<td>15 (Current Assessment Type) &amp; BK Assessment Type; 16 (Current Assessment Purpose) &amp; BK Assessment Purpose; 17 (Current Instruction) &amp; BK Instruction</td>
<td>Gamma correlations between corresponding items in Q15/26, 16/27, 17/28</td>
</tr>
<tr>
<td>3</td>
<td>Which collaborative practices do recent B-K graduates report using frequently?</td>
<td>Early childhood professionals will report collaborating with families often and will report most frequent collaboration with other professionals in order to individualize for children.</td>
<td>19 (Current Collaborative Partners), 20 (Current Collaboration Professionals), 21 (Current Collaboration Families)</td>
<td>Descriptive statistics</td>
</tr>
<tr>
<td>4</td>
<td>How strongly is perception of preparation to collaborate for specific tasks related to perceived frequency of collaboration for those tasks?</td>
<td>Early childhood professionals who perceive they were better prepared to collaborate with other professionals and families will report higher rates of collaboration. This will result in a strong positive relationship between preparation and practice.</td>
<td>20 (Current Collaboration Professionals) &amp; BK Collaboration Professionals; 21 (Current Collaboration Families) &amp; BK Collaboration Families</td>
<td>Gamma correlations between corresponding items in Q20/29 and 21/30</td>
</tr>
</tbody>
</table>
Chapter Four: Results

Birth-Kindergarten (B-K) teacher preparation programs are challenged with preparing individuals for increasing diversity among children and increased accountability. To meet diverse children’s needs and accountability standards, teachers must gather and utilize assessment information, individualize curriculum and instruction, and collaborate with other professionals and with families. While B-K preparation programs prepare individuals with a strong background in assessment, instruction, and collaboration, it is unclear how preparation is associated with actual practice. The purpose of this investigation was to examine graduates’ of B-K teacher licensure programs perceptions regarding their current practices and their perceptions of their B-K preparation related to individualizing curriculum and instruction. The long-term goal of this work is to inform B-K programs about areas of strength and need in preparing early childhood professionals to individualize for children’s diverse learning styles and needs. The specific research questions were:

1) Which assessment and instructional strategies do early childhood professionals report using frequently?

2) How strongly is perception of preparation for a specific assessment or instructional practice related to perceived frequency of use of that practice?

3) Which collaborative practices do early childhood professionals report using frequently?

4) How strongly is perception of preparation to collaborate for specific tasks related to perceived frequency of collaboration for those tasks?
Data were analyzed by quantitative methods. Descriptive statistics were calculated to describe each variable, and gamma correlations were calculated to examine the associations between preparation and practice for each assessment, instructional, and collaborative practice.

This chapter outlines the results for each research question by first presenting findings related to participants’ perceptions of their current assessment and instructional practices, including their feelings of autonomy, to examine the first research question. Second, an examination of the association between preparation and practice for each assessment and instructional strategy will be addressed for the second research question. Next, participants’ perceptions of their current collaborative practices will be described to examine the third research question. Finally, to address the last research question, participants’ perceptions of their B-K preparation for collaborative practices will be outlined prior to examining the associations between preparation and practice for collaboration. After addressing each of the research questions, additional findings will be presented to describe participants’ familiarity with recent policy and practices related to individualization.

**RQ1: Perceived Assessment and Individualization Practice**

In order to examine which assessment and instructional strategies recent B-K graduates report using frequently descriptive statistics were analyzed for participants’ ratings of the frequency with which they engage in specific assessment and instructional practices. In terms of assessment, participants’ responses ranged from never (1) to very often (5) for all practices except “conducting assessments for progress monitoring”, which ranged from sometimes (2) to very often (5).
Participants reported conducting assessments for progress monitoring more frequently than conducting developmental screening. When it came to how they use assessment results, means for each practice fell in the 4-5 point range between *quite often* and *very often*, as seen in Table 4.1. Participants reported highest rates of using results to track children’s progress, to determine which children are in need of additional support to learn skills or concepts, and to plan curriculum and instruction for individual children. Participants reported less frequent use of assessment results to communicate with families, to communicate with other professionals, and to plan curriculum and instruction for the whole class. The use of assessment as reported by participants is outlined in Table 4.1.

Similar to assessment practices, participants’ ratings of frequency for instructional practices ranged from 1 to 5 for each practice except “working with children one-on-one,” which ranged from 2 to 5. Means and standard deviations for each practice are presented in Table 4.1. Participants reported most frequently working with small groups of children with similar needs, planning curriculum and instruction for all domains of development, and working with children one-on-one. Participants reported considerably lower rates of using supplemental literacy or math curricula.
Table 4.1  
Participants’ perceptions of the frequency of their assessment (n =135) and instructional (n =134) practices rated from 1 (never) to 5 (very often)

<table>
<thead>
<tr>
<th>Assessment Practice</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conducting assessments for</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Progress monitoring</td>
<td>4.49</td>
<td>.684</td>
</tr>
<tr>
<td>Screening</td>
<td>3.42</td>
<td>1.133</td>
</tr>
<tr>
<td>Using assessment results to</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Track children’s progress</td>
<td>4.61</td>
<td>.672</td>
</tr>
<tr>
<td>Determine which children are in need of additional support to learn skills or concepts</td>
<td>4.53</td>
<td>.689</td>
</tr>
<tr>
<td>Plan curriculum and instruction for individual children</td>
<td>4.52</td>
<td>.771</td>
</tr>
<tr>
<td>Communicate with families</td>
<td>4.38</td>
<td>.762</td>
</tr>
<tr>
<td>Communicate with other professionals</td>
<td>4.21</td>
<td>.867</td>
</tr>
<tr>
<td>Plan curriculum and instruction for the whole class</td>
<td>4.19</td>
<td>1.016</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Instructional Strategy</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working with small groups of children with similar needs</td>
<td>4.49</td>
<td>.773</td>
</tr>
<tr>
<td>Planning curriculum and instruction of all domains of development</td>
<td>4.48</td>
<td>.763</td>
</tr>
<tr>
<td>Working with children one-on-one</td>
<td>4.46</td>
<td>.690</td>
</tr>
<tr>
<td>Working with small groups of children with varying levels of skills</td>
<td>4.37</td>
<td>.828</td>
</tr>
<tr>
<td>Using evidence-based curriculum and instruction strategies</td>
<td>4.21</td>
<td>.885</td>
</tr>
<tr>
<td>Developing periodic goals for individual children</td>
<td>4.16</td>
<td>.894</td>
</tr>
<tr>
<td>Developing periodic goals for the whole group</td>
<td>4.02</td>
<td>1.072</td>
</tr>
<tr>
<td>Using supplemental literacy curricula</td>
<td>3.04</td>
<td>1.427</td>
</tr>
<tr>
<td>Using supplemental math curricula</td>
<td>3.04</td>
<td>1.445</td>
</tr>
</tbody>
</table>

When asked to indicate from a set of options how they incorporate evidence-based methods into their practice, seven (5%) of the 134 respondents indicated that they do not use evidence-based methods. One hundred-three (77%) respondents indicated they modify the existing curriculum, and 99 (74%) indicated they modify the environment. Eighty-six (64%) respondents indicated they adopt new practices, while 106 (79%) indicated they adapt new practices for the classroom or the children. Seventy-four (55%) respondents indicated they incorporate evidence-based methods through trial and error. Additionally, participants wrote in that they use specific assessments, such as Dynamic Indicators of Basic Early Literacy Skills (DIBELS), Thinkgate, The Creative Curriculum Developmental Continuum, the
Peabody Picture Vocabulary Test-III (PPVT-III), and specific curricula, such as the Tools of the Mind. One participant mentioned using a tiered approach to organize assessment and instructional strategies, while another respondent stated, “We are given the research based programs and expected to follow to fidelity.”

**Perceived autonomy and assessment and instructional practice.** Autonomy was defined as “freedom to plan and carry out curriculum and instruction the way you wish.” Overall, participants indicated they felt *Quite Free* (M = 3.69, SD = 1.192) to plan and carry out curriculum and instruction they way they wished a scale from 1 (not at all free) to 5 (very free). Frequencies of responses are presented in Table 4.2. Anecdotally, several respondents remarked that the school structure dictated when assessment happens, such as weekly school-wide progress monitoring or periodic assessments that are required by state-sponsored pre-kindergarten programs. Others expressed frustration with having to follow a scripted curriculum. One participants stated, “I dislike the ‘to fidelity and beyond’ attitude….I feel like I learned to adapt and modify and assess students for no apparent reason except to follow a scripted program.” Other participants stated that they had supportive principals who encouraged them to differentiate.

To examine the association between participants’ feelings of autonomy and their perceptions of their assessment and instructional practices, gamma statistics were calculated for the cross-tabulated data. When using the Bonferroni-Holm correction, described previously, to determine statistical significance, there were no significant associations. However, several associations were significant at a .05 level, indicating a trend towards an association, as outlined in Table 4.2.
Table 4.2
Participants’ reported feelings of autonomy and gamma values for associations between participants’ perceived autonomy and their assessment and instructional practices, n = 134

<table>
<thead>
<tr>
<th>Perceived Autonomy</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all free</td>
<td>6</td>
<td>4.5</td>
</tr>
<tr>
<td>Somewhat free</td>
<td>22</td>
<td>16.4</td>
</tr>
<tr>
<td>Free</td>
<td>20</td>
<td>14.9</td>
</tr>
<tr>
<td>Quite free</td>
<td>46</td>
<td>34.3</td>
</tr>
<tr>
<td>Very free</td>
<td>40</td>
<td>29.9</td>
</tr>
</tbody>
</table>

Gamma statistics

<table>
<thead>
<tr>
<th>Practice</th>
<th>Perceived Autonomy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assessment Practices</strong></td>
<td></td>
</tr>
<tr>
<td>Conducting:</td>
<td></td>
</tr>
<tr>
<td>Developmental assessments for screening</td>
<td>.154</td>
</tr>
<tr>
<td>Assessments for progress monitoring</td>
<td>.010</td>
</tr>
<tr>
<td>Using assessment results:</td>
<td></td>
</tr>
<tr>
<td>To plan curriculum and instruction for the whole class</td>
<td>.139</td>
</tr>
<tr>
<td>To plan curriculum and instruction for individual children</td>
<td>.278*</td>
</tr>
<tr>
<td>To determine which children are in need of additional supports to learn skills or concepts</td>
<td>.253*</td>
</tr>
<tr>
<td>To track children’s progress</td>
<td>.202</td>
</tr>
<tr>
<td>To communicate with other professionals</td>
<td>.243*</td>
</tr>
<tr>
<td>To communicate with families</td>
<td>.130</td>
</tr>
<tr>
<td><strong>Instructional Practices</strong></td>
<td></td>
</tr>
<tr>
<td>Planning curriculum and instruction for all domains of development</td>
<td>.146</td>
</tr>
<tr>
<td>Developing periodic goals for individual children</td>
<td>.237*</td>
</tr>
<tr>
<td>Developing periodic goals for the whole group</td>
<td>.111</td>
</tr>
<tr>
<td>Working with children one-on-one</td>
<td>.140</td>
</tr>
<tr>
<td>Working with small groups of children with similar needs</td>
<td>.084</td>
</tr>
<tr>
<td>Working with small groups of children with varying levels of skills</td>
<td>.245*</td>
</tr>
<tr>
<td>Using supplemental literacy curricula</td>
<td>.001</td>
</tr>
<tr>
<td>Using supplemental math curricula</td>
<td>.036</td>
</tr>
<tr>
<td>Using evidence-based curriculum and instruction strategies</td>
<td>.139</td>
</tr>
</tbody>
</table>

*p < .05.

**RQ2 Associations between Perceived Preparation and Practice for Assessment and Instruction**

To examine the strength of the relationship between perceived B-K preparation and perceived practice for specific assessment or instructional practices the first step was
exploring the descriptive statistics for B-K preparation. Next, gamma correlations were calculated to examine the strength of the associations between preparation and practice for each task.

**Perceived preparation for assessment and instruction.** Overall, participants’ responses regarding their B-K preparation reflected more variability than their responses regarding their current practices for the same tasks. For the majority of tasks, participants reported higher frequency rates in their practices than levels of preparation. Descriptive statistics for preparation on each assessment and instructional task are presented in Table 4.3.

<table>
<thead>
<tr>
<th>Assessment Practice</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conducting assessments for</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Progress monitoring</td>
<td>3.73</td>
<td>1.101</td>
</tr>
<tr>
<td>Screening</td>
<td>3.63</td>
<td>1.111</td>
</tr>
<tr>
<td>Using assessment results to</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communicate with families</td>
<td>3.98</td>
<td>0.985</td>
</tr>
<tr>
<td>Plan curriculum and instruction for individual children</td>
<td>3.91</td>
<td>0.974</td>
</tr>
<tr>
<td>Plan curriculum and instruction for the whole class</td>
<td>3.91</td>
<td>1.007</td>
</tr>
<tr>
<td>Communicate with other professionals</td>
<td>3.90</td>
<td>0.950</td>
</tr>
<tr>
<td>Determine which children are in need of additional support to learn skills or concepts</td>
<td>3.83</td>
<td>0.993</td>
</tr>
<tr>
<td>Track children’s progress</td>
<td>3.83</td>
<td>1.001</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Instructional Practice</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning curriculum and instruction of all domains of development</td>
<td>4.09</td>
<td>0.870</td>
</tr>
<tr>
<td>Working with children one-on-one</td>
<td>3.95</td>
<td>0.918</td>
</tr>
<tr>
<td>Working with small groups of children with similar needs</td>
<td>3.94</td>
<td>0.894</td>
</tr>
<tr>
<td>Working with small groups of children with varying levels of skills</td>
<td>3.85</td>
<td>0.951</td>
</tr>
<tr>
<td>Developing periodic goals for the whole group</td>
<td>3.82</td>
<td>0.933</td>
</tr>
<tr>
<td>Developing periodic goals for individual children</td>
<td>3.79</td>
<td>0.985</td>
</tr>
<tr>
<td>Using evidence-based curriculum and instruction strategies</td>
<td>3.68</td>
<td>0.974</td>
</tr>
<tr>
<td>Using supplemental literacy curricula</td>
<td>3.19</td>
<td>1.102</td>
</tr>
<tr>
<td>Using supplemental math curricula</td>
<td>3.03</td>
<td>1.111</td>
</tr>
</tbody>
</table>
When asked how well they felt their undergraduate B-K program prepared them to work with particular groups of children, participants indicated they felt most prepared to work with children with disabilities and least prepared to work with children who are gifted and talented. Participants rated their level of preparation on a 5-point scale with 1 indicating *not at all prepared* and 5 indicating *very prepared*. For each group, participants’ responses covered the entire range, with the exception of children with disabilities. All participants indicated they felt at least *minimally* prepared to work with children with disabilities. Descriptive statistics for each group are presented in Table 4.4.

Table 4.4  
*Participants’ perceptions of their preparation to work with diverse groups of children, n = 138*

<table>
<thead>
<tr>
<th>Demographic Group</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children with disabilities</td>
<td>3.79</td>
<td>0.93</td>
</tr>
<tr>
<td>Children at risk</td>
<td>3.59</td>
<td>1.09</td>
</tr>
<tr>
<td>Children with behavior problems</td>
<td>3.26</td>
<td>1.16</td>
</tr>
<tr>
<td>Children with autism</td>
<td>3.23</td>
<td>1.15</td>
</tr>
<tr>
<td>English learners</td>
<td>3.07</td>
<td>1.44</td>
</tr>
<tr>
<td>Children who are gifted and talented</td>
<td>2.99</td>
<td>1.14</td>
</tr>
</tbody>
</table>

**Associations between preparation and practice.** Next, gamma statistics were calculated to examine the strength of the association between perceived preparation and perceived practice for each assessment and instructional task. A Bonferroni-Holm correction was used to control the Type 1 error for the family of correlations calculated. With the Bonferroni-Holm correction, there were statistically significant, positive associations between perceived preparation and practice for three assessment and instructional tasks: using supplemental literacy curricula, conducting developmental assessments for screening, and using supplemental math curricula. However, there were several more trends towards
significant associations when a .05 level of error was applied to each correlation, as shown in Table 4.5.

Table 4.5

<table>
<thead>
<tr>
<th>Practice</th>
<th>Gamma Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assessment Practices</strong></td>
<td></td>
</tr>
<tr>
<td>Conducting:</td>
<td></td>
</tr>
<tr>
<td>Developmental assessments for screening</td>
<td>.311*^</td>
</tr>
<tr>
<td>Assessments for progress monitoring</td>
<td>.187</td>
</tr>
<tr>
<td>Using assessment results:</td>
<td></td>
</tr>
<tr>
<td>To plan curriculum and instruction for the whole class</td>
<td>.193</td>
</tr>
<tr>
<td>To plan curriculum and instruction for individual children</td>
<td>.172</td>
</tr>
<tr>
<td>To determine which children are in need of additional supports</td>
<td>.065</td>
</tr>
<tr>
<td>To learn skills or concepts</td>
<td></td>
</tr>
<tr>
<td>To track children’s progress</td>
<td>.228</td>
</tr>
<tr>
<td>To communicate with other professionals</td>
<td>.101</td>
</tr>
<tr>
<td>To communicate with families</td>
<td>.145</td>
</tr>
<tr>
<td><strong>Instructional Practices</strong></td>
<td></td>
</tr>
<tr>
<td>Planning curriculum and instruction for all domains of development</td>
<td>.288</td>
</tr>
<tr>
<td>Developing periodic goals for individual children</td>
<td>.278^</td>
</tr>
<tr>
<td>Developing periodic goals for the whole group</td>
<td>.219^</td>
</tr>
<tr>
<td>Working with children one-on-one</td>
<td>.337^</td>
</tr>
<tr>
<td>Working with small groups of children with similar needs</td>
<td>.311^</td>
</tr>
<tr>
<td>Working with small groups of children with varying levels of skills</td>
<td>.300^</td>
</tr>
<tr>
<td>Using supplemental literacy curricula</td>
<td>.361*^</td>
</tr>
<tr>
<td>Using supplemental math curricula</td>
<td>.296*^</td>
</tr>
<tr>
<td>Using evidence-based curriculum and instruction strategies</td>
<td>.241^</td>
</tr>
</tbody>
</table>

* p < Bonferroni-Holm corrected value; ^ p < .05.

In summary, participants report employing specific assessment and instructional strategies related to individualizing. Overall, participants reported perceived rates of frequency of employing assessment and instructional practices that were higher than their perceived level of preparation for each task. Using a gamma statistic with a Bonferroni-Holm
correction to examine the strengths of the associations, there were statistically significant associations between perceived preparation and practice for three tasks: conducting assessments for screening, using supplemental literacy curricula, and using supplemental math curricula. This suggests that individuals who feel better prepared for these tasks are more likely to employ them.

**RQ3 Perceived Collaboration Practice**

In order to investigate which collaborative practices recent B-K graduates report using frequently, descriptive statistics were analyzed for participants’ ratings of the frequency with which they engage in specific collaborative practices. Participants’ responses ranged from *never* (1) to *very often* (5) for all practices for collaborating with other professionals and from *sometimes* (2) to *very often* (5) for collaborating with families. Descriptive statistics are presented in Table 4.6.

<table>
<thead>
<tr>
<th>Collaborative Practice</th>
<th>n</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working with other professionals to</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assess children</td>
<td>134</td>
<td>3.54</td>
<td>1.080</td>
</tr>
<tr>
<td>Individualize curriculum and instruction for children</td>
<td>134</td>
<td>3.51</td>
<td>1.039</td>
</tr>
<tr>
<td>Plan curriculum and instruction for the whole class</td>
<td>133</td>
<td>3.41</td>
<td>1.148</td>
</tr>
<tr>
<td>Working with families to meet children’s needs</td>
<td>123</td>
<td>4.11</td>
<td>0.842</td>
</tr>
</tbody>
</table>

Participants’ responses indicated that they regularly meet with a variety of teachers, administrators, and specialists to plan curriculum and/or instruction. The majority of participants indicated they collaborate with assistant teachers and other grade-level teachers. Many participants also indicated collaborating with speech/language pathologists, mentor
teachers, and professional learning communities. Several participants remarked that team teaching and working with other professionals was helpful for individualization. The percentages of participants who indicated they meet with each individual or group are presented in Table 4.7.

Table 4.7
*Individuals with whom participants indicated meeting regularly to plan curriculum and/or instruction, n=132*

<table>
<thead>
<tr>
<th>Collaborative Partner/Group</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assistant teachers</td>
<td>88</td>
<td>66.7</td>
</tr>
<tr>
<td>Other grade-level teacher in the school/program</td>
<td>77</td>
<td>58.3</td>
</tr>
<tr>
<td>Speech/Language pathologist</td>
<td>49</td>
<td>37.1</td>
</tr>
<tr>
<td>Mentor teacher</td>
<td>47</td>
<td>35.6</td>
</tr>
<tr>
<td>Professional learning communities/communities of practice</td>
<td>34</td>
<td>25.8</td>
</tr>
<tr>
<td>Special education teacher</td>
<td>27</td>
<td>20.5</td>
</tr>
<tr>
<td>Occupational therapist</td>
<td>27</td>
<td>20.5</td>
</tr>
<tr>
<td>Co-teachers</td>
<td>24</td>
<td>18.2</td>
</tr>
<tr>
<td>Principal/director</td>
<td>19</td>
<td>14.4</td>
</tr>
<tr>
<td>English Language Learner teacher/English as a Second Language teacher</td>
<td>16</td>
<td>12.1</td>
</tr>
<tr>
<td>Physical therapist</td>
<td>16</td>
<td>12.1</td>
</tr>
<tr>
<td>Reading specialist/Reading Recovery teacher</td>
<td>13</td>
<td>9.8</td>
</tr>
<tr>
<td>Behavior specialist</td>
<td>10</td>
<td>7.6</td>
</tr>
<tr>
<td>Other upper-grades teachers in the school/program</td>
<td>10</td>
<td>7.6</td>
</tr>
<tr>
<td>Social worker</td>
<td>9</td>
<td>6.8</td>
</tr>
<tr>
<td>Psychologist</td>
<td>9</td>
<td>6.8</td>
</tr>
<tr>
<td>Lead teacher in the class</td>
<td>8</td>
<td>6.1</td>
</tr>
<tr>
<td>Math specialist</td>
<td>3</td>
<td>2.3</td>
</tr>
<tr>
<td>Academically gifted teacher</td>
<td>1</td>
<td>0.8</td>
</tr>
<tr>
<td>Autism specialist</td>
<td>1</td>
<td>0.8</td>
</tr>
</tbody>
</table>

To examine the association between participants’ perceived autonomy (i.e., freedom to plan and carry out curriculum and instruction they way they wish) and their perceptions of their collaborative practices, gamma statistics were calculated for the cross-tabulated data. Using a Bonferroni-Holm correction to determine statistical significance, there was only a significant association between feelings of autonomy and collaborating with other
professionals to assess, indicating a trend towards a significant association, as shown in Table 4.8.

Table 4.8
\[ \text{Gamma values for associations between participants’ perceived autonomy and their perceived collaborative practices, } n=134 \]

<table>
<thead>
<tr>
<th>Collaborative Practice</th>
<th>Perceived Autonomy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collaborating with other professionals</td>
<td></td>
</tr>
<tr>
<td>To assess</td>
<td>.268 *</td>
</tr>
<tr>
<td>To plan for the whole group</td>
<td>.036</td>
</tr>
<tr>
<td>To plan for individual children</td>
<td>.169</td>
</tr>
<tr>
<td>Collaborating with families to meet children’s needs</td>
<td>.087</td>
</tr>
</tbody>
</table>

* p < Bonferroni-Holm corrected value.

**RQ4 Associations between Perceived Preparation and Practice for Collaboration**

To examine the strength of the relationship between perceived B-K preparation and perceived practice for specific collaborative tasks the first step was exploring the descriptive statistics for B-K preparation. Overall, participants’ responses about their preparation reflected more variability than their responses regarding their current practices for the same tasks. For the majority of tasks, participants reported levels of preparation higher than rates of frequency. However, when it came to working with families, the mean for perceived frequency of collaborating with families (M = 4.11, SD = .842) was higher than the mean for preparation to collaborate with families (M = 4.03, SD = .988). One participant expressed frustration with her preparation for collaboration with other professionals: “The skills and expertise of other professionals was never exemplified…I feel as if my classmates and I were trained to think we were the best of the best, when in fact we are only parts of a larger whole.” Descriptive statistics for collaborative practices are presented in Table 4.9.
Table 4.9
Participants’ perceptions of their preparation for collaborative practices rated from 1 (not at all) to 5 (very)

<table>
<thead>
<tr>
<th>Collaborative Practice</th>
<th>n</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working with other professionals to</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individualize curriculum and instruction for children</td>
<td>138</td>
<td>3.91</td>
<td>0.943</td>
</tr>
<tr>
<td>Plan curriculum and instruction for the whole class</td>
<td>137</td>
<td>3.90</td>
<td>0.934</td>
</tr>
<tr>
<td>Assess children</td>
<td>138</td>
<td>3.80</td>
<td>1.003</td>
</tr>
<tr>
<td>Working with families to meet children’s needs</td>
<td>134</td>
<td>4.03</td>
<td>0.988</td>
</tr>
</tbody>
</table>

To examine the association between participants’ perceptions of their preparation for collaborative practices and their perceptions of their collaborative practices, gamma statistics were calculated for the cross-tabulated data. Using a Bonferroni-Holm correction to determine statistical significance, there were several significant positive associations: collaborating with other professionals to assess, collaborating with other professionals to plan for individual children, and collaborating with families to meet children’s needs, as shown in Table 4.10.

Table 4.10
Gamma statistics for associations between perceived preparation and perceived practice for collaborative tasks, n=126

<table>
<thead>
<tr>
<th>Collaborative Practice</th>
<th>Gamma Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collaborating with other professionals</td>
<td></td>
</tr>
<tr>
<td>To assess</td>
<td>.369*</td>
</tr>
<tr>
<td>To plan for the whole group</td>
<td>.130</td>
</tr>
<tr>
<td>To plan for individual children</td>
<td>.240*</td>
</tr>
<tr>
<td>Collaborating with families to meet children’s needs</td>
<td>.441*</td>
</tr>
</tbody>
</table>

* p < Bonferroni-Holm corrected value.

In summary, participants reported collaborating with a wide variety of other professionals and most frequent collaboration with families. In general, participants reported levels of preparation that were higher than their perceived frequency of collaboration for each task. When examining the relationship between perceived preparation and practice for
collaborative tasks, there were significant relationships using a Bonferroni-Holm correction for three tasks: collaborating with other professionals to assess, collaborating with other professionals to plan for individual children, and collaborating with families.

**Familiarity with Recent Policy Related to Individualizing**

Although not related directly to the research questions, a series of survey questions asked participants about their familiarity with recent policies and practices, such as early intervening services, evidence-based practice, and Response to Intervention. Because RTI is an emerging practice in early childhood, these questions were included to explore whether participants were aware of these concepts. To determine participants’ familiarity with recent policy initiatives and innovative practices, descriptive statistics were examined. Participants indicated their familiarity with each initiative or practice on a scale from 1 (*not at all familiar*) to 3 (*very familiar*). Results suggest that participants were most familiar with the concept of early intervening services and least familiar with Response to Intervention, as shown in Table 4.11.

<table>
<thead>
<tr>
<th>Policy Initiative/ Innovative Practice</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early intervening services</td>
<td>2.28</td>
<td>0.638</td>
</tr>
<tr>
<td>Evidence-based practice</td>
<td>2.2</td>
<td>0.63</td>
</tr>
<tr>
<td>Response to Intervention</td>
<td>2.07</td>
<td>0.751</td>
</tr>
</tbody>
</table>

Participants who indicated they were at least somewhat familiar with Response to Intervention were asked how they became familiar with the concept. Respondents most frequently reported becoming familiar with RTI through the administration in the schools/programs in which they work, followed by in undergraduate courses. Other responses included workshops and other teachers, as descriptive in Table 4.12.
Table 4.12  
Participants’ responses regarding how they became familiar with RTI, n=104

<table>
<thead>
<tr>
<th>Response</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Through the administration in the school/program where they work</td>
<td>39</td>
<td>37.5</td>
</tr>
<tr>
<td>In an undergraduate course</td>
<td>27</td>
<td>26</td>
</tr>
<tr>
<td>In a class or workshop through the school/program where they work</td>
<td>12</td>
<td>11.5</td>
</tr>
<tr>
<td>Through a school/program where they worked formerly</td>
<td>9</td>
<td>8.7</td>
</tr>
<tr>
<td>In a graduate course</td>
<td>7</td>
<td>6.7</td>
</tr>
<tr>
<td>At a conference</td>
<td>4</td>
<td>3.8</td>
</tr>
<tr>
<td>Through another teacher at the school/program where they work</td>
<td>2</td>
<td>1.9</td>
</tr>
<tr>
<td>Through a workshop they found on their own</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Summary

The results of the descriptive analyses conducted in this study indicated that B-K graduates perceive they frequently employ a variety of assessment, instructional, and collaborative strategies related to individualizing for young children. The analyses also indicated that B-K graduates feel they were well prepared to employ these strategies overall; however, in general, their ratings for their preparation were lower than their ratings for their practice. This suggests they employ individualizing strategies even though they may not have felt prepared for each practice. Gamma correlations with a Bonferroni-Holm correction suggested significant positive associations between participants’ perceptions of their preparation and their practice for several assessment, instructional, and collaborative practices: conducting developmental assessments for screening, using supplemental literacy curricula, using supplemental math curricula, collaborating with other professionals to assess, collaborating with other professionals to plan for individual children, and collaborating with families to meet children’s needs. This suggests that as level of preparation for a specific strategy increases frequency of using that strategy increases.
Chapter Five: Discussion

Increased diversity and accountability in early childhood education has placed increased demands on teachers to meet individual children’s needs in recent years. Models such as Response to Intervention (RTI) outline assessment, instructional, and collaborative practices in a systematic manner in order to identify and address children’s academic and or social and emotional needs as they arise to prevent difficulties from becoming disabilities. Response to Intervention is a preventive intervention mainly used in primary grades that has been gaining momentum in early childhood. Components of RTI have been developed or adapted for children as young as infants (Carta et al., 2010). In an RTI model, teachers assess children throughout the year for screening and progress monitoring on key skills (Barnett et al., 2007). Assessment data is used to inform instruction, which is organized in tiers from least to most intensive. When assessment results indicate a child is not making adequate progress, the teacher may decide to increase the intensity of instruction by providing small group or individual instruction. The teacher then continues to monitor progress and adjust instruction as needed. Throughout this process, teachers collaborate with families and other professionals to assess children and make instructional decisions. RTI may change the nature of instructional practices by emphasizing data-based decision making and instruction focused on key skills, particularly early literacy and math skills. RTI also emphasizes providing the least amount of support necessary for children to be successful rather than providing high levels of support that are not necessary for every child (Coleman et al., 2006). Early childhood educators, who have graduated from a North Carolina Birth-Kindergarten (B-K)
teacher education program, are prepared to use many assessment, instructional, and collaborative practices required to implement a model such as RTI. However, it is unclear whether these B-K programs have kept pace with innovations such as RTI.

The purpose of this study was to examine the perceptions of recent graduates of North Carolina B-K teacher licensure programs regarding their current assessment, instructional, and collaborative practices related to individualizing within an RTI model and their B-K preparation for each practice. Individuals who graduated from B-K programs in North Carolina from 2007 to 2010 responded to an online survey regarding their practices and preparation. Descriptive statistics and gamma correlations were calculated to describe the associations between perceived preparation and practice. While a complete understanding of preparation, practice, and the relationships between the two could not be achieved in this study due to the study design, the present findings suggest preparation is associated with practice for some assessment, instructional, and collaborative practices. Findings related to participant characteristics and assessment, instruction, and collaborative practice and preparation will be discussed below, followed by a discussion of limitations and implications.

**Participant Characteristics**

The target population for this study was early childhood professionals who graduated from North Carolina B-K programs within the past four years, 2007-2010. Therefore, it was thought that the study participants would be traditional undergraduate students who would be 26 years old or younger at the time of data collection. However, participants were largely non-traditional students, with a mean age of 31 and a range spanning 22 to 56. Additionally, although the majority of participants had been in their current positions for four years or less, the range of time for which individuals had been working in their current positions was
longer than expected, with some being in their positions for almost 30 years (\(n = 88\), range = 6 months – 29.5 years, \(M = 3.6\), \(SD = 4.3\)). This indicates the sample included many individuals who had been working as preschool or pre-kindergarten teachers in programs not requiring a bachelor’s degree or licensure. These individuals may have had associate degrees in early childhood, and the decision to complete a four-year degree in early childhood was likely motivated by accountability standards dictating teachers in state pre-kindergarten programs have a bachelor’s degree and teacher licensure.

Preschool/pre-kindergarten teachers in North Carolina public schools represented the majority of the sample (\(n = 81\), 60%); however, many kindergarten teachers (\(n = 25\), 17.6%) and very few infant/toddler specialists (\(n = 3\), 2.1%) also responded. Overall, the vast majority of participants worked in public school settings (\(n = 127\), 94%). The remainder worked in private schools (\(n = 4\), 3%), child care programs (\(n = 2\), 1.5%), developmental day programs (\(n = 1\), 0.7%), and early intervention programs (\(n = 1\), 0.7%). The public school settings in which most participants worked likely operate quite differently than the varied private settings that comprise the early childhood field. Public schools and state-sponsored preschool classrooms housed within are often more structured, with schedules for assessments and perhaps standardized curricula. This was reflected in participants’ responses, as several indicated using scripted curricula and others mentioned scheduled progress monitoring and small group instruction. Whereas, in private programs teachers often choose their own curriculum and assessments with little regulation. Public school pre-kindergarten and kindergarten classrooms are also more likely than private programs to explore or implement Response to Intervention (RTI), as RTI is mainly being implemented in primary grades and is recently beginning to move down to kindergarten and pre-kindergarten. This
means the participants in this study may have been subject to more regulations and exposure to RTI than individuals teaching in the private programs comprising the majority of early childhood settings. These regulations could have influenced participants’ responses such that they report more frequent use of assessment, instructional, and collaborative practices than individuals teaching in other settings.

The diversity of children in participants’ classrooms and on their caseloads reflected national data, with the majority of participants working with English Learners, children who are at risk, and children with disabilities (NCES, 2009). Children with autism, children with behavior problems, and children who are gifted and talented were present in fewer than half of their classrooms and caseloads. Contrary to previous research (Lobman et al., 2005), participants reported feeling well prepared to work with children with disabilities and felt more prepared to work with this group than other diverse groups. The blended general and special education focus of North Carolina’s Birth-Kindergarten licensure and preparation standards likely contributes to this strength of the state’s B-K programs.

Participants reported feeling least prepared to work with English Learners and children who are gifted and talented as compared to other diverse groups, reflecting the gap between preparation and demands of diverse classrooms described by Horm (2003). Giftedness has not been a focus in early childhood, largely due to extremely varied settings and teacher education levels and lack of clear methods for identifying young children who are gifted (Walsh, Hodge, Bowes, & Kemp, 2010). Educators with training in gifted education have been shown to be significantly better at identifying children who may be gifted than those without training, as many indicators of giftedness may be misinterpreted as behavior problems (Walsh et al., 2010). This suggests the participants in this study, without a
pre-service emphasis on giftedness, may have underestimated the prevalence of giftedness in their classrooms.

**Perceived Assessment, Instructional, and Collaborative Practice**

One of the main goals of this study was to describe the frequency with which North Carolina B-K graduates employ specific assessment, instructional, and collaborative practices related to individualizing. Overall, means on a scale of one to five for each strategy fell within the somewhat narrow range of 3.04 (SD = 1.445, *sometimes*) for using supplemental math curricula to 4.61 (SD = 0.672, *very often*) for using assessment results to track children’s progress; however, a number of interesting trends were evident in the findings related to participants’ current practices for assessment, instruction, and collaboration.

**Assessment practice.** Participants’ highest frequency ratings were found in the category of assessment practices, with conducting assessments for screening at the low end (M = 3.42, SD = 1.133) and using assessment results to track children’s progress on the high end (M = 4.61, SD = 0.672). The low rating for screening may be due to the fact that many programs do not conduct screening of children or only screen children once a year, as comprehensive screening of all children within three months of program entry remains an emerging standard by the National Association for the Education of Young Children (NAEYC, 2011). Initial screening is a requirement in Head Start programs (Early Childhood Learning & Knowledge Center, n.d.); however, only 13 participants (9.2%) indicated working in Head Start or Early Head Start programs. Screening all children at multiple points throughout the school year is a newer practice, advocated by RTI models (Coleman et al., 2006). Participants reported frequent progress-monitoring, but they may do so with informal
or more traditional instruments rather than those that measure rate and level of growth (Haager et al., 2007). Many of the tools participants anecdotally reported using for assessments were checklists, teacher-developed measures, and other informal measures. These tools are helpful for planning curricula but do not provide the kind of information about the trajectory of a child’s learning on specific skills that is needed to target instruction in a model such as RTI. Progress-monitoring measures used in an RTI model are specifically designed to be quick assessments focused on targeted skills that can be used on a frequent basis to show small changes in skills (Carta et al., 2010).

The findings also indicated a trend toward using assessment to plan for individual children over planning for the whole group. It appears that B-K graduates use the assessment data they collect to individualize more often than to plan the general curriculum. This trend towards individualization was also found in participants’ instructional practice, which is discussed subsequently. Linking assessment and instruction is a key component of RTI models (Richards et al., 2007); however, it is unclear from the data collected in this study just how participants were using assessment to inform instruction. In an RTI model, linking assessment and instruction is a systematic, continuous process, with assessment increasing as instruction becomes more intense and individualized (NJCLD, 2005). In this study, it appears that participants assess children frequently and for a variety of purposes, but the process for doing this was not part of the study and therefore remains unclear.

In terms of sharing assessment results, participants reported using assessments to communicate with families more often than to communicate with other professionals. This is consistent with family-centered practice models in early childhood education (NAEYC,
2009) and RTI models for early childhood with family involvement in the assessment process as a cornerstone (Coleman et al., 2006).

**Instructional practice.** Findings related to instructional strategies indicated participants most frequently used small groups and one-on-one instruction, which are strategies primarily used in Tiers 2 and 3 of RTI models (Barnett et al., 2007). However, from the data collected, it is not clear how B-K graduates use strategies such as small groups and one-on-one instruction. For example, they may have all the children in the class break into small groups with each group working on the same task. This differs from small groups in an RTI model, which are used to deliver more intensive Tier 2 instruction to a small subset of the children in the class (Barnett et al., 2007). Also, participants did not specify the structure and content of one-on-one instruction, so their definitions of one-on-one instruction may vary. Teachers could stop by a child’s desk to clarify instructions or provide a few brief minutes of extra support or they could work more intensively with a child while the rest of the class works in groups. Only one teacher specifically mentioned using a tiered model of instruction, which suggests the majority of teachers were not systematically organizing instruction in increasing intensity.

The trend towards individualization continued with the finding that participants reported developing periodic goals for individual children more frequently than for the whole group. In an RTI model, teachers make goals for the entire group that are addressed in the general curriculum as well as goals for individual children (Coleman et al., 2009). Anecdotally, participants expressed frustration with the use of scripted curricula, which may explain their lower ratings of using supplemental literacy (M = 3.04, SD = 1.427) and math curricula (M = 3.04, SD = 1.445), as many of these curricula consist of scripted lessons. In an
RTI model, supplemental literacy and math curricula may be used in small groups and individual instruction to target specific skills (Coleman et al., 2009).

Another interesting finding was that participants indicated their main mode of incorporating evidence-based practice was adapting curriculum. When using a research-based curriculum this raises the question of whether it is still evidence-based and efficacious if adapted. Definitions of “evidence-based practice” for early childhood highlight the importance of considering professional wisdom along with the research base (Buysse & Wesley, 2006). This applies to consideration of a practice as evidence-based but does not include application of the practice specifically. However, it could be argued that a knowledgeable professional could successfully adapt a practice to be more effective for a child with whom she is quite familiar. Professional knowledge surely increases with experience, suggesting novice teachers may have a more difficult time successfully adapting practices than more experienced teachers. The participants in this study ranged from novice to experienced, as indicated by the amount of time they had been in their current positions (\( n = 88 \), range = 0.5 - 29.5 years, \( M = 3.6, \text{SD} = 4.3 \)).

Collaborative practice. Regarding collaboration, participants reported frequent collaboration with both families and other professionals. Participants reported collaborating with families more frequently than collaborating with other professionals for any task. This is consistent with the previous finding related to sharing assessment results and with family-centered practice. Frequent collaboration with families and professionals is also consistent with early childhood RTI models (Coleman et al., 2006). When they did collaborate with other professionals, it is surprising that only two-thirds (\( n = 88, 66.7\% \)) of respondents indicated collaborating with their assistant teachers, although teachers comprised at least
83% of the sample. This suggests 16% of teachers do not collaborate with their assistant teachers. In terms of the other participants who did not report collaborating with an assistant teacher, they are likely to hold non-teaching positions (e.g., administrator), assistant teaching positions, or non-traditional teaching positions without an assistant (e.g., itinerate teacher, resource teacher, floating or substitute teacher). Recent research indicates lead teachers in state-funded pre-kindergarten programs consider teaching assistants’ roles in basic classroom duties (e.g., taking care of the classroom, supervising children) more important than their roles in teaching duties (e.g., planning and implementing curriculum, working with families) (Sosinsky & Gilliam, 2011). Teachers who place more importance on assistants’ roles in teaching duties may be more likely to collaborate with assistants than teachers who do not consider them as important to the teaching team. Teaching assistants’ roles are expanding with implementation of RTI, and assistants should be considered integral to the teaching team (Hauerwas & Goessling, 2008).

The majority of participants \( (n = 77, 58.3\%) \) also reported collaborating with other grade-level teachers in their schools and programs. Speech-language pathologists were the specialists most frequently reported as collaborative partners \( (n = 49, 37.1\%) \). This may be due to speech services being one of the most prevalent services delivered to young children, but it may also suggest a link to the literacy focus of models such as RTI. In early childhood RTI models, literacy has been the main focus, because skills such as phonemic and phonological awareness have been shown to contribute to literacy (National Institute of Child Health and Human Development, 2000). However, a relatively small percentage of participants \( (n = 13, 9.8\%) \) reported collaborating with reading specialists. This may be due to the fact that kindergarten, first, and second grade teachers represented a relatively small
portion of the sample \( n = 27, 20\% \). Reading may be more specifically addressed in upper grades and not as predominant in preschool and kindergarten.

**Implications for practice.** Together, the findings related to assessment, instructional, and collaborative practice highlight a trend toward using strategies that target individual children and include families. This suggests that even if early childhood educators may not be using a tiered model or RTI, they are using many strategies aligned with RTI. Therefore, once RTI implementation is introduced in their schools or programs, they will have the strategies in place to make the transition to a more systematic mode of individualization. With in-service professional development, teachers will be able to take the assessment, instructional, and collaborative practices they already are implementing and organize them systematically into a plan linking assessment and instruction. Programs and schools may need to provide additional professional development focused on screening and using supplemental literacy and math curricula, since these were found to be the least prevalent practices in this study. Although participants reported frequent use of progress monitoring, professional development may be necessary for educators to use measures that track the rate and level of growth and to use results to gradually increase or decrease support. Their current practices form the foundation upon which professional development can build to focus on use of a tiered system.

Undergraduate preparation programs cannot prepare graduates for every possible child or situation, so in-service professional development is needed to continue to develop educators’ skills for individualizing. B-K licensure graduates need the foundational skills on which to build more complex skills that will allow them to integrate assessment and instruction and to engage with others in the problem-solving process. In-service professional
development can be context-specific and include teachers and specialists who will be collaborating together within an RTI model.

The finding that participants in this study were not very familiar with the concepts of RTI, evidence-based practice, and early intervening services is surprising given the current culture of accountability. Although early childhood may not be subject to regulations as stringent as those put forth by No Child Left Behind, standards and expectations have increased in recent years to ensure all children’s needs are being met. It is important that early childhood professionals have the knowledge and skills to meet the needs of increasingly diverse young children. Program standards, such as those put forth by the National Association for the Education of Young Children (2009), continue to increase educational requirements for teachers, reflecting the impact of professional preparation on children’s learning.

**Autonomy and practice.** The study also yielded some interesting results regarding North Carolina B-K graduates’ feelings of autonomy and how autonomy related to practice. Overall, respondents reported fairly high levels of autonomy to plan and carry out curriculum and instruction the way they wish. When correlated with participants’ assessment, instructional, and collaborative practices, there was a significant relationship between autonomy and collaboration with other professionals to assess children. There were also trends toward relationships between autonomy and using assessment results for several tasks: to plan for individual children, to determine which children need additional support, and to communicate with other professionals. Trends were also found in the association between autonomy and two instructional strategies: developing periodic goals for individual children and using small groups of children with differing needs. This suggests that participants were
more likely to perform each of these tasks (i.e., using assessment results to plan for individual children, to determine which children need additional support, and to communicate with other professionals; developing periodic goals for individual children; using small groups of children with differing needs) if they felt they had more autonomy.

The fairly high levels of autonomy reported by participants may reflect differences between early childhood and elementary and middle grades. It appears that upper grades may have more restrictions over content and pedagogy than early childhood, where accountability standards are in place but are not as stringent as those put forth in No Child Left Behind (NCLB). Respondents reported frequently planning for all domains of development, suggesting their curriculum has not been narrowed by accountability standards as much as narrowing seems to happen in upper grades (Crocco & Costigan, 2007; Powell et al., 2009). Respondents also reported infrequent use of supplemental literacy and math curricula, which are often scripted and may therefore limit teacher creativity and lessen autonomy. This suggests that participants did not feel as much pressure as their counterparts in elementary, middle, and high school to use mandated or scripted curricula, brought on by initiatives such as NCLB. With less pressure, they were able to plan curriculum and instruction in ways that enabled them to address all domains of development while also using creative strategies with flexibility to meet children’s individual needs.

**Social cognitive theory and practice.** Social cognitive theory implies that an individual’s practice is influenced by one’s feelings of self-efficacy, or the ability to achieve desired results (Bandura, 1989; Bandura, 2002). Teacher efficacy can be affected positively by autonomy and negatively by feelings of time pressure (Skaalvik & Skaalvik, 2010). In this study, participants reported feeling fairly autonomous, which would likely increase their
feelings of efficacy, yet they anecdotally reported unpreparedness for paperwork, which may contribute to time pressure and negatively impact self-efficacy.

The majority of participants had been in their positions fewer than four years, and several described learning a great deal during their first year on the job, which is consistent with the slight drop in self-efficacy that has been found for novice teachers (Chen, 2007). Self-efficacy impacts use of instructional strategies, innovative teaching methods, and persistence (Allinder, 1994; Gibson & Dembo, 1984). Because models as systematic as RTI are fairly new to early childhood, as is the use of supplemental curricula, many early childhood educators may feel ill-equipped to adopt such practices. This could also be influenced by lower self-efficacy at the beginning of one’s teaching career. As they gain experience, educators’ efficacy increases, which may encourage their use of new methods (Chen, 2007).

Collective efficacy includes the belief that a group of people working together is capable of producing a desired outcome (Bandura, 2002). When individuals in the group believe they will be successful, they are more likely to collaborate. The high rates of collaboration in this study suggest B-K graduates felt working with families and other professionals would lead to positive results. Collective efficacy is also related to supervisory support, autonomy, and relationships with parents (Skaalvik & Skaalvik, 2010). Several participants reported having supportive administrators and feeling fairly autonomous, which may have lead to their high frequencies of collaboration. In terms of relationships with families, family-centered practice is a cornerstone of early childhood education (NAEYC, 1993; NAEYC, 2009). The practice of collaborating with families is designed to maximize positive impact. High reported frequencies of collaboration suggest that North Carolina B-K
graduates have embraced family-centered practice and value added by collaborating with families. The high reported rates of collaboration also suggest North Carolina B-K graduates have high self- and collective-efficacy that increases the likelihood of their collaborating.

Together, these results indicate schools and early childhood programs should provide sufficient support to encourage novice teachers to use innovative practices and to encourage collaboration among staff. Administrations should also allow teachers autonomy to implement curriculum and pedagogy with flexibility and creativity to address children’s needs. North Carolina B-K graduates should have the foundational skills and knowledge necessary to begin systematically individualizing for children, but the school or program environment must be conducive to creativity and collaboration for them to fully succeed.

**Perceived Preparation for Assessment, Instruction, and Collaboration**

The second main goal of the study was to examine participants’ B-K preparation for assessment, instruction, and collaboration and the associations between preparation and practice. Overall, participants’ responses regarding their preparation were more variable than their responses for practice. Means for preparation ranged from a low of 3.03 (SD = 1.11, *fairly well prepared*) for using supplemental math curricula to a high of 4.09 (S = 0.870, *well prepared*) for planning for all developmental domains. The ranges of means in the assessment and collaboration categories were narrower than the instruction category. Overall, participants’ ratings of their practice were higher than their ratings of preparation, although these differences were not significant. This suggests that B-K graduates are using these assessment, instructional, and collaborative practices regardless of how prepared they felt for them following their B-K preparation program.
**Preparation for assessment.** Participants’ ratings of their preparation for assessment were lowest for conducting assessments for screening (M = 3.63, SD = 1.111) and highest for using assessment results to collaborate with families (M = 3.98, SD = 0.985). The high rating for using results with families is likely due to the focus on family-centered practice in North Carolina B-K licensure programs. The only significant correlation between preparation and practice for assessment was conducting screening, suggesting that individuals who feel more prepared to screen are more likely to do so. As mentioned previously, universal screening is an emerging practice that may not be dictated by programs (NAEYC, 2011). Therefore, it is left up to teachers to decide whether to screen the children in their classrooms. Given the choice, a teacher who feels she was not well prepared to screen may not decide to do so, while a teacher who feels she was well prepared to screen may decide the opposite.

**Preparation for instruction.** In terms of preparation for instruction, the strategies in this category yielded the broadest range of responses. Participants reported being well prepared to work with children one-on-one and in small groups, attributable to the emphasis on individualizing present in North Carolina B-K programs with a blended focus on general and special education. B-K graduates reported being less prepared for using supplemental curricula, which is likely due to the recent emergence of RTI models in early childhood and explicit supplemental literacy and math curricula at the preschool level in recent years.

In examining the associations between preparation and practice, the only statistically significant relationships existed for using supplemental literacy and math curricula. Again, this implies that individuals who feel more prepared to use these curricula are more likely to do so. Although not statistically significant using the Bonferroni-Holm correction, there were several other strategies for which there appears to be a trend towards a relationship between
preparation and practice. These included developing goals for individual children, developing goals for the whole group, working with small groups of children with similar needs, working with children one-on-one, working with small groups of children with varying skills, and using evidence-based practices.

The National Association for the Education of Young Children (NAEYC) standards for professional preparation highlight that early childhood educators should understand effective strategies and use a variety of approaches to meet children’s needs, including small groups, one-on-one instruction, and evidence-based approaches (NAEYC, 2009). These standards form the foundation upon which states build teacher licensure standards, and North Carolina’s B-K standards reflect these aspects of meeting children’s needs (North Carolina State Board of Education, 2002). NAEYC’s standards were revised in 2009 and the language used within was updated to respond to increased diversity by emphasizing the individuality of each child (NAEYC, 2009). This same change is happening in B-K programs, as programs use updated licensure standards to revise and update curricula and field experiences to better prepare early childhood educators to meet diverse children’s needs (North Carolina State Board of Education, 2009). It is clear that B-K graduates are prepared to use a variety of strategies for this purpose, yet the processes behind decision-making and the structure of instructional support were outside the scope of this study and remain unclear.

Preparation for collaboration. Participants’ ratings of their preparation for collaboration represented the narrowest range responses. Participants reported being most prepared to collaborate with families (M = 4.03, SD = .988) and least prepared to collaborate with other professionals to assess children (M = 3.8, SD = 1.003). There were also several significant relationships between preparation and practice for collaborative tasks. These tasks
were: collaborating with other professionals to assess children, collaborating with other professionals to plan for individual children, and collaborating with families. This suggests that participants who felt more prepared for each of these collaborative tasks were more likely to practice them.

Again, both NAEYC standards for professional preparation (NAEYC, 2009) and the North Carolina B-K teaching standards (North Carolina State Board of Education, 2002; North Carolina State Board of Education, 2009) stress the importance of building relationships with and engaging families, as well as partnering with families and colleagues for assessment. Collaboration is central to B-K teacher preparation programs, which is evident in the high levels of preparation participants reported. In order to implement RTI, teachers may collaborate in ways and for purposes new to them. For example, teachers may collaborate with other professionals to make instructional decisions and to provide more intense instruction for children who are not yet eligible for specialized services. This represents a shift from specialists working mainly with children with identified disabilities, and early childhood educators may not be as prepared for these new dynamics (Richards, et al., 2007). Early childhood educators in this study felt least prepared to collaborate with other professionals to assess children, which suggests in-service professional development may be necessary for them to be successful with this key component of RTI. Collaboration with other professionals to assess children should also be included in pre-service preparation to ensure educators have a strong foundation in collaboration.

Social cognitive theory and preparation. Social cognitive theory may help explain some of participants’ responses regarding their preparation. Significant associations between preparation and practice for strategies described previously suggest individuals who felt they
were better prepared for those tasks employ them more often. Social cognitive theory suggests that individuals who perceive they are more prepared, and thus have higher self-efficacy, may be more motivated to use assessment, instructional, and collaborative strategies to individualize for children (Bandura, 2002).

Even though participants’ reported levels of preparation were overall lower than their frequency ratings for practice, the means for preparation on all items except using supplemental literacy and math curricula were in the well prepared category. Even if participants were not fully prepared for a particular task, it appears they were motivated to individualize. Perhaps for items where preparation and practice were strongly associated, preparation played more of a role in motivation to employ the strategy than it did for other strategies where the associations were not as strong (Allinder, 1994; Bandura, 1989; DeForest & Hughes, 1992; Gibson & Dembo, 1984). For example, screening was the assessment practice participants reported using least frequently, yet there was a statistically significant association between preparation and practice for screening. Many teachers in this study likely had the choice of when and how to screen due to this emerging practice in early childhood classrooms. Teachers might choose to screen all of the children in the class at the beginning of the school year, at multiple points throughout the year, or not at all. It appears that teachers who perceived they were well prepared to conduct screening were more motivated to screen children and therefore reported screening more often than individuals who did not feel as prepared and were not as motivated. This same logic applies to use of supplemental literacy and math curricula, for which there were significant relationships between preparation and practice.
Familiarity with Recent Policy Initiatives and Innovative Practices

Participants indicated their familiarity with recent policy and practices on a three-point scale of *not at all familiar*, *somewhat familiar*, and *very familiar*. Overall, participants’ responses fell within the *somewhat familiar* range for each concept: early intervening services, evidence-based practice, and Response to Intervention. Participants reported most familiarity with early intervening services (M = 2.28, SD = 0.638), as described in IDEA 2004 to mean providing services to children not yet eligible for special education services. It is possible that some participants confused “early intervening services” with “early intervention” (i.e., specialized services for children from birth to age three with or at risk for disabilities). This may have inflated the mean slightly.

Participants reported least familiarity with Response to Intervention (M = 2.07, SD = 0.751), suggesting that although RTI is becoming more prevalent in early childhood, it has not yet reached all early childhood educators. Of the 104 participants who reported at least some familiarity with RTI, only 27 (26%) indicated becoming familiar with RTI through an undergraduate course. The majority became familiar with RTI in their current or past work settings. This is consistent with the fact that most professional development related to RTI has occurred at the in-service level rather than the pre-service level (Danielson et al., 2007). Training efforts have focused on teachers who are already working in schools full time and implementing RTI.

The limited familiarity with RTI found in this study is surprising given that in 77% of states’ Head Start programs are implementing or discussing implementing RTI in their classrooms (Linas et al., 2010). Although no data for North Carolina Head Start programs were available for the Center for Response to Intervention in Early Childhood (CRITEC)
report, North Carolina IDEA Part B administrators indicated some local programs had begun implementing RTI at the pre-kindergarten level (Linas et al., 2010). Perhaps these discussions are occurring in higher levels of administration without input from the majority of teachers. In states that are beginning to implement RTI, perhaps implementation is limited to a subset of programs and teachers. As RTI becomes more prevalent in elementary schools and pre-kindergarten programs, it will be important for preparation programs at least to introduce the concept of tiered models such as RTI. This will ensure a strong foundation on which professional development can build.

Limitations

There were several limitations to this study. First, the researcher was unable to obtain information about the specific institutions from which participants graduated. Because of this, it was not possible to examine variability among responses across institutions to determine strengths and needs of particular B-K programs. The findings of this study are further limited by the fact that only one state was represented. Additionally, due to challenges with recruitment, almost all participants worked in public schools, which comprise only one out of the array of settings in which young children are served. North Carolina’s pre-kindergarten program for at-risk children, formerly operating as More at Four from 2001 to 2011, was housed within public schools (54%), private licensed child care programs (27%), and Head Start programs (19%). The fact that this one program operated in such a variety of classrooms demonstrates how fragmented the early childhood education system is in the state. However, some would argue that this model is strong because resources are drawn upon from many sources so not just one agency has the primary responsibility for serving young children and so families have a choice in where their children are educated.
A further limitation was that the majority of participants were pre-kindergarten or preschool teachers, with teachers at other age levels and early childhood educators in non-teaching roles sparsely represented. Representation from the myriad settings and individuals comprising early childhood education will be important to ensure future studies fully describe the status of the field.

Another limitation was that the study was descriptive and correlational in nature, thus causal relationships cannot be inferred. This study aimed to describe participants’ practices and preparation and did not explore the manner in which participants defined or employed each strategy. The different scale used on the survey items pertaining to familiarity with recent policy and innovative practices (a 3-point scale as opposed to a 5-point scale) was another limitation of the design. The 3-point scale provides fewer points for distinction, and the different number of scale points makes comparisons between the scales more difficult.

Finally, the data were gathered via participant report. Participants may have reported using more assessment, instructional, and collaborative practices than they actually do. The high overall means found for participants’ current practices suggest participants may have responded in a particular way because they perceived more frequent use of individualizing strategies to be socially desirable. Similarly, individuals who chose to participate in the survey may have been more likely to inflate their actual practices than those who chose not to participate. For example, a teacher who received the invitation to participate in the survey but who did not use many strategies to individualize may have opted not to take the survey rather than report low rates of individualizing. Whereas, a teacher who chose to participate in the survey may have felt pressure to respond in a socially desirable way and thus reported more frequent use of individualizing strategies than she actually employed. Follow up studies
should include teacher observation and interviews to get a more accurate picture of teachers’ practices. Interviews with co-teachers, administrators, specialists, families, and other collaborative partners would expand the scope to include multiple roles and perspectives.

Questions remain about how early childhood educators conduct assessments and use assessment data on a day-to-day basis to inform instruction, including how they develop goals for their entire group of children and individual children. This would best be explored using multiple data sources, including focus groups with collaborative teams, interviews with teachers and other professionals, and classroom observation. Document analyses could examine links between assessment data and curriculum plans, as well as communication with families and other professionals. It would be important to explore topics such as timing of assessments, the use of both formal and informal assessments, assessment procedures, inclusion of families and other professionals in the assessment process, and the interpretation of assessment results. Remaining questions related to instruction center around how early childhood educators make instructional decisions, how they use strategies such as small groups and individual instruction to provide additional support, when and how they incorporate supplemental curricula, and how other professionals contribute to instructional decision-making and instruction. These topics also would be best explored through focus groups, interviews, observation, or a combination of the three. To further understand collaborative practices, several topics should be explored, such as: when and how collaboration occurs and for what purpose (e.g., does it occur only when a concern arises?), how often teachers seek the input of families and for what purpose, and how families are included in decision-making. To explore these aspects of collaboration, interviews should be conducted with teachers, specialists, and families. Family interviews or satisfaction surveys
could highlight strengths and needs of the system and families’ perceptions of their roles within it. Paired dyad surveys could also address aspects of assessment, instruction, and collaboration from both family and teacher or service provider perspectives.

Finally, many questions remain about how early childhood educators bring together assessment, instruction, and collaboration. For instance, is there a clear plan for when and how assessment will occur and how assessment data will be used to plan instruction? Does the teacher gradually increase support for a child or immediately provide the highest level of support when a concern arises? How does the teacher make decisions about when to increase or decrease support? In addition to these questions about processes, further studies should explore supports and barriers that contribute to the process of implementing RTI in early childhood and professional development. These conversations should include administrators and support staff in addition to teachers, specialists, and families. Examining each of these questions in detail would provide a wealth of information for professional preparation programs to consider as well as for others interested in implementing RTI in early childhood to consider when developing a model and applying it in their programs.

**Future directions**

In addition to raising questions for further study, the results of this research have implications for preparation of early childhood educators. Although graduates appear to be fairly well prepared for key components of RTI models, including various assessment, instructional, and collaborative practices, they may not be as prepared to organize these practices into a systematic process of data-informed instruction. Looking forward, preparation programs can make relatively small changes to their curricula to build upon the foundation they provide in assessment, instruction, and collaboration to further prepare
graduates for tiered models. In-service professional development can build upon the knowledge and skills gained by pre-service programs to further hone early childhood educators’ skills for individualizing, focusing in particular on systematically organizing assessment and instruction, conducting screening, and using supplemental literacy and math curricula and RTI.

**Implications for personnel preparation.** Graduates of B-K programs felt least prepared to work with English learners and children who are gifted and talented, indicating preparation programs should also address the increasing diversity of children to better prepare graduates to meet the needs of all children. Many children enter preschool and kindergarten classrooms speaking languages other than English, and teachers need strategies to meet their unique needs and to collaborate with their families. These strategies may include assessing children in Spanish and collaborating with interpreters or specialists in second language acquisition. Additionally, preparation should highlight strategies for early childhood educators to identify children who may be gifted and talented and to provide appropriate instruction to meet their needs for an enhanced curriculum. It is important that educators are able to understand when negative behavior is due to factors such as lack of challenging curriculum. They then must have a repertoire of creative strategies for providing more challenging opportunities for children to further develop their skills. Gifted and talented education has not been a large focus of early childhood teacher preparation to date but could be incorporated into preparation as another way in which the curriculum can be individualized.

The finding that a minority of B-K graduates who were familiar with Response to Intervention learned about the model through their undergraduate programs highlights the
absence of this topic from many preparation programs. Perhaps programs have not covered RTI in undergraduate coursework yet because the model is still being adapted for early childhood, or perhaps it is because of resistance to teacher-directed instruction in a field that has a tradition of being child and family-centered. Regardless, programs need to start addressing use of tiered models so that students can gain skills for developmentally appropriate ways in which to implement RTI in early childhood. Otherwise, they may feel pressure to conform to school RTI models used with older children that have not been adapted to incorporate the wisdom and values of the early childhood field, such as inclusion of families and use of child-directed learning. Individuals continue to teach in the manner they were taught during pre-service preparation, so the time to build that foundation is in their undergraduate program.

One important aspect of RTI that easily can be strengthened in professional preparation is linking assessment and instruction. With a strong foundation in a variety of assessment and instructional strategies aimed to help early childhood educators understand and respond to individual children’s needs, programs now need to make the linkages between assessment and instruction more explicit. This will enable students to see how assessment data can be used to make instructional decisions and target specific skills. Incorporating use of screening and progress-monitoring measures into field experiences will allow students to practice using these assessments, highlighting specific areas of need that can be addressed using targeted instruction and, perhaps, supplemental curricula. Supplemental literacy and math curricula are fairly new in early childhood and are gaining prevalence along with tiered models targeting specific knowledge and skills. Pre-service preparation should address developmentally appropriate ways in which to use supplemental curricula to strengthen
children’s skills. Armed with the knowledge and skills to incorporate these curricula into the early childhood classroom in ways that align with child-guided learning, early childhood educators will be more likely to use research-based literacy and math curricula to meet children’s needs.

Collaboration is another strength of early childhood preparation that can more explicitly address tiered models. It is clear that preparation programs focus on collaborating with families; however, it will be important for them to specify strategies for including families within the problem-solving process for assessment and instruction. The same is true for collaboration with other professionals. Early childhood preparation highlights the importance of working with other professionals, yet they may not emphasize changes in roles for educators and specialists that may be necessary in a tiered model. The role of teaching assistants should be addressed in preparation programs, so early childhood educators will understand how they can include assistants as members of the teaching team to better meet children’s needs. Collaboration with other professionals was an area in which there was a significant association between preparation and practice. This highlights the importance of providing opportunities for teacher candidates to engage in collaboration with others throughout their courses and field experiences. The more opportunities they have to practice these skills, the better prepared they will be to continue collaborating when they join the workforce.

Conclusion

In conclusion, this research highlighted the strength of the content of North Carolina’s B-K programs preparing individuals to work with young children and also raised many questions about how to make assessment, instruction, and collaboration more explicit
in pre-service preparation. It appears that graduates of North Carolina’s B-K programs use a variety of strategies to individualize for children. Additionally, for several strategies preparation was found to play a role in how frequently they employed the strategy. These included: conducting screenings, using supplemental literacy and math curricula, collaborating with other professionals to assess children, collaborating with other individuals to plan for individual children, and collaborating with families. Extra emphasis may need to be placed on these tasks in pre-service preparation for early childhood educators to feel prepared and motivated to put them into practice on a more frequent basis. Although preparation programs cannot possibly prepare graduates for each and every child and situation they will encounter, they can provide a strong foundation on which in-service professional development can build to further develop their skills. Touching upon aspects of assessment, instruction, and collaboration necessary to implement RTI in early childhood will help ensure early childhood educators use developmentally appropriate methods to address children’s individual needs. In this age of accountability, it is important that early childhood educators are able to discern appropriate practice from push down of a primary grades model that has not been sufficiently adapted for early childhood.

The findings of this study also suggest the early childhood and early childhood special education fields can inform RTI practice and implementation, since early childhood and early childhood special education have an established focus on aspects of assessment, individualized instruction, and collaboration central to RTI models. For instance, the foundation of RTI is similar to the foundation of early childhood special education: providing teacher-directed instruction and working with families (Raver, 2009). Working with families traditionally has not been the priority in primary grades that it is in early childhood. The early
childhood focus on collaboration with families indicates early childhood educators can contribute strategies for involving and collaborating with families to their school-wide discussions related to RTI. In terms of early childhood special education strategies that are involved in RTI implementation, indirect strategies such as environmental arrangements and direct strategies such as prompting and modeling have a history of implementation and research (Gibson & Schuster, 1992; Odom, McConnell, & McEvoy, 1999; Reichow & Wolery, 2009). These are strategies likely to be used in tiers two and three of RTI models, as teachers begin delivering more intense and individualized instruction.

The early childhood field also maintains a focus on the “whole child,” meaning teachers plan a curriculum that addresses all domains of development and learning, including social-emotional, physical, language, and cognitive. With this focus on all domains of development and understanding of how they impact learning and behavior, B-K prepared teachers should also be prepared to implement tiered models focusing on social-emotional challenges (Blair, Fox, & Lentini, 2010; Hemmeter, Ostrosky, & Fox, 2006). Early childhood educators’ focus on all domains of development also increases the likelihood that they will continue to attend to children’s development in all areas, regardless of an RTI model with a literacy or math focus.

The results of this study suggest that B-K teacher licensure with a blended focus on early childhood and early childhood special education prepares educators with a strong foundation in assessment, instructional, and collaborative strategies necessary for individualizing to meet children’s needs. This suggests that the blended focus on general and special education could be a model for other states where general and special education are separate certifications. Future studies should compare state licensure foci (i.e., early
childhood education, early childhood special education, blended) and the age range covered by licensure to determine whether these factors contribute to preparation. For example, in North Carolina B-K licensure preparation programs students study and participate in internship experiences with children throughout the birth to kindergarten range. They learn strategies for working with infants, toddlers, two-year-olds, preschoolers, and kindergarteners with and without special needs. This means that when a B-K prepared teacher has a child in her kindergarten classroom who functions developmentally as a two-year-old, that teacher has strategies from working with two-year olds and children with special needs that she can draw upon to meet that child’s needs. A teacher with licensure focusing on the pre-kindergarten and kindergarten years may not have as many strategies upon which to draw if younger age groups were not a focus of their preparation. However, a teacher with pre-kindergarten-kindergarten licensure may have a better understanding of RTI, since her preparation program would have had a more targeted focus. Previous research has examined strengths and needs of B-K preparation in blended early childhood and early childhood special education programs (Miller & Losardo, 2002) and has begun to examine states’ approaches to combining early childhood and early childhood special education certification (Müller, 2006). However, research has not yet compared early childhood licensure structures to determine strengths and areas of need in preparation.

This is a time of transition and uncertainty for the early childhood field, as federal and state budgets threaten cuts to early childhood programs, including state-funded pre-kindergarten programs. In North Carolina, budget cuts for fiscal year 2011-2012 reduced the budget of public pre-kindergarten program by 20 percent (Current Operations and Capital Improvements Appropriations Act of 2011). The proposed budget also would have limited
the percentage of children considered at risk who could enroll in public pre-kindergarten programs to 20 percent; however, Wake County Superior Court Judge Howard E. Manning ruled that all at-risk four-year-olds should have access to pre-kindergarten (Hoke County Board of Education and Asheville City Board of Education v. State of North Carolina; State Board of Education, 2011). The ruling mandated universal pre-kindergarten for children considered at risk, thereby increasing the number of classrooms and well-prepared teachers needed to reach every child.

If young children at risk are unable to attend pre-kindergarten programs, where they learn skills and concepts that help put them on equal ground with their typical peers, kindergarten teachers will need to be ready to address the discrepancy in the kindergarten classroom. This may be accomplished through use of a model such as Response to Intervention. Regardless of whether they enter school in pre-kindergarten or kindergarten, young children need teachers who are prepared to meet their unique needs.
Appendix A: Email Messages to Faculty and Participants

1st E-mail to faculty who were asked to distribute the recruitment email to their graduates who completed training between 2007 and 2010

Dear Dr. _______ (individualize)

My name is Margaret Gillis. I communicated with you a few months ago about the helping me contact graduates from your Birth-Kindergarten coursework sequence for research I was considering. I am currently conducting the research study as my dissertation study in Early Childhood Intervention and Literacy at UNC Chapel Hill, and I hope you can help.

As a quick reminder, the study I am conducting involves sending a link to an online survey to individuals who graduated from undergraduate level Birth-Kindergarten (B-K) licensure programs in NC between 2007 and 2010. I need your help distributing the survey link to your graduates. I will be sending the survey link soon. When you receive it, please send the message via e-mail to individuals who graduated from your undergraduate B-K program between 2007 and 2010. I also ask that you send me the number of individuals to whom the e-mail is sent, so I can estimate sample size, and a description of how the list was compiled and how it is maintained, so I can address coverage error. You can send this information to me via e-mail at mgillis@email.unc.edu. If you would prefer to give me the information by phone, I can be reached at 910-850-2470.

The survey is designed to gather information about graduates’ current practice and undergraduate preparation as it relates to individualizing curriculum and instruction for young children. To date, no research has been done in this area. Therefore, my hope is that this study will contribute to the early childhood professional literature to inform faculty about how to better prepare future early childhood professionals to individualize.

The survey is completely anonymous. Individuals who choose to respond will do so by completing an online survey. Neither you nor I will know who responds and who does not. Participants will have the opportunity to enter a drawing to win one of five $30 Target gift cards and will receive a list of helpful resources.

In addition, I want to emphasize that participants’ responses will not be linked to specific programs. No questions will be asked that would identify the specific programs from which participants graduated, so no comparisons will be made among programs. If you have questions or comments, please feel free to contact me at mgillis@email.unc.edu.
I sincerely appreciate your time and consideration in distributing the survey. Please accept the $10 Target gift card that will be e-mailed directly to you shortly and the list of resources attached to this e-mail for your time and effort. I believe that the study will inform B-K programs across the state about the strengths of preparation programs and provide some information about how we can strengthen programs to better prepare graduates to work with young children.

Thank you again in advance for helping me with this study. I greatly appreciate the time and effort on your part.

Sincerely,
Margaret Gillis
Dear Dr.________ (Individualize)

Below is the message I am asking you to send to individuals who graduated from your Birth-Kindergarten licensure program between 2007 and 2010. Please forward this message to them at your earliest convenience.

If you have any questions, please don’t hesitate to contact me at mgillis@email.unc.edu.

Thank you so much!
Sincerely,
Margaret
Dear Early Childhood Professional

Greetings!

I am writing to ask for your participation in a research study that I am conducting as part of my dissertation research in Early Childhood Intervention and Literacy at the University of North Carolina at Chapel Hill. I am asking individuals like you, who graduated from Birth-Kindergarten (B-K) teacher licensure programs in North Carolina between 2007 and 2010, to reflect on your current practice and undergraduate preparation.

Your responses to this research survey are very important and will help in understanding and improving how B-K programs prepare early childhood professionals. As part of this survey I am also asking about your familiarity with recent policy in education.

The survey should take approximately 25 minutes to complete. Participants will have the opportunity to enter a drawing to win one of five $30 Target gift cards and will also receive a list of helpful resources.

Your participation in this survey is entirely voluntary and is completely anonymous. Your responses are not linked to a specific B-K program. I do not know who receives these forwarded messages—only that those who respond graduated from B-K licensure programs between 2007 and 2010. In addition, the faculty member who sent this message to you, on my behalf, will not know whether or not you choose to respond. You may skip any question for any reason.

If you have any questions or comments, please feel free to contact me at mgilllis@email.unc.edu.

Please click on the link below to go to the survey (or copy and paste the survey link into your Internet browser). You will have the option to participate or opt-out on the first screen of the survey.

Survey Link: [insert link]

I sincerely appreciate your time and consideration in completing the survey. Thank you for your participation in the study! It is through your contribution that we can understand and advance the preparation of B-K professionals in North Carolina.

All research on human volunteers is reviewed by a committee that works to protect your rights and welfare. If you have questions or concerns about your rights as a research subject you may contact, anonymously if you wish, the Institutional Review Board at 919-966-3113 or by email to IRB_subjects@unc.edu.

I greatly appreciate your participation.
Thank you and have a wonderful day!

Sincerely,
Margaret Gillis
910-850-2470
mgillis@email.unc.edu

Sharon Palsha (Faculty advisor)
919-843-2046
spalsha@email.unc.edu
3rd E-mail to follow-up with faculty who were asked to distribute the recruitment e-mail to their graduates who completed training between 2007 and 2010

Include message with survey at bottom

Dear Dr. ____________ (individualize)

About two weeks ago I sent you an e-mail with a message and survey link for recent graduates of your Birth-Kindergarten licensure program. As you know, I have no way of knowing who has received my message, as surveys are completed anonymously, and with no indication of the identity of the students’ training program.

If you have already sent my email message to graduates of your program, thank you so much! At this time I would like to ask if you could forward graduates the message below as a reminder.

If you have not already sent the message, this is a friendly reminder of my request for you to do so (that message is copied below). I really appreciate your taking the time to send my email to your former students. Your help is vital to ensuring representation across programs in the state in my study. If you have questions or comments, please feel free to contact me at mgillis@email.unc.edu.

Thank you!

Sincerely,
Margaret Gillis
Dear Early Childhood Professional

Greetings!

I am writing to ask for your participation in a research study that I am conducting as part of my dissertation research in Early Childhood Intervention and Literacy at the University of North Carolina at Chapel Hill. I am asking individuals like you, who graduated from Birth-Kindergarten (B-K) teacher licensure programs in North Carolina since 2007 and who are working in public schools in North Carolina, to reflect on your current practice and preparation.

As a public school teacher or specialist, your responses to this research survey are very important and will help in understanding and improving how B-K programs prepare early childhood professionals. As part of this survey I am also asking about your familiarity with recent policy in education.

The survey should take approximately 15 minutes to complete. Participants will have the opportunity to enter a drawing to win one of five $30 Target gift cards and will also receive a list of helpful resources.

Your participation in this survey is entirely voluntary and is completely anonymous. Your responses are not linked to a specific B-K program or to your school or employer. You may skip any question for any reason. Additionally, when you enter the drawing for the Target gift cards, you will do so in a completely separate survey that will not be linked in any way to your survey responses.

If you have any questions or comments, please feel free to contact me at mgilllis@email.unc.edu or bkgradsstudy@gmail.com. Please click on the link below to go to the survey (or copy and paste the survey link into your Internet browser). You will have the option to participate or opt-out on the first screen of the survey.

**Follow this link to the Survey:**

${l://SurveyLink?d=Take the Survey}

Or copy and paste the URL below into your internet browser:  ${l://SurveyURL}

I sincerely appreciate your time and consideration in completing the survey. Thank you for your participation in the study! It is through your contribution that we can understand and advance the preparation of B-K professionals in North Carolina.

All research on human volunteers is reviewed by a committee that works to protect your
rights and welfare. If you have questions or concerns about your rights as a research subject you may contact, anonymously if you wish, the Institutional Review Board at 919-966-3113 or by email to IRB_subjects@unc.edu.

I greatly appreciate your participation.

Thank you and have a wonderful day!

Sincerely,
Margaret Gillis
910-850-2470
mgillis@email.unc.edu
bkgradsstudy@gmail.com

Sharon Palsha (Faculty advisor)
919-843-2046
spalsha@email.unc.edu
Appendix B: Birth-Kindergarten Licensure Graduates Survey

Birth-Kindergarten Graduates Survey

Welcome!

Welcome to the Birth-Kindergarten Licensure Graduates survey! Thank you so much for your interest in participating in the study. Your participation is important to understanding and improving how B-K programmes prepare early childhood professionals.

The survey should take approximately 15 minutes to complete. Upon completion of the survey you will have the opportunity to enter a drawing to win one of five $50 Target gift cards. You will also receive a list of resources. Your participation in this survey is entirely voluntary, and all of your responses are anonymous. I will not receive any indications about your identity from Qualtrics— I will only receive your anonymous responses. Your drawing entry will be completely separate and not linked to your survey responses. If you have further questions or comments, please feel free to contact me at mgillig@unr.edu.

Use the >> button in the bottom right-hand corner of the screen to advance through the survey. If you need to stop at any point, you can exit the survey and click on the survey link again to finish responding to the survey on the same computer.

Do you wish to continue to the survey?
- Yes, I have read the information about this survey and the study in the emailed letter that invited me to participate, and I wish to continue with the survey.
- No, I am not interested.

Demographic Information

Are you currently employed in the field of early childhood, elementary education, or a related field?
- Yes
- No

Are you currently employed?
- Yes
- No

Please describe your current employment.

What is your current position?
- Infant/Toddler Teacher
- Preschool/Pre-Kindergarten Teacher
- Kindergarten Teacher
- 1st Grade Teacher
- 2nd Grade Teacher
- 3rd Grade Teacher
- 4th Grade Teacher
- 5th Grade Teacher
- Assistant Teacher
- Floating or Substitute Teacher
Special Education Teacher
Occupational Therapist
Physical Therapist
Speech-Language Pathologist
Early Interventionist
Itinerate Teacher
Child Life Specialist
Child Care Consultant
Behavior Consultant
Reading Specialist
English as a Second Language Specialist
Administrator
Other (please describe)

For how long have you been in a $\{/?\text{QID1/ChoiceGroup/SelectedChoices}\}$?

With which age range do you primarily work? Check one:
- Infants
- Toddlers
- 2s
- 3s
- 4/ pre-kindergarten
- Kindergarten
- 1st grade
- 2nd grade
- 3rd grade
- 4th grade
- 5th grade
- Above 5th grade
- Mixed ages (which ages?)

In what type of setting are you employed?
- Public school
- Private school
- Child care program
- Developmental day program
- Early intervention program
- Private practice
- Other, explain

Are you employed by Head Start or Early Head Start?
- Yes, Early Head Start
Yes, Head Start  
No, I am not employed by either.

What positions related to early childhood education have you held full time? Check all that apply:
- Infant/toddler teacher
- Preschool/pre-kindergarten teacher
- Kindergarten teacher
- 1st grade teacher
- 2nd grade teacher
- 3rd grade teacher
- 4th grade teacher
- 5th grade teacher
- Special education teacher
- Occupational therapist
- Physical therapist
- Speech/language pathologist
- Early interventionist
- Administer teacher
- Child Life Specialist
- Child care consultant
- Behavior consultant
- Reading specialist
- English as a Second Language specialist
- Administrator
- Other, please describe __________________________

What is your highest level of education?
- Bachelor's degree
- Master's degree
- Doctoral degree

Do you have a current Birth-Kindergarten (B-K) teaching license?
- Yes
- No

Have you ever had a Birth-Kindergarten (B-K) teaching license?
- Yes
- No

In what year did you graduate from your undergraduate B-K licensure program?
- 2007
- 2008
- 2009
- 2010
- Other, please specify __________________________
Current Practice

Which of the following groups of children are present in your classroom or on your caseload? Check all that apply:

- English Language Learners (i.e., children whose first language is not English)
- Children with diagnosed disabilities
- Children who are at risk
- Children with behavior problems who have behavior plans
- Children with autism
- Children who are gifted & talented

<table>
<thead>
<tr>
<th>How frequently do you conduct the following types of assessments?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developmental assessments for screening</td>
</tr>
<tr>
<td>Assessments for progress-monitoring</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How frequently do you use assessment results for the following purposes?</th>
</tr>
</thead>
<tbody>
<tr>
<td>To plan curriculum and instruction for the whole class</td>
</tr>
<tr>
<td>To plan curriculum and instruction for individual children</td>
</tr>
<tr>
<td>To determine which children are in need of additional support to learn skills or concepts</td>
</tr>
<tr>
<td>To track children’s progress</td>
</tr>
<tr>
<td>To communicate with other professionals</td>
</tr>
<tr>
<td>To communicate with families</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How frequently do you employ the following instructional strategies?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning curriculum and instruction for all domains of development</td>
</tr>
<tr>
<td>Developing periodic goals for individual children</td>
</tr>
<tr>
<td>Developing periodic goals for the whole group</td>
</tr>
<tr>
<td>Working with children one-on-one</td>
</tr>
<tr>
<td>Working with small groups of children with similar needs</td>
</tr>
<tr>
<td>Working with small groups of children with varying levels of skills</td>
</tr>
<tr>
<td>Using supplemental literacy curricula (e.g., Ladders to Literacy, Road to the Code)</td>
</tr>
<tr>
<td>Using supplemental math curricula (e.g., Building Blocks for Math, Pre-K Mathematics)</td>
</tr>
<tr>
<td>Using evidence-based (or research-based) curriculum and instruction strategies</td>
</tr>
</tbody>
</table>

How do you incorporate evidence- or research-based methods into your practice? Check all that apply:
I do not use evidence- or research-based methods.

- By modifying the existing curriculum
- By modifying the environment
- By adopting new practices
- By adopting new practices for my classroom and/or children
- By trial and error
- By other means: please describe: 

With whom do you meet regularly to plan curriculum and/or instruction? Check all that apply:

- My assistant teacher
- My co-teacher
- The lead teacher in the class
- My principal/director
- Other grade-level teachers in my school/program
- Other upper grades teachers in my school/program
- Reading specialist/Reading Recovery teacher
- Math specialist
- Academically gifted teacher
- English Language Learner teacher/English as a Second Language teacher
- Occupational therapist
- Physical therapist
- Speech/Language pathologist
- Social worker
- Psychologist
- Behavior specialist
- Special education teacher
- Mentor teacher
- Professional learning communities/communities of practice
- Other, please explain: 

How often do you work with other professionals for the following purposes?

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Quite Often</th>
<th>Very Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>To assess children</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To plan curriculum and</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>instruction for the whole class</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To individualize curriculum and instruction for children</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

How often do you work with families to meet children’s needs?

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Quite Often</th>
<th>Very Often</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please provide any other comments you have about your assessment practices, instructional strategies, and practices for working with families and other individuals to meet children’s needs.
In your current position, to what degree do you feel you have the freedom to plan and carry out curriculum and instruction the way you want to?

<table>
<thead>
<tr>
<th>Not at all free</th>
<th>Somewhat free</th>
<th>Free</th>
<th>Quite free</th>
<th>Very free</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Please provide any comments you have about supports or challenges to individualizing for children.

**Birth-Kindergarten Preparation**

How well do you feel your undergraduate Birth-Kindergarten (B-K) program prepared you to meet the needs of each of these groups of children?

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Minimally</th>
<th>Fairly well</th>
<th>Well</th>
<th>Very well</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Language Learners (i.e., children whose first language is not English)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Children with disabilities</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Children at risk</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Children with behavior problems</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Children with autism</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Children who are gifted &amp; talented</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

How well do you feel your undergraduate B-K program prepared you to conduct the following types of assessments?

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Minimally</th>
<th>Fairly well</th>
<th>Well</th>
<th>Very well</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developmental assessments for screening</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Assessments for progress-monitoring</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

How well do you feel your undergraduate B-K program prepared you to use assessment results for the following purposes?

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Minimally</th>
<th>Fairly well</th>
<th>Well</th>
<th>Very well</th>
</tr>
</thead>
<tbody>
<tr>
<td>To plan curriculum and instruction for the whole class</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>To plan curriculum and instruction for individual</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
children.

- To determine which children are in need of additional support to learn skills or concepts
- To track children's progress
- To communicate with other professionals
- To communicate with families

How well do you feel your undergraduate B-K program prepared you for the following instructional practices?

<table>
<thead>
<tr>
<th>Planning curriculum and instruction for all domains of development</th>
<th>Not at all</th>
<th>Minimally</th>
<th>Fairly well</th>
<th>Well</th>
<th>Very well</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developing periodic goals for individual children</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Developing periodic goals for the whole group</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working with children one-on-one</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Using supplemental literacy curricula</td>
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<td></td>
</tr>
<tr>
<td>Using supplemental math curricula</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using evidence-based (or research-based) curriculum and instruction strategies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

How well do you feel your undergraduate B-K program prepared you to work with other professionals to do the following?

<table>
<thead>
<tr>
<th>Assess children</th>
<th>Not at all</th>
<th>Minimally</th>
<th>Fairly well</th>
<th>Well</th>
<th>Very well</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan curriculum and instruction for the whole class</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individualize curriculum and instruction for children</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

How well do you feel your undergraduate B-K program prepared you to work with families to meet the needs of children?

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Minimally</th>
<th>Fairly well</th>
<th>Well</th>
<th>Very well</th>
</tr>
</thead>
</table>

Please provide any additional comments you have about your B-K preparation to individualize.

Recent Innovations
How familiar are you with Early Intervening Services, as described in the 2004 Reauthorization of the Individuals with Disabilities Education Act (IDEA)?

- Not at all familiar
- Somewhat familiar
- Very familiar

How familiar are you with the concept of Evidence-Based Practice (EBP)?

- Not at all familiar
- Somewhat familiar
- Very familiar

How familiar are you with Response to Intervention (RTI), Responsiveness to Intervention, Response to Instruction?

- Not at all familiar
- Somewhat familiar
- Very familiar

How did you become familiar with RTI?

- Through the administration at the school/program where I work.
- Through a school/program where I worked formerly.
- Through another teacher at the school/program where I work.
- In a class I took in my undergraduate B-K program.
- In a class I took in my graduate program.
- In a class or workshop I took through the school/program where I work.
- At a conference.
- Other, please explain: ____________

Additional Information

What is your age?

What is your sex?

- Male
- Female

What is your race? Check all that apply:

- White
- Black, African American, or Negro
- American Indian or Alaska Native
- Asian Indian
- Japanese
- Native Hawaiian
- Chinese
- Korean
- Guamanian or Chamorro
- Filipino
- Vietnamese
☐ Sanborn
☐ Other Asian, please specify race ___________________________
☐ Other Pacific Islander, please specify race ___________________________
☐ Some other race, please specify ___________________________

Are you of Hispanic, Latino, or Spanish origin? Check all that apply:
☐ No, not of Hispanic, Latino, or Spanish origin
☐ Yes, Mexican, Mexican American, Chicano ___________________________
☐ Yes, Puerto Rican ___________________________
☐ Yes, Cuban ___________________________
☐ Yes, another Hispanic, Latino, or Spanish origin, please specify ___________________________

Is there anything else that I have failed to ask that you would like for me to know?

[Blank space]

Conclusion

Thank you for your participation! If you would like to be entered into a drawing to win one of five $30 Target gift cards, please click the >> button below.

You will be redirected to a completely separate survey, where you will be prompted to enter your email address. Your email address will not be associated with your responses to the survey.

You will receive your resource list following the drawing entry.
Appendix C: Gift Card Drawing Entry Form and Resource List

Form Title

Thank you so much for your participation in the Bankname Graduate Survey! Your resource list is on the next page.

If you would like to be entered into a drawing to win one of the $50 Target gift cards, please enter your email address below and click the "Submit" button. You will be notified if you have won following the conclusion of the survey.

Your survey responses are completely anonymous. This drawing entry form is in a completely separate survey than your survey responses, and your email address will not be associated with your responses in the final survey.

If you have any questions, please feel free to email us at help@bankname.com.

Email Address

Submit
Resources for Evidence-Based Practice in Early Childhood

Articles and Books:


The November 2008 issue of Young Children provides articles focusing on the application of research to practice. A list of resources for applying research to practice is available for free at http://www.naeyc.org/files/yc/file/200811/RTIResearchPractice.pdf

The January 2004 issue of Young Children offers several articles that describe assessment in early childhood programs. Topics include both child and program assessment. http://www.naeyc.org/yc/pastissues/2004/january

Websites:

The Center for Response to Intervention in Early Childhood (CRITEC) provides research and resources for the implementation of Response to Intervention with preschool children. Available resources include presentations, progress monitoring measures, and preliminary findings on a national survey on implementation of RTI in early childhood settings. http://www3.ks.edu/~crtec/

FreeReading is an open-source, free reading intervention for prekindergarten through sixth grade. Web users can find and share literacy activities. Each literacy skill is explained and broken down into steps with activities that can be implemented at each step. Videos are provided to illustrate many activities. http://www.freetereading.net/index.php?title=Main_Page

The National Association for the Education of Young Children (NAEYC) has developed position statements on topics such as mathematics in the early childhood classroom, learning to read and write, English language learners, curriculum and assessment, and evidence-based practice. http://www.naeyc.org/positionstatements

The National Early Childhood Technical Assistance Center (NECTAC) provides resources and information to improve early childhood service systems and outcomes for children and families. Their website boasts topic pages including Response to Intervention, evidence-based practice, and evaluation. http://www.nectac.org/default.asp

NICHCCY, the National Dissemination Center for Children with Disabilities, provides a wealth of information regarding disabilities in infants, toddlers, children, and youth. The center provides information on typical development, specific disabilities, and evidence-based practice. http://www.nichcy.org/About/About.aspx

The goal of the Research and Training Center on Early Childhood Development is evaluate and disseminate applied research on interventions for young children with or at risk for disabilities, across domains of development. Their website is designed for professionals and families to access information about effective early intervention practices. Resources available include research syntheses, tool kits, and practice guides. http://www.researchandpractice.info/

The RTI Action Network, presented by the National Center for Learning Disabilities, provides information and resources for Response to Intervention in preschool through high school, as well as for higher education programs that prepare individuals to implement RTI. Topics include family involvement, behavior, diversity, literacy, screening, progress monitoring, social development, and tiered instruction. http://www.rtinetwork.org/

The Technical Assistance Center on Social Emotional Intervention for Young Children (TACSEI) offers free resources based on research regarding effective practices for improving social-emotional outcomes for young children. Available resources include articles, brochures, handouts, podcasts, policy briefs, and teaching tools. http://www.challengingbehavior.org/

The What Works Clearinghouse (WWC) reviews research and presents information regarding the effectiveness of curricula and intervention approaches in a number of topic areas, including early childhood education and early childhood special education. http://ies.ed.gov/ncee/wwc/news/reports/
References


NC: The University of North Carolina at Chapel Hill, FPG Child Development Institute.


Hoke County Board of Education and Asheville City Board of Education v. State of North Carolina; State Board of Education, 95 CVS 1158 (S.C. NC 2011).


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