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# Perceptions of Pre-Service Teacher Training Concerning Curriculum Alignment for Students with Developmental Disabilities

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Perceptions of Pre-Service Teacher Training concerning Curriculum Alignment for  
Students with Developmental Disabilities

By  
Kim Watkins

A Dissertation Submitted to the  
Gardner-Webb University School of Education  
in Partial Fulfillment of the Requirements  
for the Degree of Doctor of Education

Gardner-Webb University  
2011

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## Approval Page

This dissertation was submitted by Kim Watkins under the direction of the persons listed below. It was submitted to the Gardner-Webb University School of Education and approved in partial fulfillment of the requirements for the degree of Doctor of Education at Gardner-Webb University.

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## **Abstract**

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Legislative mandates require teachers to provide access to the general curriculum for all students in the least restrictive environment. Though policies are in place to ensure high quality instruction for all students, many students with developmental disabilities are still being served in self-contained settings with a life-skills instructional approach only, without the necessary supports for accessing the general curriculum. The purpose of this study was to reveal the extent of pre-service teacher perceptions of teacher training on curriculum alignment in order to improve pre-service teacher training in special education for access to the general curriculum for students with developmental disabilities.

The researcher utilized a mixed-methods research design. Data collection was collected with a survey and through interview questions in order to determine the extent of pre-service teacher perceptions on (a) lesson planning linked to the student individualized education program, (b) lesson planning aligned to state standards, (c) universal design for learning aligned to state standards, (d) integration of curriculum aligned to state standards, and (e) progress monitoring aligned to state standards for students with developmental disabilities.

An analysis of the data collection revealed that reform in pre-service teacher training is warranted for integrated coursework and field experiences as a multi-disciplinary approach to teacher preparation programming. A multi-disciplinary approach within the framework of a K-12 teacher preparation program should include a universal design for learning approach centering on flexibility with regard to differentiated instruction and progress monitoring, differentiated curriculum materials, and specifically designed supports for curriculum engagement by students with varying ability levels, including students with significant cognitive disabilities.

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## Chapter 1: Introduction

### Background

With case law and the enactment of legislative mandates regarding inclusive practices for students with disabilities, the impact of teacher education programs and designing quality inclusive curriculum frameworks for all students remain ongoing issues—nationally, regionally, and statewide. Though case law has prompted legislative mandates over the past 5 decades to ensure access to the general education curriculum for all students to include curriculum alignment to state standards, states continue to strive for equity in educational opportunities for students with disabilities, specifically for students with developmental disabilities. The concern is that students with developmental disabilities are still being served in self-contained classrooms with a life-skills instructional approach only, with little opportunity to engage in curriculum aligned to the state standards (Downing, 2006).

According to Bhola, Impara, and Buckemdahl (2003), curriculum alignment refers to the depth of academic content and assessment linked to state-appropriate standards designed for learning to include all students. For students with disabilities, specifically students with developmental disabilities in need of extensive supports for curriculum access, states are required to provide an opportunity for alternate curriculum and assessment measures to include high quality instruction matching state standards. According to the Individuals with Disabilities Education Improvement Act (IDEIA, 2004), the federal definition of developmental disabilities includes significant cognitive impairments that result in intellectual disabilities and affects educational performance.

As a result of the landmark case, *Brown vs. Board of Education of Topeka, Kansas* (1954) and the Supreme Court decision of “separate is not equal,” researchers

began conducting comparison studies of achievement and social adjustment of students with intellectual disabilities in specialized classes and those students with the same characteristics in general education classes with typically developing peers. Researchers found that students with the characteristics of intellectual disabilities, such as cognitive delays with deficits in adaptive behavior, performed higher in both academic achievement and socialization in the general education setting than peers with similar characteristics in separate specialized settings (Goldstein, Moss, & Jordan, 1965). Implications from the findings of the study indicated that the higher performance may have been as a result of higher teacher expectation and all students learning the same curriculum. Students in specialized classes did not participate in the general education curriculum, as job skills were the focus of the curriculum at that time. To follow up these findings, in 1968 Lloyd Dunn wrote an essay, *Special Education for the Mildly Retarded: Is much of it Justifiable?* In his essay, Lloyd Dunn questioned specialized classes as appropriate for an adequate education for students with mild intellectual disabilities, and indicated a need for further research on inclusion with typically developing peers.

As researchers commenced investigating the quality of special education on students with disabilities, parent advocacy groups began advocating for quality programs for students with disabilities. Parent advocacy groups raised questions as to why their children with significant cognitive disabilities were not allowed to attend public schools, and those parents with children with mild intellectual disabilities questioned the quality of their children's education. As a result of the emerging literature and parent advocacy, litigation of landmark cases propelled special education and quality programs into a federal response of protection of rights for students with disabilities.

In 1972, the first landmark case promoting specifically designed instruction and

the rights of children with disabilities was *Pennsylvania Association for Retarded Children v. The Commonwealth of Pennsylvania (PARC)*. The result of the litigation guaranteed parents in Pennsylvania that their children with intellectual disabilities would receive a free public education with specifically designed instruction to meet their child's unique needs.

Another landmark case following *PARC* protecting the rights of children with disabilities was *Mills v. Board of Education of the District of Columbia (Mills, 1972)*. The Supreme Court extended the right to a free public education with specifically designed instruction for all students with disabilities in Washington, D.C. In addition, the Supreme Court specified procedures for placement in special education and mediation procedures in the event of disagreements between parents and personnel of the school district. Along with the outcome of *Brown vs. Board of Education of Topeka, Kansas (1954)*, these landmark cases paved the pathway for the legislation that regulates special education and inclusive practices today (Yell, 2006).

With the passage of the Education for All Handicapped Children Act (EHA, 1975), a launch of inclusive practices forever has permeated pre-service teacher training of curricular practices for all students. Provisions from EHA allowed for students ages 6-21 with disabilities a free appropriate public education (FAPE) in the least restrictive environment (LRE). LRE is broadly considered as receiving educational services in settings with typically developing peers to the maximum extent appropriate with all necessary supports to access the general curriculum (Grisham-Brown, Hemmeter, & Pretti-Frontczak, 2005). The law was amended in 1986 to add preschool services for ages 3-5, its name changed to the Individuals with Disabilities Education Act (IDEA) in 1990, and was revised in 1997 with the addition of services for ages 0-2, and included a

focus on curriculum and assessment for all students with disabilities.

With the revision of IDEA in 1997 centering on assessment for all students with disabilities, a new approach to curriculum and instruction began to emerge. Researchers began to explore the feasibility of utilizing a flexible curriculum and materials for equity of learning for all students, including students with disabilities (Rose & Meyer, 2002). This concept of equity of learning evolved into universal design for learning (UDL) as stakeholders in general education and special education began to investigate a new systematic approach to curriculum design in order to provide access to the general curriculum for all learners. To address the needs of students with intellectual disabilities during this paradigm shift of thinking, Hitchcock and Stahl (2003) indicated the importance of a universally designed curriculum that has been specifically designed to meet the unique needs of students who have sensory, motor, and cognitive disabilities.

IDEA was revised again in 2004, and the name was amended to the Individuals with Disabilities Education Improvement Act (IDEIA) with a narrower emphasis on assessment as alternate assessment was mandated for students with the most significant cognitive disabilities coupled with evidence-based educational practices for all students with disabilities. The 2004 reauthorization of the Individuals with Disabilities Education Improvement Act (IDEIA) included the addition of a federal definition of universal design for learning to include scientifically-based educational practices with flexibility in the way content is presented, flexibility in how students demonstrate knowledge through alternative communication, and strategies in how to involve students in the general curriculum (Pub. L. No. 108-446).

The No Child Left Behind Act of 2001 (NCLB) was enacted and required states to determine rigorous standards and measurements that are research-based for all

students, including students with significant cognitive disabilities. The No Child Left Behind Act of 2001 mandated that 1% of students with significant cognitive disabilities be exempt from standardized assessments; however, they must be able to show progress on alternate achievement standards that are aligned to the core state standards.

As a result of the landmark legislation of the reauthorization of IDEA in 2004 and the No Child Left Behind Act of 2001 regarding achievement and accountability for all students, states began to investigate the challenge of aligning meaningful instructional practices for students with significant cognitive disabilities to grade appropriate standards. Teacher education programs began including pre-service training on curriculum adaptations as an inclusive strategy to access the general curriculum for students with developmental disabilities.

In a study conducted by Shade and Stewart (2001), the researchers assessed the attitudes of pre-service teachers toward inclusion of students with disabilities. The researchers found pre-service teachers' attitudes changed to a favorable position of inclusion after training on characteristics and teaching strategies for varying exceptionalities. In addition, the researchers indicated the need for a shared positive vision in pre-service training across programs with regard to planning for individual differences and appropriate curriculum adaptations. The vision indicated by Shade and Stewart (2001) supports national accreditation standards for teacher education programs such as the National Council for Accreditation of Teacher Education (NCATE). These standards are based on the belief that "all children can and should learn, and accredited schools, colleges, and departments of education should ensure that new teachers attain the necessary content, pedagogical, and professional knowledge and skills to teach both independently and collaboratively" (NCATE, 2008, "Vision," para. 1).

## **Statement of the Problem**

Historically, teacher training in curriculum and instruction for students with developmental disabilities focused solely on teaching functional skills for daily living, social skills, and vocational skills for independent living (Collins, 2007). Methodology included curriculum and instruction centered on money management, time concepts, functional mathematics, and functional literacy with ecological assessments to strengthen employability. Currently, though legislative mandates are in place to ensure access to the general curriculum for all students with high quality instruction, many students with developmental disabilities are still being served in self-contained classrooms with a life-skills instructional approach only. This is the key problem as there is little evidence of academic opportunity for grade appropriate instruction aligned to the core standards (Downing, 2006). This may be the result of lack of personnel preparation in teacher education at the higher education institute level in curriculum alignment to the core state standards for equity of education of all students, including students with the most significant cognitive disabilities (Watkins, 2009).

As a result of the need for improvement in teacher education preparation programs for students with developmental disabilities, reform in how pre-service teachers are trained should include the approach of universal design to include differentiated instruction for all learners (Edyburn, 2010). According to Hall, Strangman, and Meyer (2003), differentiated instruction refers to the way in which students gain access to and demonstrate understanding of the content being taught. For students with developmental disabilities, access should include strategies for content adaptations aligned to state academic standards. To assist pre-service teachers with training in curriculum adaptations, training in writing lesson plan components for curriculum alignment to the

standards, and the pedagogy of how to bridge the gap between functional and academic skills must be addressed. For students with significant cognitive disabilities, systematic instruction, such as prompting systems with considerable modifications and accommodations, are necessary to access age appropriate content with subsequent maintenance and generalization of skills (Browder & Spooner, 2006). As a result, the gap in the discrepancy of teacher training due to the literature and needs assessments and access to the general curriculum via curriculum alignment will be closed. Emerging will be pre-service teacher training reform that will include the knowledge of how to plan for and implement a standards-based curriculum embedded with functional skills in course work and field experiences.

### **Purpose of the Study**

Improvement in personnel preparation may promote positive outcomes for students with developmental disabilities. Needed reform in teacher training on curriculum alignment for meaningful instruction for students with developmental disabilities was connected to available literature.

A salient study conducted by Browder, Spooner, Wakeman, Trela, and Baker (2006) indicated that students with disabilities should have the opportunity to access grade appropriate standards due to legislative mandates, evidence of learning, and in promotion of universal design for all learners. The researchers noted that for students with the most significant cognitive disabilities, alignment to grade appropriate standards is critical in understanding participation and expectations of alternate assessment and IEP progress monitoring. Furthermore, to accomplish this goal, training must be a component in how to develop lesson plans with progress monitoring linked to grade level standards for students with severe disabilities.

Another study conducted by Wehmeyer (2006) examined educational practices for students with intellectual disabilities to achieve access to the general curriculum. The researcher discussed the IDEA mandate requiring student IEPs to reflect specifically designed instruction with the supplementary supports and aids to ensure engagement to the general education curriculum. Included in those supplementary aides were program modifications and supports for school personnel to ensure curriculum access. The researcher indicated that IEP goals were not being linked to the general curriculum, with very little adaptations, to ensure curriculum access, and that special education reform is needed in order to meet federal mandates for students with intellectual disabilities.

Furthermore, Spooner, Dymond, Smith, and Kennedy (2006) described the burdens of what access to the general curriculum meant for students with significant disabilities, including professional development. The researchers indicated that Institutions of Higher Education (IHEs) were not sufficiently preparing pre-service teachers in differentiation of instruction and curriculum development in the least restrictive environment for students with significant cognitive disabilities. The researchers recommended that IHEs provide teacher training in approaches to accessing the general curriculum for students with significant cognitive disabilities.

Supported by the literature, improvement in teacher education training in special education and practice in accessing the general curriculum with instruction aligned to grade appropriate instruction for increased student performance was necessary. As a result of the support of available literature, the purpose of this study was to examine the extent of perceptions of pre-service teacher training on curriculum alignment in order to improve pre-service teacher training in special education, specifically concerning (a) lesson planning linked to the student individualized education program, (b) lesson



planning aligned to state standards, (c) universal design for learning aligned to state standards, (d) integration of curriculum aligned to state standards, and (e) progress monitoring aligned to state standards for students with developmental disabilities.

After Institutional Review Board approval from Gardner-Webb University, the study was conducted as data collection with a survey and interviews began; therefore, the research design for this study was a mixed-methods research design. Results have been examined and analyzed from a survey of structured prompts and unstructured interview prompts provided by participants who were Spring 2011 semester special education pre-service teachers that graduated from a southeastern university.

### **Research Questions**

Supported by the call of researchers in the field of special education for advancement of research on teacher training in instructional practices and curriculum alignment for students with developmental disabilities, the following research questions emerged for further investigation.

1. To what extent are perceptions of pre-service teachers concerning lesson planning linked to the student individualized education program?
2. To what extent are perceptions of pre-service teachers concerning lesson planning aligned to the state standards for students with developmental disabilities?
3. To what extent are perceptions of pre-service teachers concerning universal design for learning aligned to state standards for students with developmental disabilities?
4. To what extent are perceptions of pre-service teachers concerning the integration of the curriculum aligned to the state standards for students with developmental disabilities?

5. To what extent are perceptions of pre-service teachers concerning progress monitoring aligned to state standards for students with developmental disabilities?

### **Definitions of Terms**

**Students with developmental disabilities.** Students who exhibit significant sub-average cognitive functioning that adversely affects educational performance, and includes students with intellectual disabilities, cerebral palsy, and autism.

**EHA.** Education for All Handicapped Children Act of 1975 (P.L. 94-142) is a federally funded law that is the basis of all special education programming and services for students with disabilities.

**FAPE.** Free appropriate public education for all students with disabilities that includes specifically designed instruction, related services, and supplementary services to access the general curriculum.

**LRE.** Setting in which students with disabilities are placed with typically developing peers to the maximum extent appropriate with specifically designed supports for curriculum access.

**IDEA.** EHA was renamed in 1990 to become the Individual with Disabilities Education Act. IDEA mandates of 1990 included adding autism and traumatic brain injuries as categories to receive federal funding. In 1997, IDEA was revised to include expansion of the role of the classroom teacher in providing appropriate instructional practices and assessment, as assessments applied as evidence in academic progress became mandated for all students with disabilities. The latest reauthorization of IDEA came in 2004 as the title of IDEA was renamed IDEIA (The Individuals with Disabilities Education Improvement Act) as mandates included the utilization of evidence-based instructional practices for all students with disabilities, and the provision of Alternate

Assessment as standardized testing for 1% of students with the most significant cognitive disabilities.

**NCLB.** No Child Left Behind Act of 2001 was signed into law by President George W. Bush in 2002 for high stakes testing and accountability of student progress toward raising achievement expectations for all students.

**Students with significant cognitive disabilities.** Students with an IQ under 55 who exhibit cognitive deficits, deficits in adaptive behavior, may include students with autism, and multiple disabilities that need ongoing, intensive supports in order to participate in inclusive settings.

**Alternate assessment.** Statewide standardized testing for students with the most significant cognitive disabilities. Alternate assessment is designed for those students who, though with all extensive supports such as appropriate accommodations and modifications, cannot participate in statewide standardized testing. In addition, alternate assessment must be linked to age-appropriate, grade level content standards.

**Extended standards.** Off grade level standards aligned to chronological state standards for students participating in alternate assessment.

**Curriculum alignment.** Linking instruction to grade level state standards and assessment for curriculum access.

**Curriculum access.** Participation in the general curriculum aligned to the state standards.

**Curriculum adaptation.** Modifying unique needs of the student to engage in curriculum access that is age and grade appropriate. Modifications may include specifically designed instruction, delivery of instruction, and adaptations of materials for access to the general curriculum.

**UDL.** Universal design for learning is an instructional approach to promote equity and inclusion of all students that may include adaptations (accommodations and modifications) to the physical environment, utilization of technology, prompting systems, and differentiated instructional design for curriculum access. Initially, universal design was coined from the 1990 landmark legislation (P. L. 101-336, Americans with Disabilities Act) implementing the principle of normalization across America, barring discrimination in employment, transportation, and public accommodations. Because of this landmark legislation, the application of universal design and access to the general curriculum evolved, as removing instructional barriers for curriculum access for students with disabilities became universal design for learning (Center for Applied Special Technology, 2007).

**System of least prompts.** Least to most supports in order for students with significant cognitive and/or physical needs to engage in instructional tasks, and may include a hierarchy of prompts such as specific verbal prompts, modeling, gesturing, partial physical assistance to full physical assistance (Wehman & Kregel , 2004).

**Pre-service teacher.** Teacher educator who is practicing knowledge and pedagogy of instruction and assessment based on learning theory less than 3 months of the academic year.

**IEP.** Individual education program guides specifically designed instruction, related services, and supplementary services for students with disabilities.

**Formative assessment.** Assessment utilized for progress monitoring and decision making for instructional design.

**Content validity.** The extent to which content of survey items are representative of the research questions.

**Construct validity.** The determination of whether the data collection instrument and scores exhibit meaning for the purpose of the survey.

**Cooperative learning.** Small groups of students working together with mixed ability levels working toward a given task.

**Inquiry learning.** Developing questions about a phenomenon and using investigative processes to construct knowledge.

**Embedded instruction.** Providing parallel instructional support to students with extensive needs and activities going on in the classroom.

**Severe disabilities.** Students with severe disabilities require ongoing, and highly specialized support to participate in life activities such as home living, school, work, and community activities (IDEA). Students with significant cognitive disabilities fall under the umbrella of severe disabilities.

## **Summary**

Because of legislative mandates, the nature of national accreditation standards with regard to teacher education programming, needs assessments, and emerging literature, there existed the need for continual examination of the curriculum frameworks within teacher education programs to ensure pre-service teacher training on curriculum alignment to core content standards for students with disabilities. This paradigm shift in examination of curriculum frameworks of teacher education programs may promote universal design for learning with specifically designed instructional practices for all students, including students with significant cognitive disabilities. According to Kozleski, Pugach, and Yinger (2002), there was a need for supporting blended instructional practices for all students, and there must be in place an upgraded pre-service teacher education curriculum with shared clinical experiences and a common language

that supports collaboration to enhance performance of all students. For students with the most significant cognitive disabilities, there was little data to support the correlation between teacher training programs with regard to the curriculum framework of instructional design and assessment that was academic. As indicated by the available literature, the traditional curriculum focus has been a functional curriculum only with little opportunity for student access to the general curriculum with intensive supports in the least restrictive environment; therefore, current research was critical for pre-service teacher training on curriculum alignment for this population.

## **Chapter 2: Literature Review**

### **Overview**

Case law and legislation have provided the cornerstone for research and inclusive practices for students with disabilities. Legislative mandates have promoted specifically designed instruction as the foundation of special education and the basis of the following studies, as further investigation was warranted on teacher training and curriculum alignment of instruction to improve curriculum access for students with developmental disabilities. Analysis of the literature within each category promoted support for the purpose of this study, as the researcher responded to the call of further investigation of teacher training on curriculum alignment for access to the general curriculum for students with developmental disabilities concerning the following variables: (a) lesson planning linked to the student individualized education program, (b) lesson planning aligned to state standards, (c) universal design for learning aligned to state standards, (d) integration of curriculum aligned to state standards, and (e) progress monitoring aligned to state standards for students with developmental disabilities.

### **Curriculum Development**

Tyler (1976) described the importance of the active role of the student and non-school areas of student learning to the learning process as related to curriculum design. The researcher signaled the importance of the learner to be active rather than passive in the learning process. As a result, the learner would be able to maintain and generalize new skills. In addition, the researcher established the importance of selecting curriculum objectives that encourage active learning with student preferences for meaningful learning. According to the researcher, active learning experiences should be structured with relevancy, and sequenced for purposeful learning.

In addition to the importance of the active learning process, the researcher indicated the significance of non-school areas for student learning in promotion of knowledge, skills, and dispositions to become productive citizens in society. The researcher stated the importance of a non-curriculum focus on taking responsibility for one's action to build on productive citizenship.

As a result of the new emphasis of active learning and non-school areas of learning in curriculum development, the researcher suggested improvement strategies for the educational system. The strategies included maximizing the school's resources, strengthening the out-of-school curriculum, and working with out-of-school environments. The researcher determined that the school curriculum should encompass the utilization of specialized resources such as libraries and laboratories for teacher training to extend student learning. The researcher stated that learning specialized resources would allow for the promotion of student life goals. In addition, the researcher recommended that curriculum leaders should work with all stakeholders to establish a rapport with the community. The researcher declared that the community played an integral role in bridging communication from families and specific educational needs to the expectations of the school system. Finally, the researcher expressed the importance of helping students with life outside of the school building by allowing in-school opportunities for student reflection on life issues, the discussion of consequences to actions, and providing guidance as support strategy. As a result of these recommendations, the researcher conveyed that educational reform in active learning experiences of students, coupled with the emphasis of non-school areas, would promote a total educational system.

Kelting-Gibson (2005) compared curriculum development practices of pre-service



teachers by utilizing independent raters to score lesson and unit plans of a treatment group that received training from Wiggins and McTighe's (1998) book and workshop, *Understanding by Design*, compared to a control group that received training on the *Understanding by Design* workshop only. The variables to be compared were a framework of six components of a curriculum framework that included the following: (a) demonstrating knowledge of content and pedagogy, (b) demonstrating knowledge of students, (c) selecting instructional goals, (d) demonstrating knowledge of materials and resources to improve student achievement, and (e) assessing student learning. The authors signaled that the Wiggins and McTighe (1998) model was considered a backward design with the focus on desired results first, compared to the traditional design developed by Tyler (1950) that guided curriculum developers to first define the teaching goals, activities related to goals, organize the learning experience, and then evaluate. Because of the philosophical differences in curriculum design, the researcher desired to compare lesson and unit plans of pre-service teachers using the backward design model and the traditional design.

Results from the study indicated pre-service teachers who designed curriculum using the backward model performed higher than pre-service teachers using the traditional approach to curriculum design. Specifically, the results indicated statistical significance of all six dependent variables for pre-service teachers using the backward design in curriculum development, as they performed higher in displaying content and pedagogy, recognizing student skills and approaches to learning, selecting instructional goals and materials, and assessment. The researcher indicated that though pre-service teachers using the backward design performed higher than those pre-service teachers using the traditional approach, more research was needed for both models.

Marzano (2010) determined that many teacher evaluation tools that evaluated teacher practice did little for elevating teaching skills for curriculum development. As a result, the researcher noted that deliberate teacher practices would assist in the improvement of both teacher performance and student performance on curriculum. The researcher recommended four components of deliberate practice as applied to teaching that included a common language of instruction, a focus on specific strategies, tracking teacher progress, and opportunities to observe peers.

The researcher developed strategies within a common language of instruction that included routine strategies of focusing on curricular learning goals, tracking student progress, celebrating student success, and establishing and maintaining procedures. In addition, the researcher created content strategies that would assist students in the interaction of new knowledge, provide opportunities for student engagement, promote relationship building, and establish high expectations for all students. Furthermore, the researcher stressed the importance of having a knowledge base of instructional strategies to use if immediate adjustments in the lesson were needed.

Secondly, the researcher suggested that teachers should focus on a few specific instructional strategies to use routinely. In addition, the researcher recommended that teachers choose their own instructional strategies to use in their classrooms in order to promote ownership of teaching skills.

Third, the researcher emphasized the importance of tracking teacher progress in those teacher selected instructional strategies. The researcher developed a rubric establishing rank of performance, including a low level performance of not utilizing a needed strategy to the highest level of performance with an observation of innovations utilizing adaptations specific to the learner.

Finally, the researcher indicated the need for teachers to have opportunities to observe their peers, as observations of master teachers would provide a comparative value to their own use of instructional strategies linked to curriculum. The researcher developed and recommended the four components of deliberate practice to share expertise in the advancement of pedagogy skills on curriculum.

Dymond et al. (2006) conducted a yearlong case study utilizing interviews and focus groups to examine the utilization of the principles of universal design (UDL) linked to curriculum and lesson planning on core academic learning for students in a general education science class that included students with differing ability levels, including students with significant cognitive disabilities. The researchers identified five areas related to UDL literature to guide the focus of the study. The five areas were curriculum, instructional delivery, student participation, materials, and assessment. From those five areas, the researchers redesigned the traditional lesson plan to include varied instructional strategies and materials linked to essential content as related to the state standards.

Results from the study indicated significant change as teachers' roles shifted to a collaborative co-teaching model of shared lesson planning and lesson implementation, rather than the general education teacher conducting the planning and teaching and the special education teacher assisting. In addition, the researchers found that the comfort level of the general education teacher increased with the inclusion of students with significant cognitive disabilities. Furthermore, the researchers noted that some of the students' IEP goals were aligned with the science content. From their findings, the researchers suggested that reform takes time and it was important to include all stakeholders in the reform process. In addition, the researchers determined that writing structured lesson plans with ongoing data collection ensured supports necessary to enable

access to the general curriculum for students with significant cognitive disabilities.

Clayton, Burdge, Denham, Kleinert, and Kearns (2006) described a four-step curriculum process model for students with significant cognitive disabilities to access the general curriculum that was linked to the student individualized education program (IEP) via the lesson plan. The researchers indicated that step one was to identify the state standard that the lesson plan would address and determine the essential content from the objective that can be functional in nature. From this step, high expectations of grade appropriate access would be established, as embedding IEP skills in the instructional activities would be linked to the state standard. For step two, the researchers suggested to specify the desired outcome for the student by simplifying the content and prioritizing essential skills with supports identified by the student IEP for specifically designed instruction. Step three consisted of identifying the essential components in the design of instruction with instructional activities and supports such as prompting systems, accommodations and modification that were grade appropriate linked to assessments that were formative to check for student understanding. For step four, the researchers recommended to target specific objectives from the IEP for instruction within the unit aligned to the state standards and embed the targeted functional skills within the natural routines of the classroom. As a result of utilizing this curriculum model, the researchers signified that teachers would have the tools necessary to provide access to the general curriculum with specifically designed instruction and supports as dictated by the IEP for students with significant cognitive disabilities.

### **Access to the General Curriculum**

Kurz, Elliot, Wehby, and Smithson (2010) utilized survey research to examine the content of the planned and enacted eighth-grade mathematics curriculum and the

curriculum alignment to state standard for students with and without disabilities. Specifically, the researchers wanted to investigate the relationship between assessment alignment and student achievement for three formative assessments and the corresponding state test within a school for students with disabilities. The researchers found that special education students performed worse than general education students on all three formative tests. In addition, the special education students performed worse on the corresponding large-scale state test than their peers without disabilities. In response to results of the study, the researchers noted that there was little alignment research on students with disabilities included in regular state assessments, and there existed a critical need for researchers to conduct studies on identifying the effects of professional development on teacher alignment to the core standards as related to achievement. The researchers indicated the need for educational reform for both special education teachers and general education in order to have a framework of knowledge of alignment of targeted content measured to the state grade level standards and matching achievement as access to the general curriculum for all learners.

A study conducted by Browder et al. (2006) indicated that students with disabilities should have the opportunity to access grade appropriate standards due to legislative mandates, evidence of learning, and in promotion of universal design for all learners. The researchers noted that for students with the most significant cognitive disabilities, alignment to grade appropriate standards was critical in possessing knowledge of participation and expectations of alternate assessment and IEP progress monitoring. Because of federal legislation including The Individuals with Disabilities Improvement Act of 2004 (IDEIA) and No Child Left Behind Act of 2001 (NCLB), all students, including students with significant cognitive disabilities, were required to be

involved in large scale assessment with scores reported in adequate yearly progress (AYP) accountability measures. The researchers indicated the importance of participation for this population of students, but expressed concern for research-based, specifically designed instruction aligned to state standards for the content areas of reading, math, and science; therefore, the researchers conducted a meta-analysis of evidence-based studies of academics taught to students with significant cognitive disabilities.

The researchers reviewed studies from 1976-2005 to discover whether students with significant cognitive disabilities could make progress in those areas targeted for accountability in large scale assessments. As a result of the reviews, the researchers noted that most of the studies centered on functional and social skills; however, there were studies that indicated that this population of students could make academic gains as evidenced in reading, math, and science. In the content area of reading, the researchers found 128 studies with the primary focus on reading as a sight word approach with little emphasis on the core components established by the National Reading Panel for readiness to read such as fluency, phonics, phonemic awareness, vocabulary, and comprehension. For the area of math, the researchers were able to find 67 studies, with money as the primary academic focus rather than inclusion of all of the components of math under the guidelines of the Council of Teachers for Math such as number and operations, measurement, data analysis and probability, geometry, and algebra. For science, a total of 10 studies were found by the researchers, nine linked to daily living skills (personal and social perspectives) rather than the academic guidelines from the National Science Education Standards and the suggested content focus on physical science, life science, earth science, science and technology, along with science in

personal and social perspectives.

According to the researchers, in order to reform instructional practices for students with significant cognitive disabilities to include access to the general curriculum by linking instruction to content areas, training in teacher preparation for both general educators and special educators must be provided for collaboration in guidelines and examples for identifying essential skills linked to state standards for content areas designated with data analysis and accountability such as reading, math, and science. In addition, the researchers suggested that alignment to state standards should include an academic curriculum that signifies a scope and sequence of depth that would be grade appropriate with grade appropriate materials and activities linked to student IEP goals and objectives for universal design of learning. Furthermore, to accomplish the goal of universal design for learning, the researchers indicated that teacher training must include the component of how to develop lesson plans with objectives and assessments that were meaningful and functional, yet linked to grade level standards for students with significant cognitive disabilities.

Downing and Eichinger (2003) discussed how practitioners could recognize meaningful learning opportunities in the inclusive setting in order for students with severe disabilities to access the general curriculum and develop a sense of belonging. The researchers contended that students with moderate and intellectual disabilities may be able to access general education activities by the teacher embedding instruction in naturally occurring routines such as handing out materials for learning the math concepts of one-to-one correspondence and counting. In addition, the researchers indicated that decisions on the relevance of activities linked to instructional strategies were difficult for students with moderate and severe disabilities; therefore, creating learning opportunities

in the lesson plan is critical for meaningful student engagement. They suggested that this population of students may be able to access the general curriculum by utilizing the strategies of repetition of engagement opportunities and the utilization of pictorial representations as a curricular adaptation for high quality instruction.

Wehmeyer, Lance, and Bashinski (2002) described steps through a multi-level model for access to the general curriculum for students with intellectual disabilities in need of intensive supports. Steps included standard setting, individualized educational planning, school-wide materials and instruction, partial school and group instruction, and individualized interventions. The researchers signaled the importance of students with intellectual disabilities to have an alternate approach to the curriculum and assessment that are aligned to the state standards. Secondly, the researchers indicated the importance of individualized education planning with curriculum adaptations, curriculum augmentation, and curriculum alteration that was grade appropriate. In addition, the researchers indicated that all students school-wide, including students with intellectual disabilities, could benefit from the same flexible materials with instructional strategies such as active learning experiences, data-based decision making, cooperative learning, and peer-directed instructional strategies. The researchers did explain that some students with intellectual disabilities would need intensive supports within whole and small group instruction for curriculum access. Finally, the researchers determined that some students with significant cognitive disabilities would require an alternate curriculum with deep curricular alignment and instructional strategies to meet individual unique needs in order to participate in the general curriculum.

In the first study to explore curriculum alignment and performance indicators for alternate assessments conducted by Browder et al. (2004), the researchers utilized



surveys and focus groups with curriculum experts and administrators in general education and special education from 31 states. The purpose of the study was to examine the extent of curriculum alignment of language arts and math content on alternate assessments to state academic standards embedded with functional life skills for students with significant cognitive disabilities. The researchers described the concern for curriculum alignment and determining essential skills for access that was relevant to students with severe disabilities, as there was little literature regarding curriculum alignment that was academic, yet functional to meet specialized needs of this population of students. Results indicated inconstancy across states with agreement to the extent of alternate assessment alignment to the state standards and embedded functional skills. The researchers expressed the need for states to continue exploring means for quality enhancement of programs and instructional practices for curriculum access for students participating in alternate assessment. In addition, the researchers indicated the need for states to identify meaningful skill indicators from alternate assessment that linked to the state standards, yet were functional in nature.

In a study conducted by Soukup, Wehmeyer, Bashinski, and Bovaird (2007), the researchers utilized a computer-based observation system that used time sampling observation and examined the degree to which 19 students with intellectual disabilities had access to the general education curriculum in science and social studies classes at an elementary school. As a function of their study, the researchers examined participant engagement to tasks linked to general education standards and whether accommodations and curriculum adaptations were utilized in given tasks across the continuum of services. Results indicated that equity of access to the general curriculum for students with intellectual disabilities was more prominent when placed in an instructional environment

with typically developing peers. Though students were placed in the least restrictive environment, the researchers indicated that accommodations for students were being utilized in only half of the instructional time. Furthermore, in only a few occasions were curriculum adaptations for curriculum access noted. Moreover, there was little evidence that students who were observed in a more restrictive environment received instruction aligned to the state standards as observations indicated that students tended to receive instruction linked to IEP objectives that were not grade appropriate. The researchers suggested that though there was little research to the degree of engagement in accessing the general curriculum for students with intellectual disabilities, identifying instructional and ecological variables would promote access to the general curriculum in the least restrictive environment.

Copeland and Cosbey (2009) discussed the importance of using research-based educational practices utilized with typically developing peers in the general education setting with students with significant cognitive disabilities. The researchers expressed concern that students from this population should have multiple academic opportunities linked to the IEP, and the IEP should reflect the general education standards that were relevant to the student. As a result of considerations for selecting instructional strategies for students with extensive supports, the researchers suggested instructional approaches to enhance access to the general curriculum.

One instructional approach was response prompting. With response prompting, the teacher utilized prompting systems in order to shape desired responses. Hierarchy of prompting systems included providing verbal clues, gestures, modeling, partial physical assistance, or full physical assistance for student engagement. In addition, the researchers indicated that cooperative learning would allow small groups of students with

differing skills to work together toward a specific task, which would ultimately increase academic and social outcomes for all students with different ability levels. Along with cooperative learning as an approach to curriculum access for students with extensive supports, the researchers signaled inquiry learning as an approach to curriculum access. With inquiry-based learning as an instructional approach, students could construct their own knowledge with regard to interest, active engagement, and problem solving with teacher scaffolding support. Another instructional support for curriculum access illustrated by the researchers included embedded instruction, as teachers would provide intensive supports on targeted skills within the routines of the classroom. Furthermore, the researchers suggested that peer support strategies for access to the general curriculum would increase academic and social outcomes of students with significant cognitive disabilities. Though the researchers expressed the importance of utilizing these approaches that were designed for the general education classroom for students with extensive supports for curriculum access, they contended that there was little research determining the strategies as evidence-based for students with significant cognitive disabilities; therefore, more research was needed on identifying and implementing effective practices.

In an article written by Ryndak, Moore, and Orlando (2008), the researchers expressed the need for clarifying the context of what access to the general curriculum meant for students with significant cognitive disabilities as related to current federal policy. The researchers noted that the Individuals with Disabilities Education Improvement Act (IDEIA, 2004) provided mandates to ensure that students be involved in grade appropriate instruction with progress monitoring linked to the state standards in the least restrictive environment.

The researchers discovered that participation of students with extensive needs in the general education curriculum in the least restrictive education setting varied by geographic location. Because of the lack of consistency across the United States in understanding federal policy with regard to access to the general curriculum, the researchers supported reform for schools through professional development. The researchers supported reform for identifying and implementing effective research-based practices for students with significant cognitive disabilities in accessing the general curriculum. In addition to the call for research on effective instructional practices for curriculum access, the researchers suggested a need for literature in service delivery aligned to the curriculum, the establishment of high expectations in participation and progress monitoring, and the pedagogy embedded in the overall context of access to the general curriculum.

The call for reform was in response to the disarray nationally among stakeholders such as states, local school districts, parents, and education leaders as to how the concept of access to the general curriculum and LRE related to students with significant cognitive disabilities. Similarly, researchers Dymond, Renzaglia, Gilson, and Slagor (2007) suggested that future research must be in place to explore the complexity of access to the general curriculum, instructional practices with curriculum alignment, and personnel preparation regarding students with extensive needs in order to build on current federal policy and stakeholder alliance necessary for curriculum access.

In a study conducted by Karvonen and Huynh (2007), the researchers investigated the relationship between curriculum alignment with essential IEP objectives and alternate assessment outcomes for 292 tenth-grade students with significant cognitive disabilities. The researchers were interested in exploring the connection between the alternate

curriculum being taught to students with significant cognitive disabilities that was aligned to the state standards and the actual statewide large scale assessment given in the spring, as the No Child Left Behind Act of 2001 (NCLB) required all states' assessments to address the depth and breadth of state content standards and scores be counted in schools' scores for adequate yearly progress (AYP). For students with significant cognitive disabilities, the statewide large scale assessment was the alternate assessment that was aligned to the state standards. Results from the study indicated that there was no compelling evidence of curriculum alignment of content taught via the IEP and what was tested on the alternate assessment, as some students received instruction aligned to alternate assessment measures, but many received a functional skills curriculum only. The researchers suggested that teachers of students with significant cognitive disabilities need training on curriculum alignment for instructional design beyond the functional curriculum only, in order for students to be able to gain access to the state academic standards that were aligned to large scale assessment.

Browder et al. (2007) proposed a conceptual framework and criteria for linking instruction and assessment to grade level standards for students with significant cognitive disabilities. The researchers revealed the importance of linking academic instruction that was grade appropriate, but differing in scope and sequence across grade levels, as many students with significant cognitive disabilities were still receiving a functional curriculum only. Though all states have alternate assessments as the large scale assessment available for this population of students, the researchers indicated that there were still inconsistencies among stakeholders and states as to the depth and breadth of the general academic curriculum as required by NCLB. Because of these inconsistencies, the researchers signaled that promoting access to the general was critical because of the

purpose of school reform for all children to be prepared for future living. In addition, the researchers indicated that though there was limited research on academic expectations for this population, there was more evidence that learning gains could be attained and that promoting access to the general curriculum was advancing equal educational opportunity. Furthermore, the researchers noted that access to the general curriculum gave students the opportunity for self-determination in making decisions related to personal preferences.

According to the researchers, little research was available in training teachers how to link academic instruction to grade level standards. The researchers recommended that teachers create IEPs that aligned essential skills with the state standards. An additional recommendation by the researchers was for teachers to learn how to plan and implement matching instructional objectives and assessments that were aligned to the state standards with the provision of direct instruction and repetition as an instructional strategy. Finally, the researchers stressed the need for ongoing research in prioritizing meaningful instruction beyond the functional curriculum with systematic instructional strategies and curricular adaptations for generalization that were age and grade appropriate in order for students with significant cognitive disabilities to access the general curriculum.

### **Universal Design for Learning**

According to Edyburn (2010), universal design in education for the 21<sup>st</sup> century must evolve into more than just environmental access in favor of instructional design for curriculum access for students with disabilities. The researcher suggested that an examination of universal design of instruction principles related to student learning characteristics must take precedence for genuine curriculum access. The researcher indicated that there was more to learn about the instructional needs of diverse individuals and that teacher training must be reformed for authentic differentiation and student

engagement for equity of learning among all learners. The researcher recommended changes that needed to be considered for reform in removing the emphasis of the architecture barrier of UDL in order to center on instructional design with learning objectives linked to learner characteristics with specific supports to access the general curriculum.

McGuire, Scott, and Shaw (2006) discussed the trend of UDL moving away from centering on the architecture barrier to a new focus as an instructional approach to the educational environment. The researchers determined that the reason for the paradigm shift from physical barriers to removing instructional barriers was because of reform initiatives that promoted inclusion for students with disabilities and legislative mandates requiring that all students have access to the general curriculum. As a result, the researchers described emerging theoretical models as approaches for UDL that included universal design for learning, and universal design for instruction.

The researchers described universal design for learning as an approach to lesson planning and curriculum to promote participation and progress in the general curriculum that included the three components of representation, expression, and engagement. According to the researchers, representation refers to multiple ways that the content and materials of the curriculum are presented based on learner characteristics, and expression was multiple ways to demonstrate performance linked to instruction. Similarly, the researchers noted the importance of multiple ways for students to be engaged in the curriculum through learning preferences to promote motivation.

Secondly, the researchers established universal design for instruction as an approach to teaching that was proactive in utilizing instructional and assessment strategies in planning and implementation for curriculum access of all students, including

students with disabilities. As a result, there would be flexibility in curriculum access, high expectations for all students, and equity of opportunity to learn for all students.

The researchers recommended a framework of reform for addressing the instructional needs for students with disabilities in promotion of UDL for all learners and included the following: (a) changing the reference to disability as an impairment to a component of diversity, (b) removing the documentation and labeling of a disability to considering the learning needs of a broad range of students, (c) dismissing the notion of including students with disabilities whenever appropriate to designing the curriculum to include all learners, (d) having accommodations and modifications for students with disabilities only to having them for all learners, (e) having individualized instruction for students with disabilities only to providing universally design instruction for all students, (f) including students with disabilities in high-stakes assessment to assurance of standardized assessments to be accessible for the widest range of students, and (g) removing the barrier that special education services take away from general education to the ideal that universal design would add value to a broader range of students. The researchers contended that there was much research needed in consideration of those reforms.

According to Abell, Bauder, and Simmons (2005), the 1997 amendments to the reauthorization of IDEA mandating assessments for students with disabilities began a new way of thinking, as students were to have access to high quality general curriculum and essential content as their typically developing peers. The researchers suggested that there may be a need for a universal curriculum with authentic learning by aligning content with core state standards. In addition, the researchers noted that the Improving Education Results for Children with Disabilities Act (2003) advised that teacher



preparation programs train both general and special education teachers to blend instructional strategies to access the general curriculum. This would allow for greater collaboration in planning instruction for inclusion and promote an acceptance of differences. The researchers indicated that one strategy for curriculum access for all learners was the use of technology. The utilization of technology as a curricular support would promote access to the general curriculum by focusing on the remediation of skill deficits aligned to essential core standards.

The researchers indicated the importance of utilizing principles of UDL to enable students with differing cognitive levels to access the general curriculum. In addition, the researchers suggested instructional strategies and accommodations to promote curriculum access for all students such as teaching big ideas with scaffolding and utilizing prior knowledge as a pre-assessment for instructional design. According to the researchers, having a beginning for specifically designed instruction for skill acquisition with the utilization of UDL would promote a curriculum design with positive outcomes for students with disabilities.

Downing (2006) expressed the need for change in personnel preparation programs by increasing training on individualization with curricular adaptations in order to raise expectations and ensure access to the general curriculum for students with severe disabilities, as there was concern as to whether teachers had the foundation of knowledge for curriculum alignment to state standards. The researcher revealed that states were straining to align meaningful instruction with grade appropriate content for curriculum access. In addition, the researcher conveyed concern that though there was emerging literature with effective instructional practices for students with severe disabilities, this population of students was still being served in specialized classrooms with a curriculum

focus on functional skills only, rather than inclusive settings with opportunity for academic engagement.

For academic engagement, the researcher recommended that both general educators and special educators should consider utilizing universal design for learning (UDL) to align content for all learners, though considerable time would be spent in collaboration on the depth of alignment for students with the most significant cognitive disabilities. In addition, the researcher suggested utilizing peers as support in the classroom rather than a paraprofessional to promote a true inclusive design with natural supports, as peer supports would enhance social interactions, promote the development of friendships, and lessen the stigma of having a disability. The researcher indicated that to ensure curriculum access via inclusive design with principles of UDL and peer supports for students with severe disabilities, reform in special education practice was necessary and should begin with personnel preparation on curriculum alignment to grade appropriate content for meaningful access for students with severe disabilities.

The researcher determined that due to legislative mandates, there existed the need for continual examination of the curriculum frameworks within teacher education programs to ensure training on curriculum alignment to core content standards for students with disabilities. General and special education teachers alike needed intensive training on the depth and scope of curriculum linked to state standards that are meaningful and appropriate, as well as principles of UDL and evidence-based practices such as peer mediated instruction. As the researcher noted, this paradigm shift in examination of curriculum frameworks from a life-skills approach to an academic approach of teacher education programs may promote universal design for learning with specifically designed instructional practices for all students, including students with

significant cognitive disabilities. The researcher signaled that reform was necessary in teacher preparation programs for the foundation of understanding of specifically designed instruction that was research based and linked via depth and sequence to core state standards in order for optimal performance on state alternate assessment measures.

Hehir (2003) discussed his contention to a *one-size fits all* model of inclusionary practices and low expectations with students with disabilities rather than strategizing to accommodate a student with disabilities specific needs to enable full participation in a regular education setting. The researcher determined that the concept of universal design has not been utilized effectively to accommodate specific needs of students with disabilities to participate fully in instruction in the regular classroom setting, as students with significant disabilities tend to have too much support from support staff and not enough time spent with typically developing peers.

The researcher signified the importance of teaching skills to students with intellectual disabilities in a systematic approach with repetition and specific supports within the natural environment for promotion of universal design of learning. As a result of teaching with repetition and providing supports for students with intellectual disabilities, the researcher indicated that high expectations and positive academic outcomes that are age and grade appropriate for all students will be enhanced. For students with intellectual disabilities, stigma associated with labeling would be reduced and independence would be promoted. In addition, the researcher recommended that teacher training programs in special education should provide professional development in the individualization of instructional needs and supports matching the characteristics of specific disability categories with UDL approaches for inclusion.

Spooner, Baker, Harris, Ahlgrim-Delzell, and Browder (2007) conducted a study

of the effects of training in UDL on lesson plan development of 72 special and general education teachers. The researchers utilized a true experimental group design with a control group for the study to investigate the extent of lesson plan modification to include the components of UDL (representation, expression, and engagement). Specifically, the researchers determined the extent that the lesson plan reflected modification of classroom materials, alternate methods of communication, and the use of strategies to involve students in the learning process. A three-factor analysis of variance with repeated measures for each of the dependent variables (test score, representation, expression, and engagement) on the lesson plan pre and posttest for the control and experimental groups indicated that the treatment group made gains in their lesson plan development, and the control group displayed no gains. Results indicated that professional development for teachers in the design and implementation of the principles of UDL would promote lesson planning for all learners, including students with significant cognitive disabilities. The researchers indicated the need for future research in teacher training on the principles and application of UDL for curriculum access.

### **Formative Assessment**

In a salient article written by Black and Wiliam (1998), the researchers determined that formative assessment was the most important component of teaching practice. The researchers coined the *term formative* assessment as meaning adaptations to instruction based on evidence to meet the specific needs of the student. Though formative assessment was an emerging assessment strategy to inform instruction, the researchers wanted to know more; therefore, they conducted a comprehensive literature in response to their concerns. Questions to be answered were the relationship between formative assessment and increase in achievement standards, evidence of room for

improvement, and evidence about how to improve formative assessment.

In response to improvement of formative assessment and raising achievement standards, the researchers found that formative assessment benefited low achieving students and students with disabilities more than typically developing peers. This had a profound effect on students who were low achievers. As the researchers noted, they became more motivated to be involved in the curriculum with the evidence of experiencing gains, as they could be witness to their own progress. Addressing room for improvement, the researchers found that everyday formative assessment in the classroom was in need for educational reform, as many practitioners were not trained or given appropriate models to utilize formative assessment as a tool for developing specifically designed instruction. With regard to how to improve formative assessment, the researchers determined the importance of building a culture of success in the classroom for all learners. In addition, the researchers noted the importance of student self-assessment as a critical component of formative assessment, as students had a goal in mind, knew where they are achieving, and had an understanding of what they needed to do in order to increase performance.

As a result of the findings, the researchers made recommendations regarding reform of formative assessment for professional development. First, the researchers suggested to have expert teachers train other teachers of students with similar characteristics with a variety of examples. Second, the researchers stated the importance of allowing time for teachers to practice the use of formative assessment at their own pace according to their own planning and implementation styles. In addition, the researchers indicated the need to reduce barriers that may have a negative impact on formative assessment with regard to the alignment of ongoing progress monitoring to

summative tests with greater input by teachers. Finally, the researchers signaled the importance of the researcher's role in building upon the evidence that formative assessment works with new studies on teacher motivation, expectations of students, and the predictive validity of teachers' summative assessments linked to utilization of formative assessment to inform instruction.

DuFour and Stiggins (2009) provided recommendations of assessment and instructional decision-making tools to systematically identify student strengths and determine interventions for those skill deficit areas. To build a productive assessment system, the researchers indicated that there must be clear learning targets, a commitment to standards-based instruction, high-quality assessment, and effective communication among all stakeholders. These essential ideals would enable students to engage in higher order learning.

According to the researchers, for assessments to be high quality and meet proposed standards, there should be a purpose to instructional decision making. The researchers indicated that key concerns should include the instructional decision to be made, the person making the decision, and how information from the assessment guides decision making. The researchers suggested three levels of assessment as formative assessment to meet the purpose of programming, including classroom assessments, school-level assessments, and institutional-level assessments. The researchers indicated that classroom assessments provided stakeholders information as to what the student currently knows; therefore, supporting instructional decisions with regard to what concepts need to be taught next. According to the researchers, assessments should be ongoing as the student progresses toward the standard. Once the student meets criteria for mastery, formative assessment should continue to ensure maintenance. Secondly, the researchers

determined that school-level assessment, curriculum teams, and school leaders should have access to comparable data across classrooms to ensure standard mastery.

Professional learning communities can collaborate as teams to create common assessments to identify those curriculum areas in need for improvement. In addition, team members could reflect on their own strengths and weaknesses and welcome feedback from peers for improvement. Furthermore, common assessments can assist in identifying those students in need of specific instructional interventions.

As a result of common assessments, faculty reflection, and student intervention, school leaders and legislators need information as to student learning for accountability purposes. This would allow leaders to ensure student mastery and plan for comprehensive programming needs. In order to build productive assessments at all levels, the researchers signaled that there must be a framework of clear learning targets regarding essential skills for specific content areas linked to standards promoting learning for all students. Assessment should be aligned to learning objectives with the goal of student progress toward mastery.

Reeves (2007) determined that there were instructional strategies to promote achievement for diverse students, as practitioners continued ineffective instructional practices with toxic grading systems. The researcher emphasized the importance of planning curriculum and instructional strategies in the spring and summer prior to the beginning of school the following year to promote a positive classroom culture for the implementation of the practice of formative assessment as progress monitoring. The researcher explained that formative assessment should be short and ongoing to allow for meaningful feedback that teachers could use to plan for instruction in order to promote students' achievements. According to the researcher, planning ahead would invite a

positive culture that would allow for immediate feedback and assist in meaningful achievement gains, rather than using the previous year's test scores only as a measure of what the student knows. In addition, the researcher suggested frequent, brief formative assessments would allow teachers meaningful feedback to foster appropriate practice and maintenance of those skills.

The researcher indicated that planning with formative assessment would take time, and for some professional learning communities, formative assessment was a new strategy; therefore, expectation of quick change and the implementation of effective formative assessment strategies within the school culture may take time. Furthermore, the researcher suggested that allowing time for change would allow professional learning communities to focus on what was effective in closing the implementation gap specific to their classrooms in order to increase the performance of all students.

Stecker, Lembke, and Foegen (2008) determined that the use of curriculum-based measurement was a research-based practice for monitoring student progress and improving overall educational outcomes. The researchers described assessment tools for monitoring student progress and evaluating instructional effectiveness for teacher planning. This was in response to the legislative mandate No Child Left Behind Act of 2001 regarding high standards and accountability of evidenced-based instruction for all learners, including students with disabilities. The researchers indicated that one evidenced-based strategy was curriculum-based measurement. The researchers indicated that progress monitoring as curriculum-based measurement would inform teachers as to performance difficulties students were having and would allow for the tracking of gains toward proficiency in an academic goal.

As the researchers indicated, curriculum-based measurement was short, frequent



formative assessment to gauge what the student knows in order to adapt the instruction to progress toward mastery. In addition, the researchers revealed that formative assessment was more efficient in determining specific student need rather than the typical benchmark assessments that were given sporadically throughout the school year. Furthermore, the researchers added that benchmark assessments tended to measure student achievement in one academic area at a predetermined time; therefore, not adhering to the immediate student need for specifically designed instruction.

As a result of their study of curriculum-based measurement as an evidence-based practice, the researchers recommended procedures for teachers as a guide to planning. The researchers suggested selecting appropriate measurement materials for progress monitoring that would be utilized throughout the year, and emphasized the importance of utilizing reliable and valid tools for instruction design. In addition, the researchers suggested evaluating the rate of student growth over the course of the school year, monitoring changes of increased performance or decreased performance to adjust instructional design. Finally, the researcher signaled the importance of using progress monitoring to determine the current level of performance and plot scores toward mastery of the long-term goal. As a result of these procedures, the researchers concluded that curriculum-based measurement would provide formative assessment as evidence of performance and specifically designed instruction.

Yell, Katsiyannas, and Shiner (2006) described the impact of the federal legislation Individuals with Disabilities Education Improvement Act of 2004 (IDEIA) and the No Child Left Behind Act of 2001 (NCLB) in having states adhere to the rigorous accountability of student achievement. The researchers indicated that legislation called for all students, including students with disabilities, to demonstrate proficiency in math

and reading by 2014 for annual yearly progress (AYP). In addition, the researchers discussed the plight of legislative mandates requiring rigorous planning and the utilization of evidence-based practices to promote grade level achievement for accountability of students with disabilities, including students with the most significant cognitive disabilities who demonstrate proficiency with an alternate assessment aligned to the large scale state assessment.

In response to the legislative mandates of IDEIA and the NCLB with regard to demonstration of adequate yearly progress (AYP), the researchers offered suggestions to practitioners for assistance in helping students with disabilities score at the proficient level on state standards and meeting AYP, regardless of their abilities or nature and severity of disabilities. The researchers recommended that teachers must make more informed instructional decisions by conducting meaningful assessments, interpreting the assessments, and matching results with strategies for improvement. In addition, the researchers signaled that teachers must use scientifically-based research practices, as there was a tendency of not utilizing what has been proven to work. Furthermore, the researchers conveyed the importance of matching the learner's specific characteristics with the necessary accommodations for ongoing support in the instructional and progress monitoring setting. Finally, the researchers recommended extensive use of formative assessment as progress monitoring to ensure meaningful instructional design linked to assessment. The researchers advised these strategies to develop meaningful programs for students with disabilities and accountability based on assessment as required by legislative mandates.

### **Teacher Training**

In a study conducted by Ball and Forzani (2010), the researchers described the

importance of teacher training on identifying specific practices to enhance achievement of all learners. The researchers determined that learning to teach required explicit knowledge, skills, and dispositions to meet the diverse instructional needs of students. In addition, the researchers indicated that teacher education programs were not adequately preparing pre-service teachers on evidence-based practices, as many pre-service and in-service teachers did what they wanted to do in the classroom rather than utilizing evidenced-based strategies that have been proven to work. Because of their concerns, the researchers recommended reform of competency-based teacher education, as teaching required specialized skills along with content knowledge for effective teaching.

The researchers determined that teacher education reform should include specific strategies in how to utilize questioning techniques linked to content in order to prompt higher order thinking skills. In addition, the researchers established the importance of teacher training regarding relevance to the content and corresponding instructional activities with formative assessment as a check for understanding. Finally, the researchers indicated the importance of teacher training on how to conduct a classroom discussion, as teachers should be trained in how to guide student discussions by setting parameters for exchanges that are engaging and purposeful. The researchers signified that these strategies would allow for the utilization of evidence-based strategies for teacher education reform to enhance achievement of all learners.

For students with low incidence disabilities, Ludlow, Conner, and Schechter (2005) conducted a national study of the current and future trends of personnel preparation in low incidence disabilities and indicated the need for personnel preparation in teaching students with low incidence disabilities such as significant cognitive disabilities. The researchers discovered that though preparation of students in low

incidence populations was a national priority by the U.S. Office of Special Education Programs, many universities deemed the specialized training of students with extensive needs expensive; therefore, programs were not sustainable. As reported by the researchers, this may be in contradiction to the fact that the U.S Office of Special Education Programs has offered competitive personnel preparation grants in low incidence disabilities under Part D of the Individuals with Disabilities Act (IDEA), which has disseminated progressive strategies to enhance delivery services to rural communities, yet many universities continue to cease to remain vigilant in grant maintenance by non-renewal of funding opportunities.

The researchers identified 118 university personnel preparation programs to work with students with severe disabilities, with two-thirds (77) of programs delivered in doctoral institutions located primarily in the eastern section of the United States. As noted in the study, low incidence teacher education programs were essentially located in doctoral institutions due to the nature of specialized expertise by expert professors in training for systematic instruction.

Implications for the study were disclosed by the researchers in order to address the ongoing shortage of special education teachers, as shortages were severe primarily in areas of the south, southwest, and the west, as there were few institutes of higher education that offer programs in preparation of teaching students with severe disabilities, and the programs that were available may lack the depth of training in instructional practices required to meet the extensive needs of students with severe disabilities. In addition, the researchers acknowledged that the issue would get progressively worse as there would be more students in this population to serve and not enough teachers to serve them, as there were not enough centrally located personnel preparation programs, and

what programs were available had low enrollments. This may be due the No Child Left Behind Act of 2001 (NCLB) that mandated that all special education teachers must achieve highly qualified status for state certification; therefore, requiring additional criteria for completion of coursework and standardized tests for state certification, resulting in fewer students enrolling in teacher preparation programs in the field of special education. Because of the rigid additional coursework to meet varying state requirements for the highly qualified status and the additional standardized tests for state certification, out-of-pocket expenses for students are currently, and would be in the future, on the rise; consequently, diminishing the recruitment opportunity of potential teacher candidates in the field of special education in locations where there was the greatest need, specifically in the geographic regions and rural areas where shortages are more evident.

As a result of the plight of teacher preparation programs in special education, the researchers recommended that additional studies were necessary in determining teacher shortages in low incidence disabilities in each state, specifically in rural areas of each state, tracking the number of teacher candidates entering and completing programs, and in what school systems they are employed. In addition, the researchers suggested that studies were needed to explore the use of distance delivery education systems with regard to the extent of quality programming in geographical areas where there were few to none in low incidence teacher preparation.

An additional study by Collins (2007) signified the challenges of teaching students with severe disabilities and suggested the need for providing strategies for practice and appropriate coursework to promote teachers who were highly qualified. The researcher noted that this was especially true in rural areas where there were few teachers

of students with significant cognitive disabilities to collaborate with and there may be a lack of access to course work or training at local colleges. In addition, the researcher indicated that teachers in rural areas tended to lack the knowledge in data collection systems in behavior management and instruction. Furthermore, the researcher discussed the plight of states aligning content and assessment with relevancy to the functional needs of students with significant cognitive disabilities. Moreover, the researcher indicated the need for teacher preparation in showing evidence of instructional design with progress monitoring for students with significant cognitive disabilities. Because of these concerns, the researcher suggested that reform was necessary in developing viable alternate certification programs, the provision of distance education delivery, federal funding for personnel preparation in severe disabilities, and flexibility within legislation with regard to the highly qualified status.

Courtade and Ludlow (2008) discussed concerns of the content of personnel preparation programs for teaching students with significant cognitive disabilities as there was debate on how special education teachers should be trained to meet their specialized needs. The researchers suggested that although legislative mandates included grade appropriate instruction in the least restrictive environment for students with disabilities, the content of the curriculum frameworks of many personnel preparation programs in the field of severe disabilities has not been revised to include the academic emphasis of linking instruction to state content standards. In addition, the researchers raised questions regarding the failure of personnel preparation programs in training special education teachers to utilize systematic instruction for the unique needs of students with the most significant cognitive disabilities; therefore, teachers may be undertrained with a high risk for burnout and attrition from the field. As a result of these concerns, the researchers

proposed professional development with teacher training in current research-based strategies to meet the specialized needs of students with significant cognitive disabilities.

Delano, Keefe, and Perner (2009) illustrated their concerns for the challenges of teacher education programs training prospective practitioners in meeting the unique needs of students who need intensive functional supports, yet ensuring access to the general curriculum. The researchers noted that one issue with teacher training in severe disabilities was the inconsistencies across programs and the frameworks of course content. They contended that there was little research available to determine what teacher preparation programs in severe disabilities should include. From a philosophical view, the researchers indicated the need for teacher training programs to prepare teachers with the knowledge, skills, and dispositions to provide students with developmental disabilities meaningful learning and social experiences in the spirit of inclusion. In addition, the researchers noted that pre-service teachers in special education should be trained in the general core curriculum with systematic instructional strategies for students with extensive support needs. Furthermore, the researchers indicated a critical need for further research to inform practitioners of the competencies necessary in teacher education programs to improve outcomes for students with extensive needs.

An additional study conducted by Lee, Soukup, Little, and Wehmeyer (2009) utilized a multilevel regression and determined the importance of teacher training in curricular modifications and accommodations for students with intellectual disabilities for access to the general curriculum. The researchers indicated that as a result of the reauthorization of the Individuals with Disabilities Education Improvement Act (IDEIA), all students with disabilities should have access to the general curriculum with supplementary supports that include curriculum adaptations and modifications of the

physical environment, have access to assistive technology, and have an approach to an educational opportunity to include specific instructional accommodations that are linked to grade appropriate standards. In addition, the authors suggested that effective research-based instructional practices would align with the No Child Left Behind (NCLB) mandate of utilizing evidence-based practices in the classroom, such as the application of the curricular modification of graphic organizers as a support for curriculum access. Furthermore, the researchers indicated that the educational setting of students receiving services for specifically designed instruction was a predictor of curriculum access. Students receiving instruction in the general education setting were more likely to access grade appropriate instruction, though principles of universal design for learning (UDL), including curricular modifications, were used sparingly. Moreover, the researchers noted that the degree of grade appropriate curriculum access was higher during teacher directed instruction in the general education setting than in separate classrooms where students were primarily given low level seatwork.

Findings of the study revealed that teacher variables such as teacher instructional strategies and behavioral management were strong predictors of positive outcomes for students, as student and teacher variables were associated with the degree of grade appropriate curriculum access. In addition, the researchers found that the educational setting of services that received grade appropriate supports impacted the degree to which students access the general curriculum.

As a result of the findings, the researchers suggested that implications for practice should include reform for teacher education programs in general education and special education that constitute a curriculum framework of courses with the focus on intensive strategies to meet the unique needs of all learners, specifically instructional strategies and



assessment centered on specific curriculum modifications and augmentations, both for students with mild and severe disabilities. In addition, the researchers indicated that training on grouping strategies as a support may improve social interactions among peers and curriculum access for meaningful learning for students with disabilities.

Furthermore, as the researchers determined in their study that students participating in content linked to on grade level standards were more likely to initiate and engage in responses to tasks, and students engaged in tasks that were off grade level were less likely to be responsive.

The researchers indicated that general education teachers may have the advantage over special education teachers with content knowledge, but may lack the training on supplementary supports specific to instructional design for students receiving special education. In addition, the researchers indicated that though there was emerging literature regarding access to the general curriculum via curriculum modifications for students with intellectual disabilities, there still existed a gap in the research of curriculum modifications for curriculum access with the influence of curriculum alignment as a result of universal design of learning for all learners, specifically for students with intellectual disabilities.

### **Summary**

To build on the existing literature as indicated by prior studies, reform deemed necessary for teacher training programs in special education to meet the challenges of legislative mandates on high quality grade appropriate instruction for all students, including students with significant cognitive disabilities. As indicated by legislative mandates and supported by current research, all students should have specifically designed instruction linked to the IEP that included meaningful engagement to instruction

and assessment that was grade appropriate with the necessary curriculum adaptations and accommodations for curriculum alignment to access state standards. As revealed through the literature, an approach to ensure access to the general curriculum was universal design for learning that included curriculum alignment to the state standards through differentiated instruction, specific supports such as instructional accommodations and modifications, and progress monitoring for students with disabilities.

In response to the call for teacher training on curriculum alignment to state standards for students with significant cognitive disabilities, the researcher utilized mixed-methods research in order to build on the current literature for the enhancement of high quality programming for students with disabilities concerning perceptions of pre-service teacher training on variables of (a) lesson planning linked to the student individualized education program, (b) lesson planning aligned to state standards, (c) universal design for learning aligned to state standards, (d) integration of curriculum aligned to state standards, and (e) progress monitoring aligned to state standards for students with developmental disabilities.

## Chapter 3: Methodology

### Problem to be Addressed

Teacher training concerning curriculum alignment for students with developmental disabilities is necessary for linking instruction to state academic standards that exceed the functional domain. Historically, the educational curriculum for students with developmental disabilities has centered on functional daily living skills with little emphasis on academic skills (Collins, 2007). Because legislative mandates require that students with disabilities participate in district-wide and state assessments with the right to grade appropriate instruction for curriculum access, teacher reform and curriculum alignment within the conceptual frameworks of coursework in teacher education programs are critical.

Teacher reform regarding teacher alignment will promote 21<sup>st</sup> century ideals of equity of learning for all students, specifically for students with cognitive deficits. Browder et al. (2007) indicated that federal policy required students with disabilities to participate in large-scale assessments. This included students with significant cognitive disabilities; therefore, students in this population must have alternate achievement standards that are aligned to grade level content. Though there was little research available regarding strategies for curriculum alignment for students with significant cognitive disabilities, the researchers conveyed that there was much work to be done for teachers to link instruction and assessment for access to the general curriculum that moved beyond the functional curriculum.

Unfortunately, the literature was clear that there was little research identifying specific instructional strategies for curriculum alignment for access to the general curriculum for students with extensive needs; therefore, there existed the need for teacher

training on teaching meaningful academic skills echoed with functional skills for curriculum alignment to state content for students with cognitive deficits.

In response to the call of researchers for further research on curriculum alignment and instructional design for increased performance for students with cognitive deficits, the researcher conducted a study utilizing mixed-methods research to determine the extent of perceptions of pre-service teacher training concerning curriculum alignment for students with developmental disabilities. The purpose of this study was to examine the extent of perceptions of pre-service teacher training concerning curriculum alignment to improve pre-service teacher training, specifically with regard to (a) lesson planning linked to the student individualized education program, (b) lesson planning aligned to state standards, (c) universal design for learning aligned to state standards, (d) integration of curriculum aligned to state standards, and (e) progress monitoring aligned to state standards for students with developmental disabilities.

### **Research Questions**

The researcher utilized the following questions to direct the focus of the study:

1. To what extent are perceptions of pre-service teachers concerning lesson planning linked to the student individualized education program?
2. To what extent are perceptions of pre-service teachers concerning lesson planning aligned to the state standards for students with developmental disabilities?
3. To what extent are perceptions of pre-service teachers concerning universal design for learning aligned for students with developmental disabilities?
4. To what extent are perceptions of pre-service teachers concerning the integration of curriculum aligned to the state standards for students with developmental disabilities?

5. To what extent are perceptions of pre-service teachers concerning progress monitoring aligned to state standards for students with developmental disabilities?

### **Participants**

To acquire answers to the proposed research questions, data collection was conducted from participants recruited through convenience sampling from a teacher education pre-service program in special education. To control for threat to external validity of the study, the participants in the study were accessible and a representative sample of the target population of special education majors in teacher education programs who provided services for students with developmental disabilities. The participants in the study were pre-service teachers who completed their internship in the field of special education from a southeastern university in the spring of 2011.

### **Limitations and Delimitations**

A limitation of this study included teacher training of pre-service teachers from one southeastern university; therefore, results may not be generalized to other teacher education programs at other higher education institutes. For the purpose of this study, students without cognitive deficits were excluded, as the focus of the study was supported by the need of the examination of curriculum alignment for students with cognitive deficits as supported by current literature.

### **Research Design**

A mixed-method research design with collection of both quantitative and qualitative data was the design of the study. Mixed-method research allowed for the strengths of both quantitative and qualitative research to offset any weaknesses of the other (Gay, Mills, & Airasian, 2009).

Quantitative research tended to examine the relationship among variables to see if

one variable influenced the other. In the quantitative research, the literature review played a significant role in justifying the need for the study. In addition, measurable and observable data were inspected as data collection were numeric in nature to respond to the narrow (closed) research questions. From the quantitative data collection, there was a descriptive and statistical analysis of the relationship between the study variables that may be generalized from a small group of participants to a larger group of people.

Qualitative research was a type of educational research in which the researcher relied on the views of participants, asking broad, general questions, collecting data consisting largely of words (or text) from participants, describing and analyzing these words for themes, and conducting the inquiry in a subjective, biased manner. (Creswell, 2005, p. 39)

For the study, qualitative research tended to look for deeper meaning or trends of the unique issue controlled by the researcher. In addition, the qualitative research tended to be non-numerical and relied on categorizing and organizing data systematically to produce a descriptive analysis, deeper meaning, or trends of the unique issue controlled by the researcher. Furthermore, from the qualitative data collection, there was an analysis of themes to explore the issue of the perceptions of pre-service teacher training concerning curriculum alignment for students with developmental disabilities.

Closed and open-ended questions via a survey (see Appendix A) was utilized as the survey design for the study in order to examine the extent of the perceptions of pre-service teacher training concerning curriculum alignment for students with developmental disabilities. By virtue of no specific prior studies of this nature, no other survey instrument for data collection was available; therefore, the researcher designed the

survey instrument that was utilized for the data collection of this study. The survey consisted of structured items as closed-ended items by response selection of items on a Likert scale and unstructured items as open-ended responses to glean answers to the research questions. Responses were aligned to a 5-point Likert scale ranked as follows: 1 = strongly agree, 2 = agree, 3 = neither agree or disagree, 4 = disagree, and 5 = strongly disagree in the investigation of pre-service teacher perceptions concerning the independent variable, teacher training, on the dependent variables of (a) lesson planning linked to the student individualized education program, (b) lesson planning aligned to state standards, (c) universal design for learning aligned to state standards, (d) integration of curriculum aligned to state standards, and (e) progress monitoring aligned to state standards for students with developmental disabilities. The dependent variables were measured by the independent variable, perceptions of pre-service teacher training.

Responses to open-ended questions through interviews were included in an elaboration of the extent of pre-service teacher perceptions concerning teacher training on lesson planning for curriculum alignment that was academic, yet functional. In addition, open-ended questions addressed the extent of perceptions of pre-service teacher training concerning universal design for learning and curricular modifications and accommodations. Furthermore, open-ended questions attained the extent of pre-service teacher perceptions on the utilization of formative assessment as a tool to design specifically designed instruction for students with developmental disabilities.

Reliability of the survey was conducted for internal consistency by utilizing a Cronbach's alpha to indicate a coefficient for item consistency. Because this was an original study, there were no previous survey instruments to be utilized; therefore, the survey was an original survey design created by the researcher. Due to the original

survey design, an expert group of five professors in instructional design evaluated the survey design to ensure content and construct validity, therefore, controlling the threat to internal validity of the study.

Descriptive statistics were utilized to analyze the ordinal data and included measures of central tendency and measures of variability to examine the extent of perceptions of pre-service teacher perceptions of teacher training concerning the dependent variables of (a) lesson planning linked to the student individualized education program, (b) lesson planning aligned to state standards, (c) universal design for learning aligned to state standards, (d) integration of curriculum aligned to state standards, and (e) progress monitoring aligned to state standards. Qualitative data analysis consisted of focusing on key aspects of the data, eliminating unrelated ideas and narrowing those key aspects into descriptions of emerging themes for deeper gleaning of the phenomena regarding pre-service teacher training concerning curriculum alignment for students with developmental disabilities. As a result of the mixed-methods research design, responses to the research questions were answered in order to improve pre-service teacher training on curriculum alignment to enhance achievement outcomes of students with disabilities, specifically students with developmental disabilities.

### **Data Collection Process**

For convenience sampling, the researcher selected “participants because they were willing and available to be studied” (Creswell, 2005, p. 149). With the process of selecting participants and the site, the researcher utilized prior knowledge as a university supervisor and instructor of pre-service teachers to ensure a representative group of the population of all pre-service teachers in special education pre-service teacher education programs for the study. The population in the study consisted of pre-service teachers



who completed their teacher training in special education and provided specifically designed instruction for students with developmental disabilities. Convenience sampling was a non-random method of sampling, but prompted a rich, in-depth study of the given research questions regarding curriculum alignment for students with developmental disabilities.

After permission from the Institutional Review Board at Gardner-Webb University, recruitment of participants with informed consent ensued. The researcher contacted prospective participants by telephone and explained the purpose of the study and the significance of the research project. Within the conversation by telephone, the researcher set up a mutually agreeable time with the potential participant in order to discuss the study further. In addition, the researcher indicated that she would review the informed consent agreement form with the prospective participant, collect signatures, and collect data with a closed item survey and face-to-face interview.

The informed consent agreement (see Appendix B) for prospective participants included the purpose of the study, possible risks, and the right to withdraw from the study at any time. In addition, the potential participants were informed that the survey results from the data collection were anonymous, confidential to protect privacy, and stored in a locked file cabinet.

### **Summary**

In response to the call for teacher reform in curriculum and instruction, the literature was clearly in support of additional research in teacher training on curriculum alignment for access to the general curriculum for students with disabilities, specifically for programming in the category of developmental disabilities. This reform was needed as a result of legislative mandates requiring that students with disabilities participate in

district-wide and state assessments with the right to grade appropriate instruction for curriculum access for equity of learning for all students. The purpose of this study was to examine the extent of perceptions of pre-service teacher training in special education concerning curriculum alignment for students with developmental disabilities in order to improve pre-service teacher training in special education. Mixed-methods research consisting of quantitative and qualitative data collection was the design for the study.

Structured and unstructured opportunities of pre-service teacher responses were utilized and analyzed with descriptive statistics and qualitative analysis to answer the research questions regarding pre-service teacher perceptions of teacher preparation on curriculum alignment. Data analysis of the data collection was analyzed and reported, and findings of the study are presented in Chapter 4 of this dissertation. Chapter 5 of this dissertation includes a discussion of the results, implications for practitioners, and recommendations for future research.

## Chapter 4: Findings

### Introduction

Many students with developmental disabilities are still being served in self-contained classrooms with a life-skills instructional approach only, though legislative mandates ensure equal access to grade appropriate curriculum (Downing, 2006). As a result of this problem that correlates in response to the call of researchers for reform and further research concerning teacher training on curriculum alignment and instructional design for students with cognitive deficits, the researcher conducted a study utilizing mixed-methods research. A mixed-methods design was utilized as quantitative and qualitative data were collected to answer the research questions. The mixed-methods research design consisted of a survey with structured items as closed-ended items by response selection via a Likert scale and unstructured items as open-ended responses. In addition, face-to-face interviews included further prompts in eliciting responses for determining the extent of perceptions of pre-service teacher training concerning curriculum alignment for students with developmental disabilities. Specifically, the purpose of this study was to determine the extent of perceptions of pre-service teacher training with regard to the following research questions:

1. To what extent are perceptions of pre-service teachers concerning lesson planning linked to the student individualized education program?
2. To what extent are perceptions of pre-service teachers concerning lesson planning aligned to the state standards for students with developmental disabilities?
3. To what extent are perceptions of pre-service teachers concerning universal design for learning aligned for students with developmental disabilities?
4. To what extent are perceptions of pre-service teachers concerning the

integration of curriculum aligned to the state standards for students with developmental disabilities?

5. To what extent are perceptions of pre-service teachers concerning progress monitoring aligned to state standards for students with developmental disabilities?

### **Participants**

Data collection by the researcher followed the Gardner-Webb University Institutional Review Board approval. Data collection was conducted from participants recruited through convenience sampling from a teacher education pre-service program in special education at a southeastern university. The researcher requested and received a list of students who completed their special education internship from the field placement office of the southeastern university in the spring of 2011. Eight of the 11 prospective participants (73%) agreed to participate in the study. After comparing similarly sized teacher education programs, the participants were a representative sample of the population of special education majors in teacher education programs who provided services for students with developmental disabilities. Participants were informed as to the purpose of the study, methodology, procedures, risks, benefits, and confidentiality with the right to withdraw from the study at any time. In addition, the participants were provided the researcher contact information for further inquiry. Each participant was provided a copy of the informed consent agreement that was signed and dated by the participant and the researcher. The university research site Institutional Review Board required that no demographic information of participants be included in the study due to the small sample size and the possibility of identifying information.

### **Data Collection**

Quantitative data were collected by a survey of closed items to glean responses

regarding the independent variable of perceptions of pre-service teacher training on the dependent variables of (a) lesson planning linked to the student individualized education program, (b) lesson planning aligned to state standards, (c) universal design for learning aligned to state standards, (d) integration of curriculum aligned to state standards, and (e) progress monitoring aligned to state standards for students with developmental disabilities. The survey consisted of 14 closed-ended items by response selection of items on a Likert scale with a minimum and a maximum extent of numerical responses. Responses were aligned to a 5-point Likert scale ranked as follows: 1 = strongly agree, 2 = agree, 3 = neither agree or disagree, 4 = disagree, and 5 = strongly disagree. Descriptive statistics were utilized to analyze the ordinal data and included measures of central tendency and measures of variability. Reliability of the survey was conducted for internal consistency by utilizing a Cronbach's alpha to indicate a coefficient for item consistency.

Qualitative data were obtained from participant interviews by asking open-ended questions that were aligned to the research questions. As a result of the interviews, probes to engage the participant in responses prompted in-depth reflections regarding their experiences in pre-service teacher training. To glean the perspectives of participants, face-to-face structured and unstructured interviews were administered with one participant in the study at a time. Structured interviews included an interview protocol of open-ended predetermined questions for detailed responses. Unstructured interviews elicited informal conversation with subsequent additional details that enhanced the understanding of the study. Data collection consisted of note-taking during the interviews with member checking to provide participants the opportunity to clarify any misinterpretation of the data provided and also confirmed their perceptions

supporting validity of the study. Data were organized with hand analysis, and filed systematically with file folders. After organization of the data, the researcher read and became familiar with the data, examined patterns, and noted ideas with reflection of potential themes. Analyzing the data included coding for broad themes. As themes emerged, connections resulting in the in-depth understanding of the phenomenon became apparent, as research questions were answered and reported.

### **Reporting of Quantitative Data**

After each research question is stated, a table is displayed by the independent variable concerning the dependent variable for visual analysis. Following each table, a narrative explanation of the quantitative data collected from participants links to the research question.

**Research Question 1: To what extent are perceptions of pre-service teachers concerning lesson planning linked to the student individualized education program?**

Table 1

*Perceptions of Pre-Service Training on Lesson Planning linked to the Student Individualized Education Program*

Item	Response	Frequency of response	% response rate
6. In my lesson planning, I include specific accommodations according to student IEP.	Strongly Agree	7	87.5%
	Agree	1	12.5%
12. I embed instruction from IEP goals into my lessons.	Strongly Agree	4	50%
	Agree	2	25%
	Neither Agree/Disagree	0	
	Disagree	2	25%
Subjects		8	100%

*Note:*  $N = 8$ .

Item 6 and item 12 of the survey assessed the respondents' perceptions of teacher training concerning lesson planning linked to the student individualized education program (Table 1) and were aligned to a 5-point Likert scale ranked as follows: 1 = strongly agree, 2 = agree, 3 = neither agree or disagree, 4 = disagree, and 5 = strongly disagree. For item 6, respondents were asked to rate the inclusion of specific accommodations according to the student IEP. Eighty-seven and one-half percent ( $n = 7$ ) of respondents strongly agreed and 12.5% ( $n = 1$ ) of respondents agreed with the closed survey item relating to the dependent variable. For item 12, respondents were asked to rate embedding instruction from IEP goals into lessons. Fifty percent ( $n = 4$ ) of respondents strongly agreed, 25% ( $n = 2$ ) agreed, and 25% ( $n = 2$ ) disagreed with the closed survey item relating to the dependent variable.

**Research Question 2: To what extent are perceptions of pre-service teachers concerning lesson planning aligned to the state standards for students with developmental disabilities?**

Table 2

*Perceptions of Pre-Service Training on Lesson Planning Aligned to the State Standards*

Item	Response	Frequency of response	% response rate
1. I write instructional objectives aligned to state standards for students with developmental disabilities participating in the PASS assessment.	Strongly Agree	5	62.5%
	Agree	2	25.5%
	Neither Agree/Disagree	0	
	Disagree	1	12.5%
2. I write instructional objectives that are aligned to extended standards for students with developmental disabilities who are participating in the SC-Alt alternate assessment.	Strongly Agree	2	25%
	Agree	0	
	Neither Agree/Disagree	4	50%
	Disagree	2	25%
Subjects		8	100%

*Note:* N = 8.

Item 1 and item 2 of the survey assessed the respondents' perceptions concerning teacher training on lesson planning aligned to state standards (Table 2) and were aligned to a 5-point Likert scale ranked as follows: 1 = strongly agree, 2 = agree, 3 = neither agree or disagree, 4 = disagree, and 5 = strongly disagree. For item 1, respondents were asked to rate writing instructional objectives aligned to the state standards for students with developmental disabilities participating in on-grade level high stakes testing. Sixty-



two and one-half percent ( $n = 5$ ) of respondents strongly agreed, 25% ( $n = 2$ ) agreed, and 12.5% ( $n = 1$ ) disagreed with the closed survey item relating to the dependent variable. For item 2, respondents were asked to rate writing instructional objectives aligned to the extended standards for students with developmental disabilities participating in the alternate assessment high stakes testing. Twenty-five percent ( $n = 2$ ) of the respondents strongly agreed, 50% ( $n = 4$ ) neither agreed nor disagreed, and 25% ( $n = 2$ ) disagreed with the closed survey item relating to the dependent variable.

**Research Question 3: To what extent are perceptions of pre-service teachers concerning universal design for learning aligned for students with developmental disabilities?**

Table 3

*Perceptions of Pre-Service Training on Universal Design for Learning Aligned to State Standards*

Item	Response	Frequency of response	% response rate
3. I use materials that are age and grade appropriate for students with developmental disabilities.	Strongly Agree	5	62.5%
	Agree	3	37.5%
4. In my lesson planning, I write procedures to include strategies for differentiation of instruction to promote universal design of all learners.	Strongly Agree	7	87.5%
	Agree	1	12.5%
5. In my lesson planning, I include curricular modifications in order for students with developmental disabilities to access the general curriculum.	Strongly Agree	5	62.5%
	Agree	3	37.5%
9. In my lesson plan implementation, I utilize a hierarchy of prompting systems (systems of least prompts) for student access to curriculum.	Strongly Agree	3	37.5%
	Agree	1	12.5%
	Neither Agree/Disagree	2	25.0%
	Disagree	2	25.0%
Subjects		8	100%

Note: N = 8.

Item 3, item 4, item 5, and item 9 of the survey assessed the respondents' perceptions concerning teacher training on universal design for learning aligned to state

standards (Table 3) and were aligned to a 5-point Likert scale ranked as follows: 1 = strongly agree, 2 = agree, 3 = neither agree or disagree, 4 = disagree, and 5 = strongly disagree. For item 3, respondents were asked to rate the utilization of grade appropriate materials for students with developmental disabilities. Sixty-two and one-half percent ( $n = 5$ ) of respondents strongly agreed, and 37.5% ( $n = 3$ ) agreed with the closed survey item relating to the dependent variable. For item 4, respondents were asked to rate procedures in lesson planning to include strategies for differentiation of instruction to promote universal design for all learners. Eighty-seven and one-half percent ( $n = 7$ ), of respondents strongly agreed, and 12.5% ( $n = 1$ ) agreed with the closed survey item relating to the dependent variable. For item 5, respondents were asked to rate the inclusion of curricular modifications in lesson planning in order for students with developmental disabilities to access the general curriculum. Sixty-two and one-half percent ( $n = 5$ ) of respondents strongly agreed, and 37.5% ( $n = 3$ ) agreed with the closed survey item relating to the dependent variable. For item 9, respondents were asked to rate the utilization of the hierarchy of prompting systems (systems of least prompts) in lesson plan implementation for student access to the general curriculum. Thirty-seven and one-half percent ( $n = 3$ ) of respondents strongly agreed, 12.5% ( $n = 1$ ) agreed, 25% ( $n = 2$ ) neither agreed nor disagreed, and 25% ( $n = 2$ ) disagreed with the closed survey item relating to the dependent variable.

**Research Question 4: To what extent are perceptions of pre-service teachers concerning the integration of curriculum aligned to the state standards for students with developmental disabilities?**

Table 4

*Perceptions of Pre-Service Training on Integration of Curriculum Aligned to State Standards*

Item	Response	Frequency of response	% response rate
7. In my lesson planning, I create learning activities that are aligned to grade level standards and are academic, yet functional, for curriculum access.	Strongly Agree	5	62.5%
	Agree	3	37.5%
8. In my lesson plan implementation, I state the relevance to the purpose of instruction.	Strongly Agree	4	50.0%
	Agree	4	50.0%
10. In my lesson plan implementation for students participating in PASS, I teach academic skills that are functional in nature that align to alternate assessment measures.	Strongly Agree	4	50.0%
	Agree	3	37.5%
	Neither Agree/Disagree	1	12.5%
11. In my lesson plan implementation for those students participating in SC-Alt, I teach academic skills that are functional in nature that align to alternate assessment measures.	Strongly Agree	1	12.5%
	Agree	2	25.0%
	Neither Agree/Disagree	4	50.0%
	Disagree	1	12.5%
Subjects		8	100%

*Note: N = 8.*

Item 7, item 8, item 10, and item 11 of the survey assessed the respondents' perceptions concerning teacher training on integration of curriculum aligned to state

standards (Table 4) and were aligned to a 5-point Likert scale ranked as follows: 1 = strongly agree, 2 = agree, 3 = neither agree or disagree, 4 = disagree, and 5 = strongly disagree. For item 7, respondents were asked to rate the creation of learning activities in lesson planning aligned to grade level standards that were academic, yet functional, for curriculum access. Sixty-two and one-half percent ( $n = 5$ ) of respondents strongly agreed and 37.5% ( $n = 3$ ) agreed with the closed survey item relating to the dependent variable. For item 8, respondents were asked to rate the statement of relevance to the purpose of instruction in lesson plan implementation. Fifty percent ( $n = 4$ ) of respondents strongly agreed and 50% ( $n = 4$ ) agreed with the closed survey item relating to the dependent variable. For item 10, respondents were asked to rate the implementation of teaching academic skills that were functional and aligned to the state standards for students with developmental disabilities participating in on-grade level high stakes testing. Fifty percent ( $n = 4$ ) of respondents strongly agreed, 37.5% ( $n = 3$ ) agreed, and 12.5% ( $n = 1$ ) neither agreed nor disagreed with the closed survey item relating to the dependent variable. For item 11, respondents were asked to rate the implementation of teaching academic skills that were functional and aligned to the state standards for students with developmental disabilities participating in alternate assessment standards. Twelve and one-half percent ( $n = 1$ ) of respondents strongly agreed, 25% ( $n = 2$ ) agreed, 50% ( $n = 4$ ) neither agreed nor disagreed, and 12.5% ( $n = 1$ ) disagreed with the closed survey item relating to the dependent variable.

**Research Question 5: To what extent are perceptions of pre-service teachers concerning progress monitoring aligned to state standards for students with developmental disabilities?**

Table 5

*Perceptions of Pre-Service Training on Progress Monitoring Aligned to State Standards for Students with Developmental Disabilities*

Item	Response	Frequency of response	% response rate
13. I plan for formative assessment(s) that are aligned to my instructional objective.	Strongly Agreed	3	37.5%
	Agreed	4	50.0%
	No response	1	12.5%
14. I utilize formative assessment data to inform practice for specifically designed instruction.	Strongly Agreed	5	62.5%
	Agreed	3	37.5%
Subjects		8	100%

*Note:*  $N = 8$ .

Item 13 and item 14 of the survey assessed the respondents' perceptions concerning teacher training on progress monitoring aligned to state standards for students with developmental disabilities (Table 5) and were aligned to a 5-point Likert scale ranked as follows: 1 = strongly agree, 2 = agree, 3 = neither agree or disagree, 4 = disagree, and 5 = strongly disagree. For item 13, respondents were asked to rate planning for formative assessment that was aligned to instructional objectives. Thirty-seven and one-half percent ( $n = 3$ ) of respondents strongly agreed, 50% ( $n = 4$ ) of respondents agreed, and 12.5% ( $n = 1$ ) did not respond with the closed survey item relating to the dependent variable. For item 14, respondents were asked to rate the utilization of formative assessment data to inform practice for specifically designed instruction. Sixty-two and one-half percent ( $n = 5$ ) of respondents strongly agreed, and 37.5% ( $n = 3$ ) agreed with the survey item relating to the dependent variable.

SPSS Statistical Software was utilized for the calculation of descriptive statistics. The descriptive statistics were displayed quantitatively by the distribution of participant responses of the 14 closed-ended items by response selection of items on a Likert Scale (Table 6) with a maximum extent of agreement as 1 to a maximum of disagreement as 5. Included in the numerical analysis was the median, standard deviation, minimum, and maximum response for each survey item. A narrative explanation follows Table 6.

Table 6

*Respondent Perceptions Displayed by Descriptive Statistics of Mean, Median, Standard Deviation, Minimum, and Maximum Responses*

Items	Mean	Median	SD	Min	Max
Item 1	1.63	1.00	1.06	1.00	4.00
Item 2	2.75	3.00	1.64	1.00	4.00
Item 3	1.38	1.00	0.52	1.00	2.00
Item 4	1.13	1.00	0.35	1.00	2.00
Item 5	1.38	1.00	0.52	1.00	2.00
Item 6	1.13	1.00	0.35	1.00	2.00
Item 7	1.38	1.00	0.52	1.00	2.00
Item 8	1.50	1.50	0.54	1.00	2.00
Item 9	2.38	2.50	1.30	1.00	4.00
Item 10	1.63	1.50	0.74	1.00	3.00
Item 11	2.63	3.00	0.92	1.00	4.00
Item 12	2.00	1.50	1.31	1.00	4.00
Item 13	1.57	2.00	0.54	1.00	2.00
Item 14	1.38	1.00	0.52	1.00	2.00

*Note:* Lower score reflects positive response.

Based on participant responses, the items with the highest agreement (strongly agreed) were items 4 and 6 with 87% agreement. For item 4, respondents were asked to rate procedures in lesson planning to include strategies for differentiation of instruction to promote universal design for all learners resulting in a mean score of 1.13 ( $M = 1.13$ ), median score of 1.00 ( $Mdn = 1.00$ ), and standard deviation of .35 ( $SD = .35$ ). For item 6,

respondents were asked to rate the inclusion of specific accommodations according to the student IEP resulting in a mean score of 1.13 ( $M = 1.13$ ), median score of 1.00 ( $Mdn = 1.00$ ), and standard deviation of .35 ( $SD = .35$ ).

Based on participant responses, there were no maximum extents of disagreement as no participants selected strongly disagree; however, there was a level of disagreement as items with the lowest agreement (disagreed) were items 2, 9, and 12 with 25% disagreement. For item 2, respondents were asked to rate writing instructional objectives aligned to the extended standards for students with developmental disabilities participating in the alternate assessment high stakes testing resulting in a mean score of 2.75 ( $M = 2.75$ ), median score of 3.00 ( $Mdn = 3.00$ ), and standard deviation of 1.64 ( $SD = 1.64$ ). For item 9, respondents were asked to rate the utilization of the hierarchy of prompting systems (systems of least prompts) in lesson plan implementation for student access to the general curriculum resulting in a mean score of 2.38 ( $M = 2.38$ ), median score of 2.50 ( $Mdn = 2.50$ ), and standard deviation of 1.30 ( $SD = 1.30$ ). For item 12, respondents were asked to rate embedding instruction from IEP goals into lessons resulting in a mean score of 2.00 ( $M = 2.00$ ), median score of 1.50 ( $Mdn = 1.30$ ), and standard deviation of 1.31 ( $SD = 1.31$ ).

Cronbach's alpha was computed to estimate the internal consistency of the instrument survey items. To attain a Cronbach's alpha for reliability of survey items, SPSS Statistical Software was utilized to analyze the data set of participant responses. A reliability coefficient of ( $\alpha = .94$ ) was calculated as an estimate of internal consistency of the survey items. The reliability coefficient of ( $\alpha = .94$ ) indicated that the survey instrument exhibited internal consistency.



## **Reporting of Qualitative Data**

In-depth qualitative data were obtained from face-to-face participant interviews by asking open-ended questions that were aligned to the research questions. As a result of the interview process, probes to engage the participant in responses prompted extensive reflections regarding their experiences of the independent variable of pre-service teacher training concerning the dependent variables of (a) lesson planning linked to the student individualized education program, (b) lesson planning aligned to state standards, (c) universal design for learning aligned to state standards, (d) integration of curriculum aligned to state standards, and (e) progress monitoring aligned to state standards for students with developmental disabilities. To glean the perspectives of participants to answer the research questions, one-to-one structured and unstructured interviews were administered with one participant in the study at a time. From participant responses, data were analyzed and coded into themes. Themes from the data collection provided insight into answering the research questions. Themes that emerged from the interviews included the extent of pre-service teacher training on instructional alignment, meaningful content integration, strategies for using curriculum modifications and accommodations, and progress monitoring for students with developmental disabilities. Themes from the data collected are reported in the following narrative.

**Instructional alignment.** Four of eight respondents indicated that they were well prepared in all of the elementary content areas with regard to locating the corresponding grade level standards for writing lesson plans for those students who were performing on or near grade level at the elementary level. Though respondents described proficiency in writing lesson plans at the elementary level, there was concern for writing lesson plans at the secondary level. One respondent indicated being “very prepared in writing lesson

plans linked to the IEP and standards at the elementary level, but received little training on how to write lesson plans related to the IEP and high school.” Three of eight respondents indicated concern for the lack of training in writing lesson plans linked to the IEP and high school transition as they noted that there was no coursework in the teacher education program for the secondary level, and a course was needed in secondary methods along with the elementary methods courses. Five of eight respondents indicated that more practice writing the IEP with alignment to the instruction needs of case studies across all ability levels in course work would be helpful in preparation for writing real IEPs in the future. Four of eight respondents noted that more preparation was needed in lesson plan implementation related to the IEP, as writing lesson plans linked to the state standards was stressed the most. One respondent said, “we can always make something fit from the IEP in the standards, but need more training on how to make it work with the IEP!”

Six of eight respondents suggested that because of the varying ability levels, preparation in how to utilize universal design as an approach to differentiate instruction from the IEP was critical and should be emphasized across all coursework in teacher education programs, not just the special education methods courses. In addition, six of eight respondents indicated that learning to align instruction to the standards should begin earlier in teacher education coursework and should build up to the internship experience, as learning how to differentiate instruction at the end of teacher preparation was not adequate. One respondent said, “more pre-service teacher training in strategies for linking the IEP with the universal design strategy of differentiation will help students with developmental disabilities be included in the regular classroom. Right now, we are just setting them up for failure.” In addition, two of eight respondents indicated that

writing lesson plans from the IEP linked to the standards for students participating in the on-grade level high stakes testing was easier than writing lesson plans from the IEP for students participating in the alternate assessment high stakes testing. One of eight respondents indicated that it was helpful that university faculty reviewed lesson plans of the teacher candidates to ensure that all components were addressed, including grade appropriate objectives, standards, materials, procedures, and assessment to differentiate instruction for all learners. Conversely, two of eight respondents suggested that more teacher training was needed on aligning lesson plans to the extended standards to ensure materials and procedures were age appropriate, as they indicated that they received no preparation in how to do so. In addition, two of eight respondents determined that there was little preparation of how to include a system of least prompts in procedures for students to access the curriculum and that more training was needed, especially for special education teacher candidates. Two of eight respondents indicated that there was a lack of clarity in how to include a system of least prompts aligned to the curriculum, especially for those students who have the most needs.

Four of eight respondents claimed that they received no training on alternate assessment or how to write lesson plans aligning the IEP and the extended standards. In addition, four of eight respondents suggested that they were not prepared to use extended standards in preparation for the alternate assessment in the future. Two of eight respondents suggested that there was a disconnect with the pre-service training on writing lesson plans relating to real learning from the IEP and aligning instruction to grade level standards. One of eight respondents stated, “there has to be more training on how to write lesson plans to show that differentiation linking the IEP and the extended standards early in our classes with real students.”

**Meaningful content integration.** Four of eight respondents noted that pre-service training concerning the content of academic areas for elementary was sufficient, though not enough preparation was focused on functional skills and how to embed functional skills that were meaningful and integrated to the standards for students with developmental disabilities. One of eight respondents indicated the “need for a functional skills course” within the framework of teacher education courses for all teacher education candidates in order to understand how to integrate academic and functional procedures and skills in lesson planning and teaching linked to the standards. In addition, one of eight respondents suggested that “more pre-service teacher training is needed on how to write lesson plans and implement instruction that links to the grade level that the student is assigned to, but should be functional.” Five of eight respondents indicated the importance of learning how to integrate content that is academic, yet functional earlier in earlier course work and through earlier practical experiences. One of eight respondents suggested, “we need to teach the academic standard in a functional way to make the lesson meaningful.” In addition, one of eight respondents stated that “reflection of the instructional objective is key” in order to create ways to teach meaningful skills that are aligned to the standard. This respondent went on to state the need for pre-service training in lesson planning that has functional objectives linked to standards for all academic content areas K-12 “even for the hard standards that we don’t like to teach, as all learning activities should be taught to reflect real life.”

**Strategies for using modifications and accommodations.** Eight of eight respondents suggested that pre-service teachers in both special education and general education need more training on writing lesson plans that include specific modifications and accommodations as indicated from the IEP. Eight of eight respondents noted that

pre-service teacher training on modifications and accommodations was emphasized in the special education courses and not in the content courses. Three of eight respondents mentioned that more pre-service training had to be in place for knowing what curriculum modifications and curriculum accommodation strategies are, and the differences between the two. Two of eight respondents stated that they were confused about the strategies for curriculum modifications and curriculum accommodations, yet they were the ones who had to implement them or collaborate with the general education teacher about how to use them in their classrooms. One of eight respondents said, “how uncomfortable we are as special education pre-service teachers with using strategies for accommodations and modifications, especially with a student in a wheelchair or a student who is non-verbal. If we are uncomfortable, then the general education teacher will notice, and typically developing peers will pick up on it.”

Communication training with regard to curriculum modifications and curriculum accommodations as a strategy for universal design was a focus of the responses. Eight of eight respondents stated the importance of pre-service teacher training in strategies for communication needs across all teacher education courses for both special education and general education. One of eight respondents elaborated on the importance of learning communication needs for universal design of learning. The respondent said, “there is the need for learning the process of the multiple ways to assess communication needs. More training is needed for both special education and general education teachers to overcome the lack of understanding with what modifications and accommodations strategies are.”

One of eight respondents indicated the importance of all teacher education candidates being trained in characteristics of each of the specific categories of special education with the specific strategies for modifications and accommodations to meet the

specific needs of the individual student. The respondent went on to say, “exposure to the specific characteristics and strategies for the individual student will strengthen communication for inclusion.”

Six of eight respondents suggested that strategies utilizing curriculum accommodations and curriculum modifications should be emphasized earlier in pre-service training with earlier opportunities to practice in field experiences. One of eight respondents elaborated,

too much time is focused on the standards, not enough time on how to use modifications and accommodations. If we aren’t taught it, then how are we to go out in the field and model it? For inclusion, accommodations and modifications are not being used like they are supposed to in the general education classes.

**Progress monitoring.** Eight of eight respondents indicated exposure to using formative assessment as progress monitoring linked to the standards in their pre-service training. Two of eight respondents expressed not being sure of how to link objectives to the IEP for progress monitoring, and that training would be helpful. One of eight respondents expressed that more pre-service training was needed on how to link the IEP objective to formative assessment to design instruction. One of eight respondents stated, “we briefly addressed IEP goals and assessment. I’m not sure what to do with IEP goals and formative assessment to design instruction.” Two of eight respondents indicated that they felt prepared in using formative assessment as progress monitoring, but needed more training on how to use different examples of formative assessment in real settings.

One of eight respondents determined that that was a need in writing more instructional objectives linked to the IEP with assessments aligned to the state standards in course work before field experiences. The respondent stated, “I don’t necessarily do

IEP goals and assessment linked to the regular curriculum.” The respondent noted that they tended to be done in isolation rather in an inclusive setting, but that goals should be aligned to the regular curriculum with assessment.

Four of eight respondents suggested the need for more practice using formative assessment earlier in their teacher education programs in earlier field experiences. Three of eight respondents expressed the need for pre-service teacher training on how to use formative assessments to reteach a skill or when to move on in the curriculum. Two of eight respondents indicated the need for pre-service teacher training on different kinds of formative assessments to use as progress monitoring, with one of eight responding on the need to learn to use technology for progress monitoring aligned to the curriculum. In addition, one of eight respondents remarked the importance of “using daily reflections of data collected from formative assessments to design instruction” aligned to the state standards.

Three of eight respondents viewed the importance of formative assessment across all teacher education courses, not in just one special education class of assessment. The three respondents indicated the need for collaboration with general education teachers and the use of common assessments with individualization to the individual student for inclusion. One of the eight respondents concluded that there was a “need to use formative assessment to see what a student can do, and what strategies will be needed to promote inclusion.”

### **Summary**

Though legislative mandates ensure equal access to state standards for all students, including students with disabilities, many students with developmental disabilities are still lacking the opportunity for engagement in grade appropriate

instruction with the necessary supports for inclusion in the least restrictive environment (Downing, 2006). Due to this ongoing problem and the call of researchers for reform and further research concerning teacher training on curriculum alignment and instructional design for students with cognitive deficits, the researcher conducted this study utilizing a mixed-methods research design. The data collection consisted of a survey with structured items as closed-ended items by response selection via a Likert scale and unstructured open-ended questions with elaboration during interviews to determine perceptions of pre-service teacher training concerning curriculum alignment for students with developmental disabilities. Participants in the sample were a representative sample of the population of special education majors in teacher education programs who provided services for students with developmental disabilities. Eight of the 11 prospective participants (73%) agreed to participate in the study. Descriptive statistics consisted of measures of central tendency and measures of variability with regard to the ordinal data from participants' responses, and were analyzed and reported as quantitative data. Themes that emerged with the data collection from the participant interviews were reported as qualitative data, and provided deeper insight into the answers of the research questions.



## Chapter 5: Discussion

### Introduction

According to researchers Browder et al. (2006), students with developmental disabilities should be able to have the opportunity to access the grade appropriate curriculum in the least restrictive environment as mandated by legislative mandates and evidence of learning. The researchers concluded that teacher training must include strategies for curriculum access with alignment and progress monitoring linked to the IEP and the state standards, including the extended state standards, as this population of students were still receiving a life-skills instructional approach only.

In response to the call of available literature on teacher training reform, the researcher's purpose of this research study was to examine the extent of perceptions of pre-service teacher training on curriculum alignment in order to improve pre-service teacher training in special education; therefore, the researcher examined the independent variable of perceptions of pre-service teacher training concerning the following dependent variables: (a) lesson planning linked to the student individualized education program, (b) lesson planning aligned to state standards, (c) universal design for learning aligned to state standards, (d) integration of curriculum aligned to state standards, and (e) progress monitoring aligned to state standards for students with developmental disabilities.

From the available research, research questions emerged for further inquiry. The following research questions directed the focus of the study:

1. To what extent are perceptions of pre-service teachers concerning lesson planning linked to the student individualized education program?
2. To what extent are perceptions of pre-service teachers concerning lesson

planning aligned to the state standards for students with developmental disabilities?

3. To what extent are perceptions of pre-service teachers concerning universal design for learning aligned to state standards for students with developmental disabilities?

4. To what extent are perceptions of pre-service teachers concerning the integration of the curriculum aligned to the state standards for students with developmental disabilities?

5. To what extent are perceptions of pre-service teachers concerning progress monitoring aligned to state standards for students with developmental disabilities?

A mixed-methods research design was utilized to collect quantitative and qualitative data to answer the research questions. A summary of the findings and conclusions with regard to the research questions are included.

### **Summary of Findings and Conclusions**

Eight of the 11 prospective pre-service participants (73%) agreed to participate in this research study. With regard to the data collection, the participants responded to closed and open-ended item survey prompts, and face-to-face interviews elicited additional responses to answer the research questions. From the data collection of participant responses on the closed item surveys, descriptive statistics of the ordinal data were analyzed and reported as percentages of the extent of agreement, and measures of central tendency and measures of variability. From the data collection of participant responses to the face-to-face interviews, responses were coded for trends and reported as themes.

**Research Question 1: To what extent are perceptions of pre-service teachers concerning lesson planning linked to the student individualized education program?**

Findings for Research Question 1 included participant responses of perceptions of pre-service teacher training concerning lesson planning linked to the student individualized education program (IEP). With regard to including lesson planning and accommodations and modifications from the IEP, seven of eight respondents indicated a strong level of agreement and one of eight respondents agreed. Though respondents noted a high level of agreement with regard to including accommodations and modifications in lesson planning as indicated by the IEP, all respondents revealed that pre-service teachers in both special education and general education needed more training on writing lesson plans that include specific modifications and accommodations related to the IEP. Eight of eight respondents determined that training on accommodations and modifications was emphasized in the special education courses, and not in the general education content courses. As a result of these findings, pre-service teacher training would benefit from training in the utilization of strategies for curriculum accommodations and modifications in all content areas.

With regard to embedding instruction from IEP goals into lessons, four of eight respondents determined a strong level of agreement and two of eight agreed. Though respondents indicated a high level of agreement to embedding instruction from IEP goals into lessons, more preparation was needed in lesson plan implementation related to the IEP, as the importance of writing lesson plans to the state standards was emphasized in teacher preparation the most, not the specific targeted need of the student. Due to the varying student ability levels, preparation on how to differentiate instruction from the IEP should be a focus of teacher preparation for all teacher candidates; therefore, it should be emphasized in all teacher education courses, not just the special education courses.

These findings are consistent with the research conducted by Browder et al.

(2007) who found that teacher training in collaboration for both special education and general education teachers was crucial for lesson planning related to the IEP. Based on their findings, the researchers determined that teacher training in collaboration for lesson planning linked to the IEP would allow for differentiation of instruction for varying student ability levels with the appropriate specifically designed supports such as accommodations and modifications for access to the standards. In addition, these findings were consistent with the research conducted by Clayton et al. (2006) who signaled the importance of targeting specific objectives from the IEP for lesson planning and alignment to the state standards. As a result of the lesson planning with embedded functional skills within the natural routines of the classroom, the researchers expressed that teachers will have the tools needed to provide access to the general curriculum with specifically designed instruction and supports as dictated by the IEP for students with significant cognitive disabilities.

**Research Question 2: To what extent are perceptions of pre-service teachers concerning lesson planning aligned to the state standards for students with developmental disabilities?** Findings for Research Question 2 included participant responses of perceptions of pre-service teacher training concerning lesson planning aligned to state standards. With regard to writing instructional objectives aligned to state standards for students with developmental disabilities participating in on-grade level high stakes assessment, five of eight respondents indicated a strong level of agreement, and one of eight agreed. These findings align with responses from interviews as four of eight respondents indicated that they were well prepared in writing lesson plans and locating state standards for the content areas, specifically elementary. While four of eight respondents indicated a high level of agreement of writing lesson plans linked to the state

standards, there was concern for writing lesson plans aligned to the standards for students on a secondary level as three of eight respondents revealed that they received little training on how to write lesson plans for students in high school, as there was no coursework in secondary methods or transition for postsecondary outcomes. Findings indicated the need for training in secondary methods, along with the elementary methods, to meet the content and transition needs of high school-aged students.

In relation to writing instructional objectives that were aligned to the extended standards for students with developmental disabilities participating in the alternate assessment high stakes assessment, there was a level of disagreement as four of eight respondents reported neither agree nor disagree and two of eight reported disagreement. These findings align with four of eight respondents that determined they received no training on how to align instruction to the extended standards to prepare students for the alternate assessment. As a result of the lack of preparation of curriculum alignment for students with the most significant cognitive disabilities, there should be pre-service training on how to write lesson plans aligned to the extended standards.

These findings were comparable to the research conducted by Karvonen and Huynh (2007) who indicated the importance of teacher training in writing lesson plans linked to essential IEP goals for generalization of secondary transition skills across all natural settings for an inclusive environment, as responses from the current study indicated that three of eight respondents revealed they received little training on how to write lesson plans for students in high school and transition for generalization of postsecondary outcomes. In addition, the finding from the current study of little training in how to align instruction to the extended standards in preparation of the alternate assessment high stakes testing was harmonious with the research conducted by Delano et

al. (2009) who found that teacher training in severe disabilities was grounded with inconsistencies and inadequacies across programs and frameworks of course content. In addition, the researchers noted that pre-service teachers in special education should be trained in how to align instruction to the general curriculum with systematic instructional strategies for students with extensive support needs.

**Research Question 3: To what extent are perceptions of pre-service teachers concerning universal design for learning aligned to state standards for students with developmental disabilities?** Findings for Research Question 3 consisted of principles of universal design for learning as an approach to the state standards. In relation to writing lesson plan procedures that included strategies for differentiation of instruction in promotion of universal design of instruction for all learners, seven of eight respondents reported a strong level of agreement and one of eight reported agreement. Though respondents noted a high level of agreement with regard to utilizing differentiation of instruction within lesson plan procedures for universal design, eight of eight respondents revealed concern regarding pre-service training on curricular modifications in the interviews and signaled that reform was needed. Eight of eight respondents suggested that pre-service teachers in both special education and general education teacher programs receive training on how to include specific modifications as indicated by the IEP for curriculum access, as modifications were emphasized in special education coursework, but not in the methods courses. In addition, eight of eight respondents noted that there was a significant need for pre-service training for both special education and general education teacher candidates on the various strategies for curriculum modifications for universal design of learning, and to focus not only on the various ways to modify the curriculum, but also on the difference between an accommodation and

modification. Furthermore, eight of eight respondents indicated the need in training for both special education and general education teacher candidates across the frameworks of all teacher education programs in communication strategies for universal design for learning, as eight of eight respondents determined that all students should be able to access the general curriculum through modified strategies for inclusion. Moreover, two of eight respondents determined that they received little training on the utilization of a hierarchy of prompting systems such as system of least prompts as a principle of universal design relating to student engagement; therefore, training was necessary.

These findings were consistent with the research conducted by Spooner et al. (2007) who determined the extent that teacher lesson plans reflected UDL principles of modification of classroom materials, alternate methods of communication through accommodations and modifications, and the use of differentiation strategies to involve students with developmental disabilities in the learning process. The researchers suggested that teacher training for both special education teachers and general education teachers was crucial for lesson planning to include principles and application of UDL for curriculum access for students with developmental disabilities. In addition, the findings from the study were comparable to the research conducted by Copeland and Cosbey (2009) who discussed the importance of using prompting systems as a research-based educational practice for students with significant cognitive disabilities in the general setting with typically developing peers for universal design for learning.

**Research Questions 4: To what extent are perceptions of pre-service teachers concerning the integration of curriculum aligned to the state standards for students with developmental disabilities?** Findings for Research Question 4 included participant responses of perceptions of pre-service teacher training concerning integration of

curriculum aligned to state standards. In reference to creating learning activities in lesson planning that were aligned to grade level standards that were academic and functional for curriculum access, five of eight respondents indicated a strong level of agreement, and three of eight reported agreement. Though respondents revealed a high level of agreement, data from interviews reflected a lack of training K-12 on how to embed functional skills in lesson planning that were meaningful and integrated to the grade standards for students with developmental disabilities, as five of eight respondents stated the importance of how to bridge the gap between academic and functional content that was meaningful for the learner. For lesson planning relating to student participation in the alternate assessment high stakes testing and teaching academic skills that were functional, five of eight respondents determined a level of disagreement of training and suggested that more pre-service training was needed on how to write and implement instruction that was functional and aligned to the chronological grade the student was assigned to with training and application earlier in the teacher preparation process.

These findings were consistent with the research conducted by Downing and Eichinger (2003) who found that practitioners should recognize meaningful learning opportunities in the inclusive setting in order for students with developmental disabilities to access the general curriculum. In relation to the findings of the current study, the researchers indicated that students with developmental disabilities may be able to access general education activities by the teacher embedding instruction in naturally occurring routines with the focus on decision making concerning the functional relevance of activities. In addition, findings from the study were consistent with the research conducted by Browder et al. (2006), who found that students with developmental disabilities should receive instruction that is aligned to state standards, but also



meaningful and connected to functional everyday living. The researchers suggested that teacher training must include the component of how to develop lesson plans with objectives that are meaningful, functional, and yet linked to grade level standards for students with significant cognitive disabilities.

**Research Question 5: To what extent are perceptions of pre-service teachers concerning progress monitoring aligned to state standards for students with developmental disabilities?** Findings for Research Question 5 included participant responses of perceptions of pre-service teacher training concerning progress monitoring aligned to state standards for students with developmental disabilities. With regard to planning for formative assessment and alignment to instructional objectives, three of eight respondents indicated a strong level of agreement and four of eight indicated agreement. As determined by the high level of agreement, there was exposure to training regarding formative assessment; however, four of eight respondents implied minimal training with regard to linking progress monitoring to the IEP for specifically designed instruction. In addition, four of eight respondents indicated the importance of utilizing formative assessment earlier in field experiences for application. Furthermore, three of eight respondents expressed the importance of utilizing formative assessment as a component of the principles of universal design for learning with regard to collaboration across the framework of teacher education programs and common assessments linked to the state standards for inclusion.

These findings were consistent with the research conducted by Dymond et al. (2006) who identified lesson planning with regard to assessment linked to the state standards as a critical component to UDL. The researchers determined the importance of a shared model of lesson planning and assessment linked to the student IEP and

alignment to the state standards with both the special education teacher and the general education teacher. In relation to the findings of the current study, a shared model of linking IEP goals to curriculum and assessment with ongoing formative assessment would promote access to the state standards for students with significant cognitive disabilities. In addition, findings from the study were consistent with the research conducted by Ryndak et al. (2008), who noted that the Individuals with Disabilities Education Improvement Act (IDEIA, 2004) provided mandates to ensure that students be involved in grade appropriate instruction with progress monitoring linked to the state standards in the least restrictive environment. The researchers indicated the lack of consistency across the United States in public school systems in understanding federal policy with regard to access to the general curriculum and suggested reform for schools through teacher training on research-based practices for curriculum access and progress monitoring for students with significant cognitive impairments.

With regard to the findings of the study, there may have been a Hawthorn effect in the respondents' completion of the closed item survey, as many of the respondents checked strongly agree; therefore, there may have been a discrepancy with some of the quantitative responses with the qualitative results. The Hawthorn effect can produce altering results if the participants feel they need to promote positive responses because they are participating in a study (Kaufhold, 2007). Respondents may have selected 1 = strongly agree as a result of knowing they were participating in a study and to please the researcher. With the strength of the qualitative findings, the potential threat to internal validity should be diminished.

### **Implications of Findings**

There is merit as to the utility regarding the implications of the findings of this

study. Implications from the findings of this study will advance reform in pre-service teacher training programs in higher educational institutes for those practitioners who will be serving students with developmental disabilities. With reform in pre-service teacher training, practitioners will be trained concerning the characteristics of diverse learners paralleled with matching evidenced-based teaching strategies, and the pedagogy in order to promote access to the general curriculum through curriculum alignment in the least restrictive environment for students with developmental disabilities.

Based on the findings of this study, four overarching implications for reform in teacher training evolved into themes that included (a) a multi-disciplinary approach to teacher training, (b) teacher training utilizing universal design for learning, (c) teacher training concerning extended standards, and (d) teacher training on secondary methodology. The implication for training concerning secondary methodology and transition was an unexpected finding. Implications and suggestions for reform, along with measurement for sustainability, are included in the following descriptions for each theme.

**Multi-disciplinary approach.** One overarching theme as an implication from the study was the need for integrated coursework as a multi-disciplinary approach to teacher preparation programming. A multi-disciplinary approach to teacher training within the framework of coursework and field experiences in teacher preparation programs may promote the inclusion of a global perspective in correlating cognitive and behavioral characteristics with corresponding evidenced-based instructional strategies for diverse learners, including students with significant cognitive disabilities. Field experiences linked to both special education and general education methods courses will allow for application of differentiated, evidence-based instructional practices blended with course

content that will bolster teacher preparation for diverse learners. According to Sindelair, Bishop, Brownell, Rosenburg, and Connelly (2005), teacher candidates in pre-service programs must receive early and substantive training in the pedagogy of how to teach students with diverse needs. Earlier and substantive teacher training will provide a collaborative support for the inclusion of all learners with regard to general curriculum in the least restrictive environment.

Kozleski et al. (2002) suggested there was the need for supporting blended instructional practices for all students, and that there must be in place an upgraded pre-service teacher education curriculum with shared clinical experiences and a common language. Reform for pre-service teacher education curriculum must include mandatory training in the nature of specific learner characteristics and matching teacher interventions that have been proven to work. To measure reform, data collection will be analyzed from key course assessments and evaluations from early field experiences through internship to ensure blended pedagogy.

**Universal design for learning approach.** A second implication evolving from the study included the need for pre-service teacher training on a universal design for learning approach for lesson planning. Universal design for learning is an approach that centers on flexibility with regard to differentiated instruction, differentiated curriculum materials, with specifically designed supports for curriculum engagement by students' with wide ranges of ability levels (Zeff, 2007). Additional teacher training concerning those specifically designed supports included in lesson planning for universal design deemed crucial in relation to the specific accommodations and curriculum modifications as determined by the student IEP. Pre-service teachers need to attain a foundation of understanding of the utility of curriculum accommodation strategies and how to modify

the curriculum for student access. This theme was supported with the research by Edyburn (2010) who recommended reform in teacher training concerning instructional design with learning objectives linked to learner characteristics with specific accommodations and modifications in order for students with disabilities to access the general curriculum.

For students with significant cognitive disabilities, the literature was scant regarding teacher training in universal design for learning and lesson planning, as there was one study on the effects of in-service teacher training on lesson plan development (Spooner et al., 2007). Results from this current study in reference to pre-service teacher training on curriculum alignment for students with developmental disabilities may build on the Spooner et al. (2007) study as a contribution to the field of special education. As one study participant stated, “More pre-service teacher training in strategies for linking the IEP with the universal design strategy of differentiation will help students with developmental disabilities be included in the regular classroom. Right now, we are just setting them up for failure.”

Reform should include methodology for blended practice across all coursework. To measure reform, data collection will be analyzed from key course assignments and evaluations from early field experiences through internship to ensure proficiency of universal design for learning as an approach to lesson planning and implementation.

**Extended standards.** A third implication from the study was the need for pre-service teacher training concerning curriculum alignment with the extended standards linked to the alternate assessment. This theme in reference to pre-service teacher training and alternate assessment was a significant concern to respondents, as they indicated that they received no teacher training on how to write lesson plans to align instruction and

assessment to the extended standards in order to prepare students for the alternate assessment. This theme is consistent with the research conducted by Delano et al. (2009) as they advocated their concerns for competencies of practitioners from teacher education programs in meeting the unique needs of students who need intensive functional supports, yet ensuring access to the general curriculum. The researchers noted that pre-service teachers in special education needed training in how to align the instruction to the general curriculum with systematic instructional strategies for students with extensive support needs.

In addition, the implication of the need for teacher training on curriculum and alternate assessment for students with significant cognitive disabilities aligned with the salient study by Browder et al. (2006), who found that alignment to grade appropriate standards is critical in understanding participation and expectations of alternate assessment and IEP progress monitoring. The researchers determined that practitioners must be trained in how to develop lesson plans with progress monitoring linked to grade level standards for students with significant cognitive disabilities.

Reform should include teacher training in curriculum alignment via the extended standards for students participating in the alternate assessment. To measure reform, data collection will be analyzed from key course assignments and field experiences through internship.

**Secondary methodology.** Lastly, an unexpected implication from this study was the need for additional pre-service teacher training on secondary methodology and transition for high school students with developmental disabilities. Respondents indicated that they received no course work in secondary methods, only elementary methods. An implication from this finding was the lack of teacher preparation of grade

appropriate curriculum aligned to the high school standards and how to address transition to adulthood, including postsecondary options. Teacher training in secondary methods is critical, as transition and postsecondary options must be addressed in the IEP for high school students with disabilities, including students with significant cognitive disabilities. These findings of inconsistencies within teacher education programs regarding teacher preparation in special education are consistent with the research conducted by Courtade and Ludlow (2008). The researchers discussed their concerns regarding the content of the curriculum frameworks of many personnel preparation programs for teaching students with developmental disabilities, and how they have yet to be revised to include the academic emphasis of linking instruction to state content standards, therefore leaving practitioners under-trained and students remaining in self-contained settings without curriculum access.

Reform should include ensuring a secondary methodology course for special education teacher candidates. To measure reform, data collection will be analyzed from key course assignments and field experiences through internship.

### **Limitations**

A limitation of the study may include teacher training of pre-service teachers from one southeastern university research site. Because of the research study conducted with participants who graduated from one research site, results may not be generalized to other teacher education programs at other higher education institutes. Another limitation may be the small sample size; however, the small sample size was representative of the population of pre-service teachers who graduated in special education pre-service teacher education programs serving students with developmental disabilities in the spring of 2011.

## **Recommendations for Future Research**

Because of the limited availability of research regarding personnel preparation for students with cognitive deficits, there exists a critical need for studies regarding teacher training for teacher quality and this population of students. As a result of this study regarding the extent of the perceptions of pre-service teachers concerning curriculum alignment for students with developmental disabilities, recommendations for future research to improve pre-service training for positive outcomes for students with cognitive deficits are warranted. Recommendations for future research include:

1. Replication of this study with a larger sample size of pre-service teachers in special education to include higher educational institutes from all geographical regions.
2. Replication of this study with a sample size to include pre-service teachers in special education and general education from higher education institutes from all geographical regions.
3. Further study concerning special education in-service teachers and teacher training utilizing the principles of universal design for learning for students with developmental disabilities.
4. Further study concerning general education in-service teachers and teacher training utilizing the principles of universal design for learning for students with developmental disabilities.
5. Further study on personnel preparation concerning curriculum alignment and students with developmental disabilities with public school administrators.
6. Further study is warranted in teacher preparation of curriculum with regard to high school and post-secondary transition for students with developmental disabilities.



## Summary

Though legislative mandates have been in place for 5 decades requiring that students with disabilities receive specifically designed instruction aligned to the grade appropriate curriculum with all of the necessary supplemental supports for access, students with developmental disabilities are still remaining in the most restrictive environments with little opportunity for curriculum engagement. Due to the outcomes of this study, comparable to earlier research, there exists the need for reform in teacher preparation programs in higher education institutes with regard to practitioners who will be serving students with developmental disabilities. Downing (2006) expressed the need for change in personnel preparation programs by increasing training on individualization with curricular adaptations in order to raise expectations and ensure access to the general curriculum for students with severe disabilities. The researcher raised concerns as to whether teachers have the foundation of knowledge for curriculum alignment to state standards, consequently leaving this population of students to still being served in specialized classrooms with a curriculum focus on functional skills only, rather than inclusive settings with opportunity for academic engagement. This study may prompt researchers, professors of higher education institutes, education administrators, and practitioners to explore teacher training concerning specifically designed instruction with appropriate supports to ensure alignment to the general curriculum in the least restrictive environment in order to promote equity of learning for all students, including students with developmental disabilities.

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Appendix A

Pre-Service Survey and Interview Questions



## Pre-Service Survey

Section I: *Please read and respond to prompts as they apply to you.*

Points on Continuum					
	1 Strongly agree	2 Agree	3 Neither Agree Or Disagree	4 Disagree	5 Strongly Disagree
1. I write instructional objectives aligned to state standards for students with developmental disabilities participating in the PASS assessment.					
2. I write instructional objectives that are aligned to extended standards for students with developmental disabilities who are participating in the SC-Alt alternate assessment					
3. I use materials that are age and grade appropriate for students with developmental disabilities.					
4. In my lesson planning, I write procedures to include strategies for differentiation of instruction to promote universal design of all learners.					
5. In my lesson planning, I include curricular modifications in order for students with developmental disabilities to access the general curriculum.					
6. In my lesson planning, I include specific accommodations according to student IEP.					
7. In my lesson planning, I create learning activities					

that are aligned to grade level standards and are academic, yet functional, for curriculum access.					
8. In my lesson plan implementation, I state relevance to the purpose of instruction.					
9. In my lesson plan implementation, I utilize a hierarchy of prompting systems (systems of least prompts) for student access to curriculum.					
10. In my lesson plan implementation for students participating in PASS, I teach academic skills that are functional in nature that align to state standards.					
11. In my lesson plan implementation for those students participating in SC-Alt, I teach academic skills that are functional in nature that align to alternate assessment measures.					
12. I embed instruction from IEP goals into my lessons.					
13. I plan for formative assessment(s) that are aligned to my instructional objective.					
14. I utilize formative assessment data to inform practice for specifically designed instruction.					

Section 2: *Please elaborate on the following prompts and give an example (s).*

15. How has teacher training on lesson planning prepared you for aligning instructional objectives to the state standards for students with developmental disabilities?

16. How has teacher training prepared you in bridging the gap between academic and functional skills for curriculum alignment to state standards?

17. To what extent have you utilized teacher training on curricular modifications and accommodations in your setting?

18. To what extent has teacher training prepared you to utilize formative assessment to inform instruction?

19. To what extent has teacher training on formative assessment for specifically designed instruction promoted student performance in your setting?

Appendix B  
Informed Consent Form

## Informed Consent Agreement

**Researcher:** Kim Watkins

**Title of Study:** Perceptions of Pre-Service Teacher Training concerning Curriculum Alignment for Students with Developmental Disabilities

**Purpose of Study:** The purpose of the study is to address the perceptions of pre-service teachers concerning teacher training on curriculum alignment for teacher training reform.

**Methodology/Procedures of Research/Anticipated time to complete:** Mixed-method Research: Triangulation mixed-methods design with original, validated survey instrument of a Likert Scale of 14 closed prompts and five interview questions for open-ended responses. The survey and interview should be completed in a 45 minute time frame.

**Possible Risks:** None

**Possible Benefits:** To be a contributing member for reform in the field of special education

**Possible Costs:** None

**Right to Withdraw:** Participation is voluntary and participants have the right to withdraw from the study at any time

**Privacy of data collected from the study:** Data collection will be anonymous and confidential to protect the privacy of participants. Results will be stored in a locked file cabinet and only known to the researcher.

**Contact Information:** If you have any questions about this study, you may contact me at the following address:

Kim A. Watkins  
907 Cara Court  
Fort Mill, SC 29708  
Email: [kwatkins@gardner-webb.edu](mailto:kwatkins@gardner-webb.edu)

**Signatures:** By signing this consent agreement, you agree to take part in the study. You will receive a copy of this consent form.

\_\_\_\_\_  
Signature of Participant

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of Researcher

\_\_\_\_\_  
Date