REL SOUTHEAST
Regional Educational Laboratory
At SERVE Center UNC, Greensboro

Preparing elementary school teachers in the Southeast Region to work with students with disabilities

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ISSUES & ANSWERS REL 2008–No. 065

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November 2008

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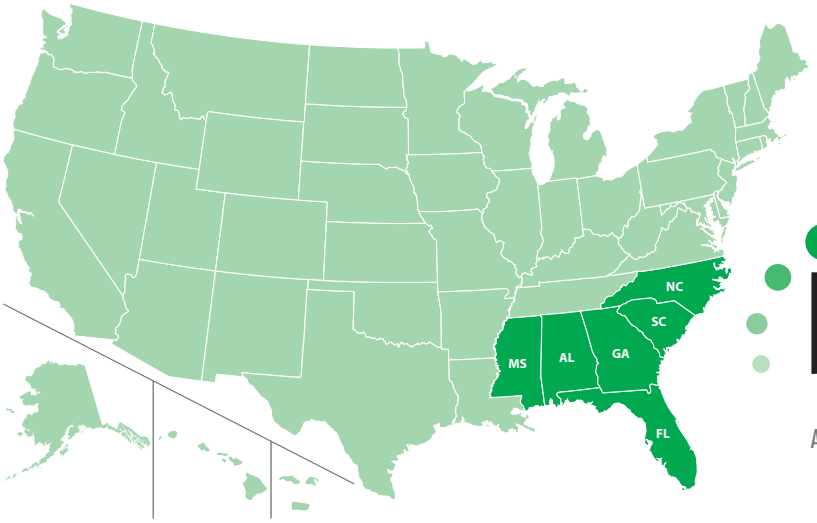

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Issues & Answers is an ongoing series of reports from short-term Fast Response Projects conducted by the regional educational laboratories on current education issues of importance at local, state, and regional levels. Fast Response Project topics change to reflect new issues, as identified through lab outreach and requests for assistance from policymakers and educators at state and local levels and from communities, businesses, parents, families, and youth. All Issues & Answers reports meet Institute of Education Sciences standards for scientifically valid research.

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Summary

REL 2008–No. 065

Preparing elementary school teachers in the Southeast Region to work with students with disabilities

The study examines the extent to which elementary education teacher preparation programs in 36 randomly selected colleges and universities in the six Southeast Region states integrate content related to students with disabilities. Most programs require one disability-focused course, two-thirds incorporate fieldwork related to students with disabilities, and more than half incorporate disability content into their mission statements.

Recently reauthorized federal legislation has increased general educators' responsibilities for educating students with disabilities. Specifically, the No Child Left Behind (NCLB) Act of 2001 requires that all students, including those with disabilities, have access to and achieve in the general curriculum (No Child Left Behind Act 2002). And the Individuals with Disabilities Education Improvement Act of 2004 is renewing emphasis on inclusion and on reducing the disproportionate representation of minority students in special education (Arthaud et al. 2007; Donovan and Cross 2002; Blanton and Pugach 2007; Goe and Cogshall 2007). Teacher preparation in this area will likely enhance the ability of future elementary education teachers to provide instruction to students with disabilities.

This report examines the extent to which content related to students with disabilities is a part of elementary education teacher preparation programs in the six Southeast Region states (Alabama, Florida, Georgia, Mississippi, North Carolina, and South Carolina). The report seeks to inform the discussions of state policymakers and teacher preparation leaders as they work to improve teacher quality through better teacher preparation. In the Southeast Region state committees are exploring ways to bolster teacher preparation, and teacher quality initiatives are under way in Alabama, Mississippi, and South Carolina. Identifying the strategies used to integrate disability content into elementary education training can provide important information for renewal efforts by schools, colleges, and departments of education and for state agencies considering changes to licensing structures and program performance standards.

To examine the current status of disability content in teacher preparation programs in the Southeast Region, the study analyzed information from 36 randomly selected institutions, stratified by state, program size, and whether the institution is a historically black college or university. During phase 1 (May–August 2007) the web sites of colleges and universities were searched for information on mission statements, course requirements, course descriptions and syllabi, faculty expertise and credentials, organizational arrangements,

and fieldwork requirements. During phase 2 (August–September 2007) interviews were conducted with the department chairs of six elementary education preparation programs.

The findings show that disability content is integrated into teacher preparation programs through a variety of strategies:

- Pursuing a program mission with disability-focused priorities.
- Requiring disability-focused courses.
- Embedding disability content in other required courses.
- Incorporating disability content into field experiences.
- Aligning mission and coursework requirements.
- Sharing course experiences between general and special education.
- Practicing collaborative program design.

The most prevalent strategy used to integrate disability content is requiring one disability-focused course. The majority of teacher preparation programs in the sample (30 of 35) require one disability-focused course, and about a quarter of programs (9 of 35) require more than one. Another common approach is incorporating fieldwork related to students with disabilities—two-thirds of programs (22 of 35) use this strategy. And more than half of programs (21 of 36) incorporate disability content into their mission statements. A few programs embed disability content into core courses—and when embedded, such material appears most often in reading courses (13 of 35) and multicultural courses (10 of 26).

Programs with disability-focused priorities in their missions are more likely to incorporate disability content into fieldwork (18 of 21, or 86 percent) than programs that do not include disability in their missions (4 of 15, or 27 percent), a statistically significant difference between the two groups ($p = .000$). However, 17 of 20 programs that include disability in their missions require one or more disability-focused course, about the same proportion (13 of 15) as those that do not include it. Among programs with disability-focused content in their mission, the strategies of requiring multiple disability courses and embedding disability content co-occur—six of the seven college and universities that require more than one disability course also embed disability content into reading coursework. References to disability and diversity are also often found together in teacher preparation program mission statements and core disability courses, yet seldom was the relationship between disability and diversity clearly articulated.

While this was a small sample of programs and the difference did not prove to be statistically significant, the data suggest that small programs may integrate less disability content than large programs do. Small programs have lower average extent of disability integration composite scores (2.7) than do larger programs (3.3). And of the 10 small programs in the sample, only 1 requires more than one disability-focused course, and 7 require only a basic categorical survey course.

Of programs within colleges and universities that have special education programs, shared

courses between general and special education are often required—12 of 17 institutions in the sample share 6–13 courses in the general and special education programs. Offering programs supporting licenses in both general and special education is the least prevalent strategy—4 of 36 institutions offer a program supporting dual licensure, and only 1 institution offers a program that fully merges general and special education.

Based on these findings, this report offers three key points for consideration:

- Disability content is integrated in teacher preparation programs through various approaches and to varying degrees in the Southeast Region.
- In both mission statements and core courses disability is frequently associated with diversity.
- Small teacher preparation programs face particular challenges in integrating disability content.

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WHY THIS STUDY?

This report examines how content related to students with disabilities is integrated into university-based elementary teacher preparation programs in the Southeast Region (Alabama, Florida, Georgia, Mississippi, North Carolina, and South Carolina).[1] The report is intended for state education policymakers and representatives of teacher preparation programs in institutions, colleges, and departments of education (generally referred to for convenience as colleges and universities or, sometimes, institutions),[2] focusing on their common interest in advancing teacher preparedness to work with students of varying abilities in the general education classroom.

The No Child Left Behind (NCLB) Act of 2001 requires that all students, including those with disabilities, have access to and achieve in the general curriculum. And the Individuals with Disabilities Education Improvement Act of 2004 has given renewed emphasis to inclusion and to reducing the disproportionate representation of minority students in special education (Arthaud et al. 2007; Donovan and Cross 2002; Blanton and Pugach 2007; Goe and Cogshall 2007). Reflecting the intensifying importance of general educators' responsibilities for teaching students with disabilities, needs assessments from state education leaders in the Southeast Region states have identified interest in both the status of special education, particularly inclusion, and teacher preparation.

In response to federal priorities, state policymakers are promoting specific roles for colleges and universities in better preparing general education teachers for working with students with disabilities. For example, a state policymaker in Mississippi identified several teacher training needs as critical to state efforts to remedy both over- and under-representation of minorities in special education. Many state departments of education, including in each of the six Southeast Region states, are planning or adopting tiered intervention approaches, often referred to as Response to Intervention, to address over-reliance on special

education placement. Response to Intervention provides high-quality instruction and interventions matched to student needs and frequent monitoring of student progress. And it applies student progress data to instructional and other education decisions, such as eligibility for special education services. The potential of such initiatives to reduce special education placements and the disproportionate number of minority students in special education appears promising (Marston 2002; Marston et al. 2003; VanDerHeyden, Witt, and Gilbertson 2007; VanDerHeyden and Witt 2005), but these approaches require special skills.

Preparation of teachers to work with students with disabilities is also part of a larger dialogue about teacher quality and preparation in the Southeast Region states. For example, Mississippi's Blue Ribbon Committee for the Redesign of Teacher Preparation is working on a plan to increase the quality and quantity of teachers in the state by improving teacher preparation and recruitment programs. South Carolina is working to increase the number of highly qualified special education teachers through Project Create, a partnership between the state education agency and colleges and universities that provides tuition and textbooks for teacher candidates in special education. At the national level the Interstate New Teacher Assessment and Support Consortium supports state and other initiatives, such as its Center for Improving Teacher Quality, to achieve consensus on how general educators should work with students with disabilities. This initiative has brought colleges and universities and state policymakers from more than 40 states together to think collaboratively about teacher preparation programming (Council of Chief State School Officers 2007).

To inform thinking about trends and future directions, state and national efforts need good descriptive data on the current status of preparing teachers to work with students with disabilities

To inform thinking about trends and future directions, these state and national efforts need good descriptive data on the current status of preparing teachers to work with students with disabilities. This report meets that need by describing the ways in which content related to students with disabilities is integrated into elementary teacher preparation in a sample of teacher preparation programs in the Southeast Region. It addresses two related questions:

1. How do university-based elementary education teacher preparation programs incorporate content relating to students with disabilities?

2. What are the range of approaches, their characteristics, and the prevalence of each approach in a representative sample of university-based programs in the Southeast Region?

To answer these questions, the researchers drew a stratified random sample of university-based teacher preparation programs in the six Southeast Region states using information from course catalogues, syllabi, and related program documents obtained from web sites (see box 1 and appendix A for details of the methodology). Overall, 117 programs met the selection criteria; of these, 36 were included in the sample, based on the proportion of qualifying programs in a state relative to the total number in the region: 7 in Alabama, 5 in Florida, 4 in Georgia, 4 in Mississippi, 9 in North Carolina, and 7 in South Carolina. Data analysis combined thematic and content analysis of qualitative data and tallies and cross-tabulations of quantitative data. In addition, to augment and illustrate the documented strategies, seven interviews were conducted with department chairs of elementary education preparation programs covering approaches to preparing candidates to work with students with disabilities, and field placements with students with disabilities, among other topics.

To examine how this sample of university-based elementary education preparation programs integrated disability content, the study used a conceptual framework based on seven strategies drawn from the literature. These strategies were both prominent in the literature and amenable to data collection from web sites and a small number of interviews:[3]

BOX 1

Data collection and analysis and study limitations

Data collection and analysis

The study had two phases (see appendix A for a detailed description of the methodology). In phase 1, conducted May–August 2007, researchers drew a stratified random sample of 36 university-based teacher preparation programs in the six Southeast Region states and analyzed their incorporation of disability content using course catalogues, syllabi, and related program documents obtained from web sites. The criteria for inclusion were programs that award bachelor's degrees (as listed in MacMillan Reference 2006), have an elementary education preparation program (as listed in MacMillan Reference 2006), graduate at least 18 students annually,[1] and have no missing data for number of graduates based on data sources available. Overall, 117 programs met these criteria: 23 in Alabama, 17 in Florida, 13 in Georgia, 12 in Mississippi, 29 in North Carolina, and 23 in South Carolina (see appendix tables A4–A9 for details).

The strata used for sampling were state, program size (small, medium, and large based on number of graduates), and whether the program is part of a historically black college or university. At least one historically black college or university was intentionally sampled per state. The number of programs included per state was based on the proportion of qualifying programs in a state relative to the total number in the region. And the proportion of programs in each size category was based on their representation within each state. Although the sampling was not based on whether the college or university had a special education department, the sampling automatically included a representative mix of institutions with and without these departments. This became an important consideration in the analysis. Material from each of the 36 programs was indexed and coded, and interrater reliability checks were conducted. Box tables 1, 2, and 3 show the number and percentage of programs in the sample by state, number of graduates, and whether they have special education degree programs.

Phase 1 included both thematic and content analyses of qualitative data as

TABLE 1

Sample teacher preparation program distribution by state, 2007

State	Number	Percent
Alabama	7	19
Florida	5	14
Georgia	4	11
Mississippi	4	11
North Carolina	9	25
South Carolina	7	20
Total	36	100

Source: Authors' analysis based on application of criteria; data from course catalogues, syllabi, and related program documents obtained from institution web sites.

TABLE 2

Sample program distribution by number of elementary education teacher candidate graduates, 2007

Program size	Number	Percent
Small	10	28
Medium	11	30
Large	15	42
Total	36	100

Note: For details on scaling for program size, see appendix A.

Source: Authors' analysis based on application of criteria; data from course catalogues, syllabi, and related program documents obtained from institution web sites.

TABLE 3

Number of colleges and universities in the sample with and without special education degree programs, 2007

Special education program?	Number	Percent
No	14	39
Yes	22	61
Total	36	100

Source: Authors' analysis based on application of criteria; data from course catalogues, syllabi, and related program documents obtained from institution web sites.

(CONTINUED)

BOX 1 (CONTINUED)

Data collection and analysis and study limitations

well as tallies and cross-tabulations of quantitative data. Two researchers independently reviewed qualitative material and identified consistent themes and categories; differences were reconciled through discussion before finalizing the categories for coding. To help interpret the significance of the findings presented here, 95 percent confidence intervals for percentages reported are presented in table A2 in appendix A.

During phase 2 of data collection, conducted August–September 2007, interviews were held with department chairs of elementary education preparation programs. The interview guide, included in appendix A, covered approaches to preparing elementary education candidates to work with students with disabilities, faculty expertise related to students with disabilities, faculty interaction across general and special education, rationale for shared courses and merged programs across general and special education, relation of disability and diversity in the curriculum, and field placements with students with disabilities. A purposeful subsample of six programs was taken to maximize representation of four factors: presence or absence of a special education department, greater or lesser extent of disability content integration, state representation, and program size based on number of graduates.[2] Programs with special education programs and comparably higher levels of integration were overselected to maximize the information likely to be generated from the interviews. Seven interviews were conducted, including two with representatives from one program. Four programs originally selected were replaced because of nonresponses.

Phase 2 data analysis was organized so that findings would augment and illustrate the strategies documented in phase 1. The interview data were intended to enrich depictions of how programs are integrating disability content into elementary education teacher training and were not intended to represent the larger sample of 36 programs. Interview data were also analyzed to verify data collected from web sites.

Study limitations

The sample was limited to elementary education teacher training programs offering traditional bachelor's degrees. To maintain sufficient focus, community colleges, alternative certification programs, inservice programs, and graduate programs were excluded, so the findings likely do not represent the full gamut of approaches to preparing general educators to work with students with disabilities in the Southeast Region. The study relied primarily on data collected from written materials available on web sites. Though the most up-to-date material was collected, there can be no assurance that these materials accurately represent current activities or the entirety of current program activities. Because syllabi were not available for the majority of courses analyzed, course descriptions were used instead, and these may not fully describe course content. And neither course descriptions nor syllabi may adequately represent what actually happens in courses. Although these are limitations, any bias that occurred is likely to have applied equally across all programs.

Because of the limited number of key informant interviews that could be conducted, informants were selected from programs that appeared to be working in some way to integrate disability-related content. While this maximized certain information, it may have minimized findings about the challenges and attitudes that correspond with less integration of disability content. And finally, although the state policy context can have a strong influence on teacher preparation, this study did not include analysis of this effect.

Note

1. The original proposal set a 25 graduate minimum for inclusion in the sample frame, but the distributions suggested that this might be too stringent a cutoff point, especially in light of the year-to-year variation in number of graduates. The initial proposal also set a minimum size of at least 15 new elementary teacher graduates for the elementary education program, but because these data were available for only two of the six states, this criterion was dropped from the sampling scheme.
2. The original sampling scheme included seven programs, but only six agreed to participate in the required time frame.

- Pursuing a program mission with disability-focused priorities.
- Requiring disability-focused courses.
- Embedding disability content into other required courses.
- Incorporating disability content into field experiences.
- Aligning mission and coursework requirements.
- Sharing course experiences between general and special education.
- Practicing collaborative program design.

Following Pugach (2005), the study also considered how programs approached diversity because of its often close association with disability. In addition, collaboration between general and special education faculty has been identified as vital to disability content integration (see, for example, Blanton and Pugach 2007; Voltz 2003). And although the study anticipated that such collaboration and disability content integration would be positively associated, data on such collaboration were limited. Table 1 lists the seven strategies and related web site data collected about each.

OVERVIEW OF THE FINDINGS

This report reaches three general conclusions about the approaches that some university-based elementary teacher preparation programs in the Southeast Region are using to prepare teachers to work with students with disabilities.

- *Disability content is integrated in teacher preparation programs through various approaches and to varying degrees in the Southeast Region.* Strategies range from the most prevalent approach of requiring one disability-focused course to a few institutions that

TABLE 1
Alignment of seven strategies for integrating disability content into elementary education teacher preparation programs and data collected, 2007

Strategy	Data collected
Pursuing a program mission with disability-focused priorities	• Institution- and program-level disability content in the mission • Institution- and program-level mission relating to diversity and diverse learners
Requiring disability-focused courses	• Number and content of required disability courses
Embedding disability content into other required courses (strand approach)	• Disability content in required courses in reading, math, diversity, assessment, and methods
Incorporating disability content into field experiences	• Disability content referenced in descriptions of field experience requirements
Aligning mission and coursework requirements	• Institution- and program-level mission related to students with disabilities • Required disability-focused courses • Disability content in required reading courses
Sharing course experiences between general and special education	• Courses required by both general and special education programs when a institution has both
Practicing collaborative program design	• Descriptions of programs that provide the option of earning general and special education degrees

Source: Authors' analysis based on literature review and data from course catalogues, syllabi, and related program documents obtained from institution web sites.

offer a program leading to dual licensure in elementary education and special education. The prevalence of each of the seven strategies examined in this report is shown in table 2.

- *In both mission statements and core courses disability is frequently associated with diversity.* Disability and diversity are often closely related in teacher preparation program mission statements and core disability courses. Ten of the programs connect diversity and disability in their mission statements. Eight programs include diversity in core disability course descriptions. Seldom, however, was the relationship clearly articulated, except when disability was characterized as a category of diversity.

- *Small teacher preparation programs face particular challenges in integrating disability content.* The data suggest that small programs integrate less disability content than

TABLE 2

Percentage of elementary education teacher preparation programs in the sample using each strategy for integrating disability content, 2007

Strategy	Detail	Percent
Pursuing a program mission with disability-focused priorities	Incorporate disability priorities in mission statements	58
	Associate disability with diversity in mission statements	28
Requiring disability-focused courses	Require at least one course[a]	86
	Require more than one course[a]	26
Embedding disability content in other required courses	Embed in reading courses[a]	37
	Embed in math courses[a]	17
	Embed in multicultural courses[b]	38
	Embed in methods courses[c]	23
Incorporating disability content into field experiences	All programs that require field experience[d]	63
	Disability courses across programs that include fieldwork[e]	33
Aligning mission and coursework requirements	Programs with disability in their mission that also require a disability course[f]	85
	Programs with disability in their mission that also embed disability into coursework[f]	50
	Programs with disability in their mission that also require related fieldwork[g]	86
Sharing course experiences between general and special education	Programs that share 6–13 courses[h]	72
Practicing collaborative program design	Programs that offer a dual license	11
	Programs that offer a merged program	3

a. Based on the 35 programs with data on required courses.

b. Based on the 26 programs that require multicultural courses.

c. Based on the 22 programs that require methods courses.

d. Based on the 35 programs that require field experience.

e. Based on the 40 required disability-related courses that incorporate fieldwork.

f. Based on the 20 programs that incorporate disability in their mission and for which data were available on required courses.

g. Based on the 21 programs that incorporate disability in their mission.

h. Based on the 17 programs that share courses between special education and general education departments.

Source: Authors' analysis based on data from course catalogues, syllabi, and related program documents obtained from institution web sites and interviews with key informants.

do medium to large programs (although the finding is not statistically significant at the 5 percent level). Small programs had a lower average composite score for disability integration. In addition, of the 10 small programs in the sample, only 1 requires more than one disability-focused course, and 7 require only a basic categorical survey course.

DETAILED FINDINGS

This section presents the detailed findings on how 36 university-based elementary teacher preparation programs use each of seven strategies to integrate disability content into teacher preparation. The discussion begins by describing the research related to each strategy and how the findings support or extend that research. And because strategies are seldom used individually, the section concludes with a summary analysis of how programs used the strategies in combination.

Pursuing a program mission

In a white paper on preparing future educators to work with students with disabilities commissioned by the American Association of Colleges for Teacher Education, Kozleski, Pugach, and Yinger (2002) identify a shared mission and organizing framework across an institution's preparation programs as key. Referred to as "program coherence," it consists of a conceptual framework, guiding themes, common vision of teaching and learning, and core coursework that cuts across degree programs (Darling-Hammond et al. 2005; Howey 1996). However, there is a lack of empirical studies describing program coherence in programs preparing general educators to work with students with disabilities. Only one study was found that investigated the extent to which disability content is reflected in the mission statements of early childhood programs (not elementary education programs, as was the focus here). In a national survey of 438 programs Chang, Early, and Winton (2005) find that 63 percent of early childhood education bachelor's degree programs considered early childhood special education preparation to be part of their mission.

Teacher preparation programs can emphasize the goal of preparing teacher candidates to work with students with disabilities by incorporating disability content into their mission or conceptual framework

A shared conceptual framework is considered a hallmark of current teacher preparation reform efforts, reflecting common goals, beliefs, and values (Darling-Hammond et al. 2005; Howey 1996; Kozleski et al. 2002). Teacher preparation programs can emphasize the goal of preparing teacher candidates to work with students with disabilities by incorporating disability content into their mission or conceptual framework.[4] To determine the extent to which programs do this, institution- and program-level mission statements and conceptual frameworks were reviewed to identify any reference to "students with disabilities" or its cognates. In the material examined 21 of 36 programs (58 percent) reference "learners with special needs," "exceptionalities," or some variation in their mission, but none refers expressly to "students with disabilities." These findings are consistent with those of Chang, Early, and Winton (2005), who find that 62.6 percent of early childhood preparation programs in their sample included content related to special education and early intervention as part of their primary mission.[5]

Content analysis of the mission data showed that while "inclusion" is referenced in 2 of the 21 mission statements, the expressed belief that "all children" possess a capacity to learn is evident in 5. Ten mission statements, as in the example below, contain reference to disability—in this case "individual needs"—through wording that associates it with diversity:

> *Candidates should appreciate diversity by demonstrating the belief that all students can learn and be successful through accommodating for individual needs in society.*[6]

In these mission statements intellectual ability is sometimes listed as one of several categories of learner differences:

> *Our definition of "all learners" recognizes and embraces the diversity in race, ethnicity, culture, gender, and ability that is present in our society and in any learner population.*

Artiles and Trent (1997) and Pugach and Seidl (1998) have criticized equating disability with other categories of diversity because doing so limits the ability to understand the relationship between disability and other forms of diversity. In contrast to this categorical approach, several missions reflect a function-oriented view of diverse learners that focuses on classroom implications rather than categories of students. Two institutions in Georgia, for example, discuss "academically diverse classrooms," and one associates diversity and "various levels of ability" with instructional adaptations:

> *We believe that candidates should be able to demonstrate flexibility and strategic planning appropriate to a wide variety of learners. . . . As we prepare our candidates to be adaptive educators, we emphasize that educational settings are becoming increasingly diverse, meaning that educational excellence depends substantially on the educator's ability to adapt instruction for students who exhibit various levels of ability.*

While diversity is not always associated with disability content in program missions in the study sample, what is conceptualized as the relation between diversity and disability is likely an important consideration because nearly all of the colleges and universities in the sample (31 of 36) reference diversity in their mission.[7]

Explicit reference in program missions to teacher candidates' ability to instruct students with disabilities and promote their achievement in the general education curriculum is rare

Missions (14 of 21 with disability content) also tend to connect students with differing abilities or diversities to instruction goals for teacher candidates, such as "flexibility to adapt instruction" or "to modify instruction." Relatedly, key skills that are part of tiered interventions like Response to Intervention, such as continuous assessment, are sometimes mentioned:

> *Achieving outcome goals requires professionals to maintain flexibility in their approaches to teaching and service. They must be able to modify and adapt instruction, service, or interventions, based upon continuous assessment and monitoring of learner and client progress, to achieve positive outcomes among a diversity of populations.*

* * *

> *Program objectives include that candidates will be able to select, organize, and adapt a curriculum in planning instruction, based on knowledge of diverse student needs, including exceptional learners, and gather information to evaluate both students' learning and the effectiveness of instruction.*

While 22 of the colleges and universities in the sample have special education programs, explicit reference in program missions to teacher candidates' ability to instruct students with disabilities and promote their achievement in the general education curriculum is rare. One program at a small institution in North Carolina is an exception in specifying as one of its objectives for teacher candidates:

> *To have the knowledge and understanding necessary to become experts at teaching students with disabilities who are progressing through the General Curriculum (K–12).*

In explaining the approach taken by their teacher preparation programs, key informants from two of six programs described that having a common mission can bond faculty around shared beliefs, including in prioritizing teacher candidates' preparedness to work with students with disabilities. One commented: "We have a faculty of very

similar beliefs—that's probably the bottom line—we all strongly believe that all students can learn and that it's our job to help our [teacher] candidates come to the same belief." Relatedly, material identified from the web site of one institution in Florida indicates how a shared priority relating to disability content can permeate all aspects of a program throughout its redesign:

> *Two special task forces worked on refinement of the undergraduate core curriculum common to all of the teacher education programs. The resulting core included five areas of content—instructional planning, classroom management, human development and learning, assessment, and learners with special needs—and a set of competency statements for what candidates in each program were expected to master in each of the five core areas. Core courses were redesigned to address the five areas, and unit goals were consulted in designing common assessment tasks to address the core competencies.*

In sum, 58 percent of programs incorporate disability priorities in mission statements, and 28 percent associate disabilities with diversity. Like Chang, Early, and Winton (2005) this study found that more than half of programs reference "learners with disabilities," "exceptionalities," or some variation in their mission, though none refers expressly to students with disabilities. In addition, nearly all sample institutions reference diversity in their missions, and this is sometimes associated with disability.

Requiring disability-focused courses

Requiring general education candidates to take one or more disability content courses has been a common way to integrate disability content into teacher preparation programs (Pugach 2005). As of 2003, 15 states required such coursework (Editorial Projects in Education, Inc. 2008). With one exception (Kirk 1998), studies have found these courses to have a positive influence on teacher candidates' perceived attitudes (deBettencourt 1999; Lambert et al. 2005; Shippen et al. 2005; Rademacher et al. 1998). But because these studies used pre-post or survey designs and relied on self-reporting of attitude change as outcome measures, evidence of course impact is primarily descriptive, and questions of efficacy remain.

Of the 35 programs with available data, 30 were found to require at least one disability-focused course. Of the five programs that do not require a disability course, three embed disability material into other content courses

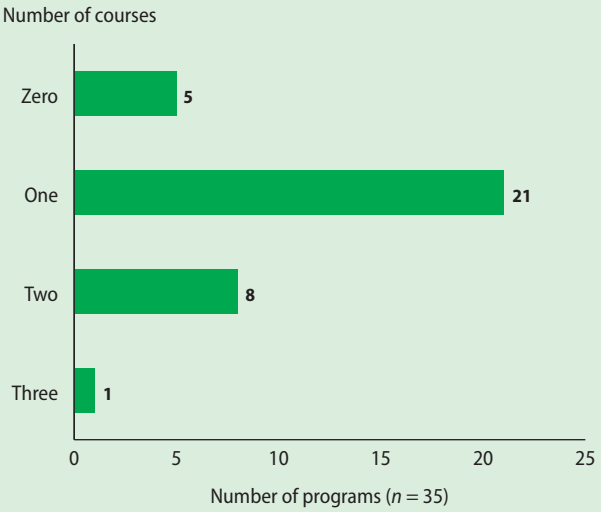
There are no recent studies of the content of required disability-focused courses. A survey by Jones and Messenheimer-Young (1989) conducted nearly 20 years ago of a random sample of 200 colleges and universities identifies two categories of courses: "exceptionalities" (courses focused on such topics as legislation and characteristics of exceptional learners) and "mainstreaming" (courses focused on curriculum modifications and application of instructional strategies). Arguing for a two-course sequence, they contend that both types of courses are needed to adequately prepare teachers for inclusive classrooms.

Against this background, program requirements were examined to determine the number and content of disability-focused courses. Courses were identified by sorting through course titles for terms such as "disabilities," "exceptionalities," "diverse learners," "special needs," "mainstreaming," and "inclusion." The focus of the courses was verified by reviewing course descriptions and syllabi. Of the 35 programs with available data,[8] 30 were found to require at least one disability-focused course. Of the five programs that do not require a disability course, three embed disability material into other content courses (this strategy is discussed in the next section). The number of required disability-focused courses for each program ranges from zero to three (figure 1).

The content of disability-focused courses is wide-ranging, from introductory courses resembling a "disability of the week" approach (Pugach 2005) to

FIGURE 1

Number of elementary education teacher preparation programs in sample requiring zero to three disability-focused courses, 2007



Source: Authors' analysis based on data from course catalogues, syllabi, and related program documents obtained from institution web sites.

courses emphasizing instruction, assessment, and modifications for students with disabilities. From the course descriptions, three major types of disability courses were identified: categorical survey courses, instruction and inclusion courses, and categorical survey plus courses.

Type 1. Categorical survey courses. These courses—such as "Introduction to Special Education" and "The Exceptional Child"—focus on the characteristics and categories of students with disabilities, as well as etiology, legal issues, and available services and resources. They account for 16 of the 40 required disability courses and include descriptive language in their course descriptions or syllabi, such as the following:

> *An introduction to the psychological and educational characteristics of the major types of exceptionalities, including learning disabilities, mental disabilities, and behavioral/ emotional disabilities. The special needs of individuals with speech, hearing, visual, and physical disabilities will also be covered, as well as special education issues and services.*

Type 2. Instruction and inclusion courses. These courses—such as "Teaching Children with Special Needs in the Elementary Classroom" and "Inclusive Teaching for Students with Special Needs"—emphasize the functional implications for teaching and learning, rather than diagnostic categories of disability (which, though sometimes included, are not the primary content or organizing principle of the courses). Although the course descriptions do not mention tiered intervention (such as Response to Intervention), the design and implied philosophy of these courses are strongly aligned with it. Instruction and inclusion courses account for 15 of the 40 required disability courses. Examples of course descriptions include:

> *This course will examine issues of diversity by concentrating on the educational needs of exceptional and at-risk children through seminars and through a continuation of an individual case study. Candidates will learn how to teach to individualized objectives, provide modifications and accommodations appropriately, and assess the progress of the selected case study child. Additionally candidates will make necessary revisions to the individualized instructional program based on the child's progress.*

* * *

> *The course will focus on strategies for meeting needs of individuals in elementary school classrooms. Students will study alternative methods for dealing with pupil differences that have an impact on academic and social behaviors. Characteristics of children with academic, intellectual, social-emotional, physical, cultural, and language differences will be examined.*

Type 3. Categorical survey plus courses. These courses—such as "Characteristics and Instructional Strategies for Students with Disabilities"—are similar in content and title to those of the most basic survey courses of exceptionalities (as described in type 1) but differ by also emphasizing

the instructional implications of learning differences and the general educator's role in working with students with disabilities. Nine of the 40 required courses fall into this category. Examples include the following:

> *A study of individuals with exceptionalities from the gifted to the profoundly disabled . . . the course will develop a working knowledge of current practices, research, and legal mandates in the field of special education and exceptional children. A specific focus will be placed on inclusive classrooms, managing individuals with disabilities in general education settings, and making adaptations and/or accommodations in order to keep individuals with disabilities in the general education setting.*

* * *

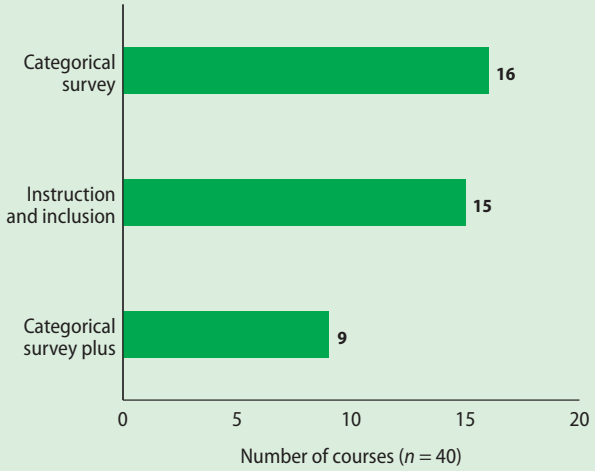
> *This course is designed to provide the student with an overview of the identification, classification, eligibility, and the unique characteristics of individuals with disabilities who require accommodations and adaptations throughout their life cycle. The course will focus on basic instructional strategies used to teach these individuals. The course includes an analysis of individuals across classification categories as well as an in depth review of all areas of exceptionalities per Georgia House Bill 671.*

Of the 40 disability-focused courses required by the sample programs, categorical survey courses (16) and instruction and inclusion courses (15) are almost equally prevalent (figure 2).

Of the 30 programs that require at least one disability content course, the most common type of course required is the categorical survey course (10 programs), followed by the categorical survey plus course (6 programs), and the instruction and inclusion course (5 programs; figure 3). In addition, nine programs require some combination of the three types of courses—with instruction and inclusion courses most frequently required in combination with another disability-focused course.

FIGURE 2

Number of each type of required disability-focused course in elementary education teacher preparation program sample, 2007



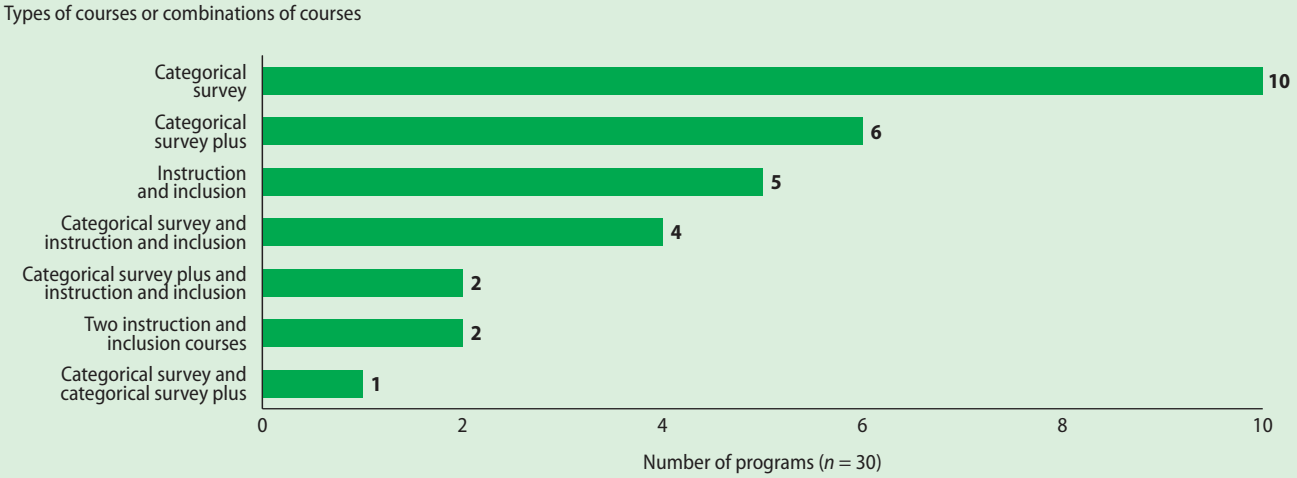
Source: Authors' analysis based on data from course catalogues, syllabi, and related program documents obtained from institution web sites.

The most common content in these courses are characteristics of exceptional students, field experience, instruction (including differentiated instruction), law and legal issues, the general education setting, and categories of disabilities (figure 4). Collaboration is mentioned only in the descriptions of inclusion and instruction courses, not in descriptions of the other types of disability-focused courses.

Distribution of disability-focused courses. Although both categorical survey and instruction and inclusion courses appear in programs in each of the six Southeast Region states, instruction and inclusion courses are most common in North Carolina (7 of the 9 programs reviewed). North Carolina programs also most consistently require more than one course relating to students with disabilities (5 of the 9 programs). Of the 10 small programs in the sample, only 1 requires more than one disability-focused course, and 7 require only a basic categorical survey course.

FIGURE 3

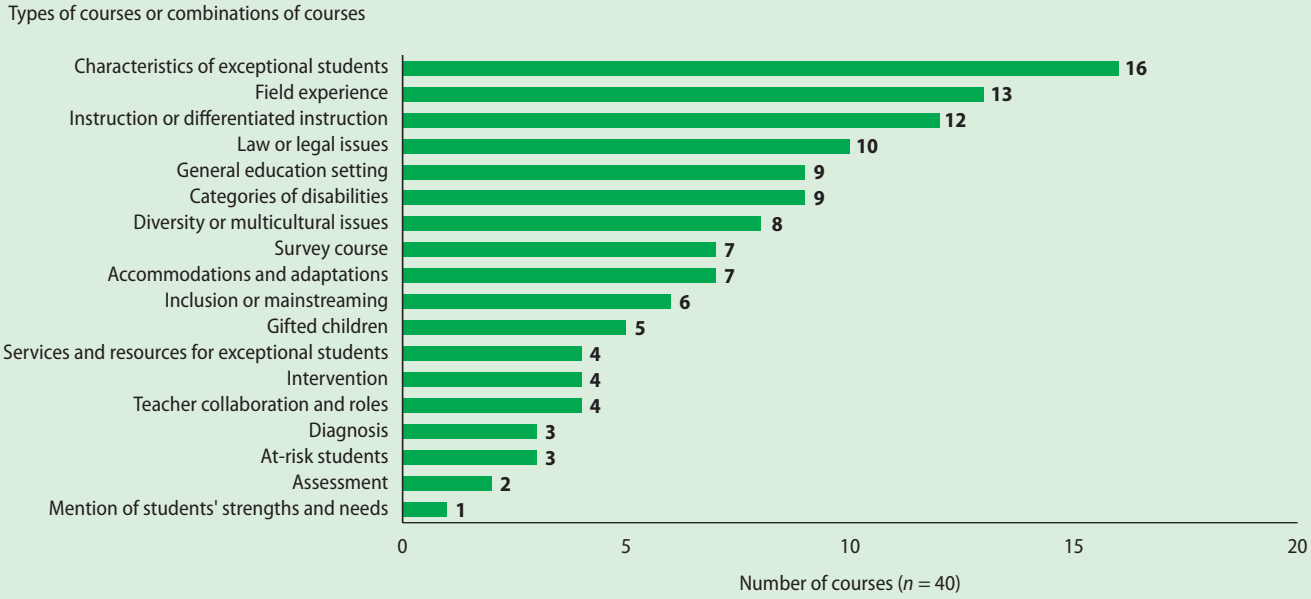
Number of elementary education teacher preparation programs in sample requiring each type and combination of types of disability-focused courses, 2007



Source: Authors' analysis based on data from course catalogues, syllabi, and related program documents obtained from institution web sites.

FIGURE 4

Common content in required core disability course in elementary education teacher preparation programs in sample, 2007



Source: Authors' analysis based on data from course catalogues, syllabi, and related program documents obtained from institution web sites.

Twenty-three programs across the six states included in this study require one of the two types of categorical survey courses, which are mutually exclusive in program requirements with one exception.[9] When these courses are required, they are frequently the sole required disability-focused course—in 10 of the 16 times that categorical survey courses are required and 6 of the 9 times that categorical survey plus courses are required, each is the sole disability-focused course. In contrast, the inclusion and instruction courses are the sole disability-focused course in only 5 of the 15 times

they are required. This type of course is more likely to be required in combination with another disability-focused course (10 of 15 times). The following are examples of how required disability-focused courses are grouped within individual programs:

- "Meeting the Needs of Diverse Learners" (type 3) and "Creating Learning Environments" (type 2).
- "Introduction to Exceptional Children" (type 1) and "The Inclusive Classroom" (type 2).
- "Introduction to Exceptional Children" (type 1), "Characteristics of Students with Mild Disabilities" (type 1), and "Educational Interventions for Students with Mild Disabilities" (type 2).

Also examined was the departmental location of the core disability courses, in particular whether courses are taught in the general elementary or special education departments for the 22 colleges and universities that have both. In total, these 22 institutions require 25 disability-focused courses. Slightly more (15 of 25) are taught in the special education department than in the elementary education department (10 of 25).[10] Sometimes programs require one course that is housed in the elementary education department and another that is in the special education department (4 of the 22 colleges and universities).

Key informants from two of the six programs explained that graduates had provided feedback about wanting more content and experience related to inclusion. Faculty in an Alabama institution responded by creating the course "The Inclusive Classroom," an addition to the required "Introduction to the Exceptional Child" course.

In sum, nearly all the programs in the sample (86 percent) for which there were no missing data require at least one disability-focused content course, more than the 61 percent found by Chang, Early, and Winton (2005) in their study of early childhood programs. But only 26 percent of programs in the sample required more than one such course, whereas 43 percent did so in the Chang, Early, and Winton study.

Nearly all the programs in the sample (86 percent) for which there were no missing data require at least one disability-focused content course, but only 26 percent of programs in the sample required more than one such course

The content of the required disability courses examined was in line with the two types identified by Jones and Messenheimer-Young (1989)—that emphasizing characteristics of exceptional children (exceptionalities) and that emphasizing accommodations and instructional strategies (mainstreaming). A third category blends these two types. Consistent with Jones and Messenheimer-Young, the programs reviewed more frequently require a course emphasizing characteristics of exceptional children than a course emphasizing accommodations and instructional strategies.

Embedding disability content in other required courses

Another strategy for integrating disability content into teacher preparation programs is embedding content into other required courses—what Lombardi and Hunka (2001) characterize as the "strand approach." Two studies of this approach (Lombardi and Hunka 2001; Brigham 1993) use small self-reporting surveys (with 72 and 15 respondents) with teacher candidates at one university program. Both studies find that some candidates and faculty preferred disability-focused courses rather than relying exclusively on the strand approach. The authors conclude that requiring a disability-focused course in conjunction with embedding disability content into other required courses may provide more systematic exposure to the needed content than does either approach alone.

This study examined required reading, math, multicultural and diversity, methods, and evaluation and assessment courses to determine whether they incorporated disability content. The content

of course descriptions was analyzed for references to any disability-related terms in the 35 of the 36 programs with available data. In cases of multiple required courses in an area, the most basic one in the sequence was selected.

Reading methods courses. All 35 of the sample programs require at least one reading course. Slightly more than a third (13) incorporate disability content into the course. The majority of this material covers early detection and diagnosis of reading problems, remediation, and use of various teaching strategies to address the individual needs of diverse learners. In two programs the required reading courses include objectives on adapting and planning instruction for all learners in ways that are highly compatible with Response to Intervention. For example, in one of these reading courses teacher candidates are expected to:

> *Be responsive to the needs of diverse learners by planning appropriate instruction based on cultural, social, physical, and cognitive differences; and be knowledgeable and able to apply the best practices in literacy across the curriculum to meet the needs of all ability levels of learners.*

Less than a sixth of required math courses (6) show evidence of incorporating disability—less than half the number for required reading courses

Math methods courses. All 35 programs in the sample require at least one math course. Less than a sixth of required math courses (6) show evidence of incorporating disability—less than half the number for required reading courses. Although required math courses do not commonly appear to be embedded with disability-focused content, the six that do focus strongly on inclusion, specifically on modifying instruction and monitoring progress to meet the needs of all learners. Several are also embedded with diversity considerations and fieldwork experience to modify lessons to meet individual needs, as in the following course description:

> *Teaching strategies appropriate to children with learning difficulties are described. Individual assessment and analysis of a particular child's mathematical problems, including teaching to this analysis are developed in case study form. Current research on teaching mathematics to children with special needs is examined. Knowledge of teaching strategies and the assessment/correction process will be applied during field experience.*

Although the course described above does not mention Response to Intervention, much of its content is compatible with that approach—specifically, how to gather information about the student, use formal and informal assessment tools, identify resource materials for remedial instruction, and evaluate the effectiveness of the intervention. But whether it is necessary to explicitly connect these practices and Response to Intervention for teacher candidates to effectively prepare them is an open question.

Multicultural and diversity courses. Nearly three-quarters of programs (26 of 35) require a multicultural or diversity course. Ten show evidence of embedded disability content. Roughly half include disability as part of a compilation of categories of diversity, including culture, ethnicity, race, social class, language, and gender. In contrast, other multicultural courses focus on inclusion:

> *A specific focus will be placed on inclusive classrooms, managing individuals with disabilities in general education settings, and making adaptations and/or accommodations in order to keep individuals with disabilities in the general education setting.*

General methods courses. Kozleski, Pugach, and Yinger (2002) argue that requiring a general methods course ensures that teacher candidates are familiar with a range of instructional strategies to accommodate students with and without disabilities in the general education setting. Of the 35 programs in the sample, 22 require a general methods course, including "Student Teaching Methodology Seminar," "Methods of Conceptual Teaching," and "Classroom Management, School

Safety, Ethics, Law, and Elementary Methods." Although 22 of the sample programs require a general methods course, only 5 incorporated disability-focused content and then typically in terms of standards' requirements for diverse students or classrooms, as illustrated by this excerpt from a course description:

> *Explores the current knowledge of best practices of a variety of teaching and management strategies and methods deemed appropriate for a diverse elementary classroom setting including [English for speakers of other languages] students and other exceptionalities.*

Assessment and evaluation courses. Assessment is increasingly important in elementary education because of state and federal accountability and the expansion of such initiatives as pre-referral processes and Response to Intervention. The National Joint Committee on Learning Disabilities (1997) includes assessment and evaluation among the core competencies necessary for general education teachers of students with learning disabilities, recommending that teachers be familiar with commonly used measures, able to evaluate student performance regularly to adjust instruction, and know how to use formal and informal assessment techniques.

Most programs in the sample (30 of 35) require at least one assessment or evaluation course, such as "Instructional Design and Evaluation" and "Classroom Assessment." Ten programs require assessment courses specifically on reading or literacy, and for slightly more than half of these, that is the only required assessment class. Four of the five syllabi reviewed for these assessment courses address individual differences, diverse learners, or students with disabilities, such as the following:[11]

> *Provide experiences designed to enhance skills in educational testing and measurement, diversity, cooperative learning and collaborative skills, technology skills and the student's development of reflective techniques and a positive disposition recognizing individual differences among students, and the growing diversity within the classrooms of today's schools.*

Most programs in the sample (30 of 35) require at least one assessment or evaluation course; ten programs require assessment courses specifically on reading or literacy, and for slightly more than half of these, that is the only required assessment class

One required assessment course embeds legal requirements for assessing special needs students, and another emphasizes formal and informal diagnostic assessments. This course, part of a North Carolina program, requires teacher candidates to write an essay describing their use of assessment data to modify instruction or to provide supplemental support for students.

Curricular coherence through embedding disability content. Blanton and Pugach (2007) define *curricular coherence* as a connected curriculum in which each course and program experience aligns with and builds on prior work. While the data collected from web sites are not conclusive as to whether programs embedding disability content into core courses are intentionally trying to achieve curricular coherence, key informant interviews suggest that this might be the case. Key informants from three of the six programs indicated that disability content is incorporated throughout the curriculum as a "strand" or "thread." As one explained:

> *It's built into the coursework . . . all of our elementary education content courses always incorporate working with students with disabilities. For example, our Elementary Mathematics Methods class would discuss how to adapt instruction for students with special needs. We choose textbooks that would also do that.*

These key informants also indicated that when curriculum and courses are developed through a collaborative teaming process, programs are better positioned to embed disability content into required courses. For example, one key informant

described the program design process at her institution in Georgia as involving work groups that develop and continually refine courses:

> *We always have had work groups related to courses, in which people who are teaching the same course work together to develop a syllabus and key assessments. . . . They also work within a strand. So, if you're teaching a course in the assessment strand, they meet periodically with people who are teaching courses that precede or succeed the course to make sure that everyone understands what the objectives are of each course and make sure that they are tightly connected.*

Almost two-thirds of programs in the sample (22 of 35) require fieldwork experience that incorporates disability content; more than half of these (13 of 22) are field components of disability-focused courses

Similarly, a key informant in Mississippi explained that his institution relies on a core team of five, including faculty and practitioners, who work to incorporate disability content throughout the program in both disability-focused and embedded coursework, "We don't develop courses one course at a time, but it's a part of the whole program." In addition, key informants from two of six programs reported that general and special education faculty review syllabi and provide input. One, representing a program in North Carolina, explained how this review is guided by a shared vision across departments:

> *The special education course is taught by special education faculty. A couple of representatives from our program area gave feedback. Special education took the lead but we all had input. And the class is built on the notion that all students can learn. The underlying idea is that candidates need the skills to help that to happen. It's our philosophical basis.*

In sum, the strand approach, as characterized by Lombardi and Hunka (2001), was found in 13 teacher preparation programs that embed disability content in at least one required course other than a disability-focused course. Disability content is most commonly embedded in multicultural (38 percent) and reading (37 percent) courses. The strand approach is most often used in conjunction with one or more required core disability courses rather than in place of them. This is consistent with Lombardi and Hunka (2001), who suggest that if a specific disability course is required, it should support rather than replace a special education course.

Incorporating disability content into field experiences

Providing teacher candidates the opportunity to practice their skills in clinical settings is central to their development as professionals, and experience with different student populations has been argued to be critical to preparing future teachers for success in multiability schools (Kozleski, Pugach, and Yinger 2002). But there seems to be little research on the topic. In a national survey of early childhood teacher preparation programs Chang, Early, and Winton (2005) include questions about required practicum experiences related to working with students with disabilities; they find that nearly three-quarters (73 percent) of bachelor's degree programs required field experiences with students with disabilities.

This study looked for evidence of field placements involving working with students with disabilities in information about the teacher preparation program and in course descriptions. Overall, almost two-thirds of programs in the sample (22 of 35) require fieldwork experience that incorporates disability content. More than half of these (13 of 22) are field components of disability-focused courses. Fieldwork is also incorporated into other content courses, in particular reading courses, which frequently include both field components and disability content (table 3).

The data on the settings of these field experiences are limited, specifically on whether they are in inclusive classrooms or pull-out special education settings.[12] A few web site descriptions of student teaching, such as the following, make it clear that

TABLE 3
Elementary education teacher preparation programs in sample incorporating disability-related field experience in core courses, 2007

Subject	Number (subset embedding disability content)
Reading	14 (6)
Math	10 (4)
Multicultural and diversity	12 (5)
Methods	5 (1)

Note: Data on reading, math, multicultural and diversity, and methods were missing for one program, so the analysis in this section covers 35 of the 36 programs.

Source: Authors' analysis based on data from course catalogues, syllabi, and related program documents obtained from institution web sites.

teacher candidates will observe and interact with students with disabilities, but it is less clear how much this interaction parallels actual inclusive teaching responsibilities:

> *Extensive field experiences and clinical practices are designed to encourage candidates to interact with exceptional students, students from different ethnic, racial, gender, socioeconomic, language, and religious groups. These experiences help candidates confront issues of diversity that affect teaching and student learning and develop strategies for improving student learning and candidates' effectiveness as teachers.*

Key informants from four of six programs indicated that teacher candidates work with students with disabilities. However, inclusion experiences are only ensured in one program in Alabama that requires nine days of field experience during which candidates teach lessons demonstrating that they have included all students.

Consistent with Miller and Stayton (2006), the study found little evidence in program descriptions or interviews of coteaching or of placing general and special education teacher candidates in the same schools for these field experiences. One exception is a program in North Carolina that requires general and special education candidates to take the same practicum course while student teaching. Although coteaching and collaboration between general and special education candidates may occur more often than is evident in program descriptions, lack of evidence is notable given their emphasis in teacher preparation program standards. The National Council for Accreditation of Teacher Education standards, for example, require teacher preparation programs to offer field and clinical experiences for candidates to develop and demonstrate their capacity to help all students learn, including students with exceptionalities, as well as to work collaboratively with other candidates and specialists. The Interstate Teacher Assessment and Support Consortium (2001) standards also emphasize collaboration, particularly between general and special education teachers who share instructional responsibility for students with disabilities (see appendix B for an excerpted list of these standards).

Featured here by name with permission because it is unique in the sample, North Georgia College and State University (NGCSU) has a fully merged general and special elementary education program and requires substantial fieldwork. The key informants interviewed about this program linked the program's effectiveness to its strong fieldwork emphasis. Teacher candidates in the merged NGCSU program spend roughly 900 hours in class. Field placements begin in the junior year, with a three-hour morning placement four days a week and rotations every six weeks into different grade levels in the same school. These rotations continue the first semester of candidates' senior year but in a different school. This is followed by full-time student teaching in either general or special education during the last semester. One school in which candidates work is highly diverse, and placements include both general and special education classrooms. Candidates' field experience in inclusion classrooms depends, however, on how much inclusion occurs in the cooperating schools. Overall, program leaders at NGCSU have found that this arrangement positively affects partner schools' commitment to training teacher

Like embedding disability content into core courses, requiring fieldwork is a way to incorporate disability content into an otherwise full program schedule

candidates: "In an elementary school if you know you're going to have a person for a year, you invest more time in them."

Like embedding disability content into core courses, requiring fieldwork is a way to incorporate disability content into an otherwise full program schedule. One key informant explained that since a cap on program hours prevented her program from adding more special education coursework, they embedded the content into field experiences instead:

> *Working with students with disabilities is integrated through the field experiences. We try to provide natural environments: how children are placed in the classroom, adaptation of lesson plans but still maintaining high expectations. . . . We're limited a bit by a recent cap on our hours, so we added more to the field experience—that's where the students begin to deal with the realities of inclusion.*

In sum, almost two-thirds (63 percent) of the sample programs require fieldwork experiences that incorporate disability content. This is consistent with the Chang, Early, and Winton (2005) finding that nearly three-quarters of the early childhood bachelor's degree programs in their sample required practical work with students with disabilities. Most of the disability-related field experiences in the current sample are field components of disability-focused courses. Fieldwork is also incorporated into other content courses, particularly reading courses, which frequently include field components and disability content. Except for one program, there was little evidence of placing general and special education teacher candidates in the same schools for these field experiences.

Aligning mission and coursework requirements

As mentioned, program coherence has been advocated as a way to improve teacher preparation by forging a common vision and stronger links among courses and between courses and field experiences (Darling-Hammond et al. 2005). As a way of operationalizing program coherence, Chang, Early, and Winton (2005) investigate congruence between the inclusion of disability content in early childhood teacher preparation program mission statements and required disability-focused courses and fieldwork requirements. While a slightly higher percentage of bachelor's programs with disability content in their missions required disability-focused courses (62.6 percent) than those without disability content in their missions (57.3 percent), the difference was not statistically significant. Chang, Early, and Winton also find that programs with disability content in their missions were more likely to require fieldwork with students with disabilities (79.8 percent) than those without this mission (62.9 percent), and this difference was statistically significant.

More than half the institutions or programs in the sample (21 of 36) incorporate disability content in their mission. Since these mission statements are intended to guide program development, alignment was expected between this priority and program requirements for disability content. Chang, Early, and Winton (2005) find that early childhood teacher preparation programs that referenced students with disabilities in their mission have slightly more disability-related coursework and significantly more disability fieldwork than programs without such reference.

This study examined these issues, as well as the extent of alignment between missions and disability content embedded in other core courses. The 20 programs in the sample that reference students with disabilities in their missions (1 program had missing data that could not be obtained through follow-up contact) were compared with the 15 that do not.

Seventeen of the 20 programs with disability content in their missions require one or more disability-focused course, and 13 of 15 programs that do not include disability content in their

mission do—about the same proportion (table 4). The average number of required disability-focused courses is roughly equivalent in the two groups.

Reading courses were used to gauge the extent of alignment between mission statements and disability content embedded in other core courses because all programs in the sample require a reading course and because reading courses most frequently incorporate disability content. Of programs that embed disability content in required reading courses, 10 of 20 (50 percent) are at colleges and universities that have disability content in their missions, and 3 of 15 (20 percent) are at institutions without this priority.[13] A significance test (chi-square) found this difference to be not statistically significant ($p = .089$). For programs that both require core disability courses and embed disability content in other courses, figure 5 compares the number of programs with and without disability content in the missions. Among the programs with disability content in their mission, the findings also indicate that requiring multiple disability courses and embedding disability content co-occur: six of the seven colleges and universities that require more than one disability course also embed disability content into reading coursework.

The extent of alignment between disability content in the program mission and required fieldwork experience with students with disabilities was also examined. Chang, Early, and Winton (2005) find congruence between disability content in missions and related field experiences, with elementary education programs that had disability content in their missions significantly more likely to require a practicum in the area than those that did not. The findings also show congruence between the two strategies of including disability content in missions and requiring fieldwork. For the sample, colleges and universities with a disability-related mission are more likely to require related fieldwork (86 percent) than programs without such a mission (27 percent), a statistically significant difference between the two groups ($p = .000$).

In sum, there was no difference in the presence or amount of disability-focused coursework between colleges and universities that did and those that did not have disability content in their mission statement. Similarly, Chang, Early, and Winton (2005) find no significant difference in disability-focused coursework between early childhood teacher preparation programs that did and did not reference students with disabilities

TABLE 4

Alignment of mission and courses in elementary education teacher preparation programs in sample, 2007

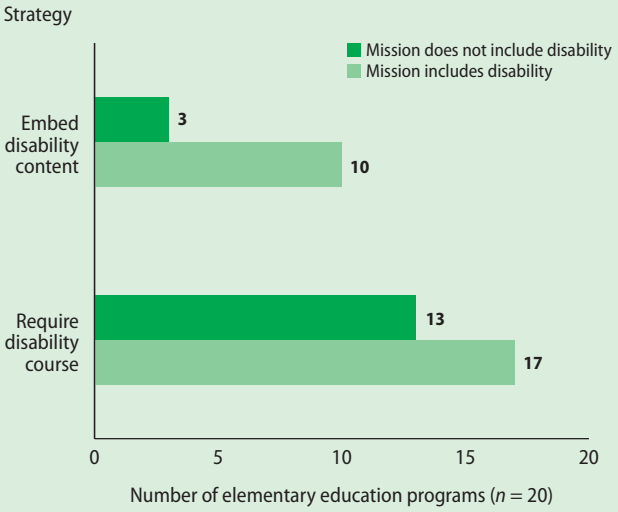
Mission statement incorporates disability?	Average number of required disability courses
Yes ($n = 20$)	1.25 (range: 0–3)
No ($n = 15$)	1.00 (range: 0–2)

Note: The difference in the average number of required disability courses between groups was not significant ($p = .297$) according to an independent sample t-test.

Source: Authors' analysis based on data from course catalogues, syllabi, and related program documents obtained from institution web sites.

FIGURE 5

Comparison of embedded disability and required disability course strategies used by elementary education teacher preparation programs in sample incorporating and not incorporating disability content in their missions, 2007



Source: Authors' analysis based on data from course catalogues, syllabi, and related program documents obtained from institution web sites.

There was no difference in the presence or amount of disability-focused coursework between colleges and universities that did and those that did not have disability content in their mission statement

in their mission. But among programs with disability content in their mission the strategies of requiring multiple disability courses and embedding disability content tend to co-occur—six of the seven institutions that require more than one disability course also embed disability content in reading coursework.

The findings on alignment of mission and fieldwork are also consistent with that of Chang, Early, and Winton (2005), who find that programs that have disability content in their missions have significantly more disability fieldwork than programs that do not. This study found a significant difference between the groups—programs with a disability-focused mission are more likely to require related fieldwork (86 percent) than programs without such a mission (27 percent).

Sharing course experiences between general and special education

While some argue that team teaching between general and special educators is important in preparing educators to work with all students, including those with disabilities (Arthaud et al. 2007; Strawderman and Lindsey 1995), there has been little investigation of the prevalence and impact of team teaching and shared courses between general and special education. An exception is Nowacek and Blanton (1996), who compare a team-taught collaborative methods course involving general and special education candidates with a course covering similar content but without team teaching or a special focus on collaboration skills. Their sample of teacher candidates was small, and there were no significant differences between the two groups in attitudes toward or knowledge of working with students with disabilities. But the researchers suggest that the timing of the measurement of outcomes (at the conclusion of the course rather than later in the candidates' career) might have accounted for the lack of differences.

The influence of timing on the measured impact of shared teaching and learning across general and special education is given some credence in results reported by Van Laarhoven et al. (2006). They find that two years after graduation candidates self-reported that opportunity to collaborate across general and special education had been one of the most valuable aspects of the program. The researchers argue that candidates' perceptions of the influence of coteaching and shared coursework might be measurable only after they have been working in schools where collaboration is expected.

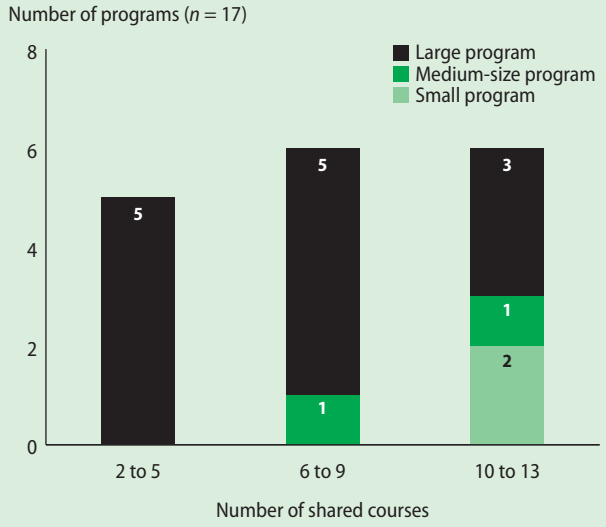
Despite the paucity of research, Blanton and Pugach (2007) contend that requiring the same courses of general and special educators is potentially a way to avoid the disjunction that new teachers can experience when there is little collaboration in their preparation program but substantial expectation of it in schools, where general and special educators are increasingly expected to work effectively together.

For the 22 colleges and universities in the sample with undergraduate special education programs, 17 (77 percent) had no missing data on course requirements for both programs.[14] The professional courses required for general and special education candidates were compared by examining course titles. Programs shared as few as 2 and as many as 13 courses, with 8 the median. And although small institutions, with fewer faculty members, were expected to have relatively more shared courses than larger institutions, this was not entirely the case. Small institutions do share many courses across general and special education programs, but some medium-size and large institutions also do (figure 6).

Two researchers independently examined the 132 course titles and then together determined 10 categories of shared courses into which they sorted the courses (figure 7). (See appendix C for a list of shared courses.) The most commonly shared courses are content courses such as math and reading (43 of 132 courses), followed by general

FIGURE 6

Number of shared general and special education courses by program size and number of elementary education teacher preparation programs in sample, 2007

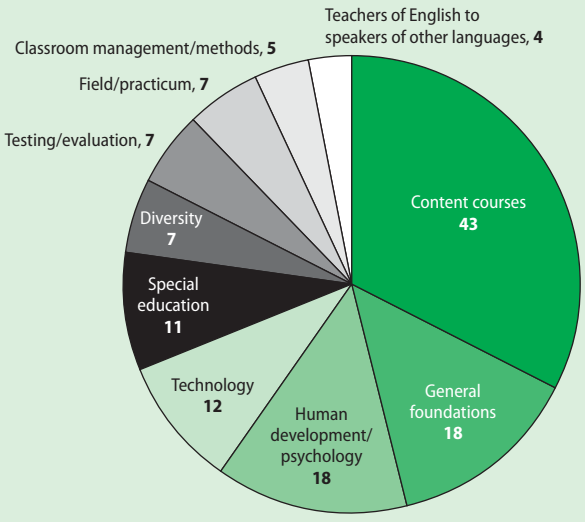


Note: The sample is the 17 of the 22 programs for which there were no missing data.

Source: Authors' analysis based on data from course catalogues, syllabi, and related program documents obtained from institution web sites.

FIGURE 7

Distribution of number and types of shared courses in elementary education teacher preparation programs in sample, 2007



Note: The sample consists of 132 course titles.

Source: Author's analysis based on data from course catalogues, syllabi, and related program documents obtained from institution web sites.

foundations (18 of 132 courses) and human development (18 of 132 courses). Other content area courses and classroom management courses are rarely shared.

Of the key informants interviewed, three represented colleges or universities with separate general and special education degree programs. Each program takes a distinct approach to overlapping coursework. In one Georgia institution the five-course overlap between programs was attributed by the key informant to common requirements in math and reading rather than to the program's design. For an institution in South Carolina that shares 12 courses between general and special education programs, the key informant contended that the overlap makes both programs stronger, describing the approach as "inclusive" "bring[ing] the majors together." Yet she acknowledged that the sharing occurs not just because of philosophy but also because of the need to derive the most out of scarce resources. In an institution in North Carolina with eight shared courses, the key informant depicted the resulting diversity of enrolled candidates as a resource for looking at things from different perspectives. This North Carolina institution has tried to avoid isolating the programs and operates under a shared belief that bringing candidates from different majors together makes for a richer learning environment. Until recently, the general and special education programs were in the same department, and faculty were "always interacting," perhaps shaping their organizational belief.

Although data are limited, the study also looked at the focus of courses that are not shared in the five colleges and universities that have the highest number of common courses between special and general education programs. These nonshared courses represent roughly half the required professional sequence. Analysis of the course titles showed that general education nonshared courses are content-area courses, especially reading and math, and to a lesser extent art, music, science, and social studies. Special education nonshared courses vary, but tend to include curriculum,

A comprehensive approach to preparing general educators to work with students with disabilities is creating teacher preparation programs that enable candidates to earn both general and special education licenses

planning, and methods courses. No general and special education programs in these five institutions share a course pertaining to professional collaboration or multiculturalism or diversity.

In sum, there was considerable evidence of shared courses (13 of 18 programs), and several key informants considered that an important program design feature. Blanton and Pugach (2007) suggest that shared courses can help prepare teacher candidates for the collaboration expected between general and special educators in schools. This study identified another possible reason: in one case shared courses were not part of the program's design but a result of limited resources and common requirements.

Practicing collaborative program design

An alternative to the individual approaches reviewed so far is the systematic combining of general and special education training throughout a teacher preparation program. What has been referred to as *collaborative teacher preparation* (Blanton and Pugach 2007; Blanton et al. 1997) can include a range of strategies, as Voltz (2003) finds in a follow-up interview study of 13 representatives of 63 collaborative programs included in a national survey study. Although the sample was small and represented only those willing to participate, Voltz finds that programs used practices such as coteaching in the same classroom, joint planning, and guest lecturing to infuse disability content throughout the program, rather than relying solely on a disability-focused course.

But collaborative programs are not common. Two survey studies found that roughly half of teacher preparation programs across the country address disability content through specific courses, while only a small number of colleges and universities report collaborating more systematically across general and special education (Miller and Stayton 1998; Voltz 2003). In addition, Pugach (2005) notes that few studies contrast different types of collaborative teacher preparation programs—such as programs that offer a combination of dedicated disability-focused coursework and content embedded into other courses and fully integrated programs that use the strand approach and require no dedicated special education coursework. Studies focus instead on how particular collaborative programs were developed (Lesar et al. 1997; Dice et al. 1996; Jenkins, Paleman, and Black 2002) or survey their prevalence and characteristics (Miller and Stayton 1998; Voltz 2003).

To better understand collaborative programs and bring coherence to future investigations, Blanton and Pugach (2007) created a three-part conceptual framework for characterizing programs:

- *Discrete.* There is little if any relationship between programs that prepare general and special education teachers. There might be coordination in the provision of individual courses, but not at the program level.

- *Integrated.* General and special education faculty work collaboratively at the program level to align multiple segments of their programs, such as classes, field experiences, and performance assessments. Coordination extends beyond the provision of individual courses. Candidates earn a general education license based on a philosophy of inclusion; earning a special education license is optional.

- *Merged.* There is a single curriculum with complete integration of courses and field experiences that addresses the needs of students with disabilities as a routine part of the program. All candidates earn both a general and special education license.

A comprehensive approach to preparing general educators to work with students with disabilities is creating teacher preparation programs that enable candidates to earn both general and special

education licenses. Of the 36 colleges and universities in the sample, 4 offer programs that can result in both an elementary and special education license—1 in Florida, 2 in Georgia, and 1 in Mississippi.

At the two combined programs in Georgia key informants explained that state teacher licensing and preparation requirements have been influential (see appendix D for a description of each state's licensing options). Georgia has made structural changes in its licensing requirements and has created a dual P–5 license in early childhood and special education with an emphasis on mild to moderate disabilities. As in many states, Georgia's regular special education license covers PreK–12. The narrowed grade span of the dual license makes it more feasible for programs to incorporate sufficient special education content. Concurrent with Georgia's new licensing options, one key informant indicated that state officials in Georgia are encouraging colleges and universities to create programs that result in two licenses.

The four colleges and universities in the sample that offer a combined general and special education preparation program offer distinct alternatives to candidates. For example, in one Georgia institution and the one Florida institution the combined general and special education program is the only route to certification in special education at the undergraduate level, but the institutions also offer a program for elementary education certification only. There were considerably common coursework requirements between the combined general and special education program and the separate elementary program in the two programs. But the Florida program required equal numbers of general and special education courses, while the Georgia program required fewer special education courses and more general education courses that focus on strategies for inclusive classrooms. Teacher candidates in the separate elementary education degree program at this Georgia institution take these inclusion-oriented courses even though they are not in the combined degree program.

The second Georgia institution that offers a program that combines general and special education is unique in that it is the only available path to certification in either elementary or special education. It represents, in Blanton and Pugach's (2007) typology, a fully merged program in overall program design. The dual major at North Georgia College and State University (named with permission) originated from needs identified for both general and special education teachers and from schools in the region. A program leader explained, "We were preparing early childhood teachers to go into schools with large numbers of children at risk, and we were finding that the traditional type of early childhood curriculum wasn't sufficient." In addition, program leaders wanted to fully prepare teacher candidates for the complex reality of today's schools to ensure that they would remain teaching in a state with significant teacher shortages. Thus far, dual major graduates have been evenly split between those who take general and those who take special education positions.

At North Georgia College and State University planning for the program was bolstered by the high number of pre-existing overlapping courses, but planning still took one year. The effort was led by 10 general and special education faculty who were given course releases to focus on the task and who met for an hour and a half each week for the entire year. Program leaders prioritize willingness to collaborate when hiring new faculty members—one of the core strategies for promoting collaboration identified by Blanton and Pugach (2007). Part of the development process was requesting a dispensation from the state—which licenses special education PreK–12—to acknowledge a P–5 special education specialization. The recently restructured licensing option in Georgia for special and early education P–5 is consistent with the dual major's goal of training "elementary school specialists." The program has also benefited from the state's new teacher

Four programs reviewed in this study have developed degree programs that can result in licenses in both elementary and special education

certificate assessment expressly designed for dual programs. Candidates previously took two tests (one in general and one in special education).

The program is now increasing its multicultural programming and supporting a learning community of freshmen and sophomores who are interested in the dual major as well as Spanish language training. One program leader predicted: "We're going to have both the diversity piece as well as our special education piece and the whole big picture of the diversity issue will come into the project." An outstanding challenge, however, is incorporating an English language learner student focus, but program space makes this difficult to accommodate. Box 2 shows the key design features and challenges associated with developing the North Georgia College and State University dual degree program.

In sum, four programs reviewed in this study have developed degree programs that can result

BOX 2

Design features and challenges of the North Georgia College and State University dual degree program

Key design features of the North Georgia College and State University dual degree program:

- Continual revision and efforts to further develop and improve.
- Weekly faculty meetings and work groups that develop particular strands of curriculum and connected courses.
- A flat hierarchy with program coordinators instead of department heads.
- Several rounds of aligning program components (such as courses, assessment instruments) with National Council for Accreditation of Teacher Education, Interstate New Teacher Assessment and Support Consortium, Council for Exceptional Children, and state professional standards, as well as a metacognitive model developed by the faculty.
- Increased credit hours (from 120 to 132), and a fifth semester (taken in the summer between junior and senior years).
- Curriculum linked (excluding the summer session) through five course strands: foundations and theory, assessment, classroom and behavioral management, methods in curriculum and professionalism, and leadership.
- Balanced coursework between general and special education, with effort to integrate and embed as much as possible.
- Range of disabilities covered, but focus is on mild to moderate intellectual disabilities, learning disabilities, and emotional and behavioral disorders.
- Substantial content area focuses in courses, specifically in reading, math, and science (equivalent to endorsement levels in each).
- Extensive fieldwork component.
- Introductory courses redesigned to include more content related to multiculturalism and working with children at risk.

Challenges have included:

- Shifting from a culture of faculty autonomy to one of faculty collaboration.
- Working with the state to align the program with candidate licensing and testing requirements.
- Communicating with school districts what dually certified means and how to tell whether an applicant is dually certified.
- Handling greater workload due to faculty's increased commitment to collaborative course development and field placements.
- For non-Research I universities, competing for federal personnel preparation grants to support the collaborative program development and operations.
- Creating an assessment instrument and common language for observing teacher candidates across general and special education fieldwork settings.

in licenses in both elementary and special education. Consistent with published descriptions of these collaborative programs (Blanton et al. 1997; Blanton and Pugach 2007), these four varied in design and in whether they were the only elementary and special education degree option or one of several. One program in the sample met the criterion of a fully merged general and special education preparation program (Blanton and Pugach 2007).

PUTTING IT ALL TOGETHER

Programs generally do not rely on just one strategy to integrate disability content but use a combination of strategies. One key informant, for example, explained that disability content is integrated into her program in three main ways: by requiring the core course "Meeting Needs of Special Students in Elementary Schools," by integrating disability content into field experiences, and by ensuring that general and special education candidates take numerous courses together. To show how programs use strategies in combination, a composite measure of the extent of integration was developed for this study (see appendix A). Table 5 lists the factors included in the measure.

Programs' composite scores on the extent of integration range from 0 to 9, with an average of 3.17. Among states, Georgia and North Carolina have the highest averages (4.5). Larger programs have a mean extent of integration composite score of 3.3, and smaller programs a mean score of 2.7 (the difference is not statistically significant; $p = .634$). The patterns of scores are similar for the distribution of extent of integration composite scores for elementary education teacher programs in colleges and universities with and without special education departments (figure 8).

The five highest scoring programs (with a composite score of 6 or higher) were examined to see whether the programs with substantial disability content integration had anything in common. Three programs are in colleges and universities with a special education department, one is a fully merged general and special education program, and one is in an institution without a special education department. No one strategy predominates among these top-scoring programs. One

TABLE 5
Composite measure of the extent of integration in teacher preparation programs

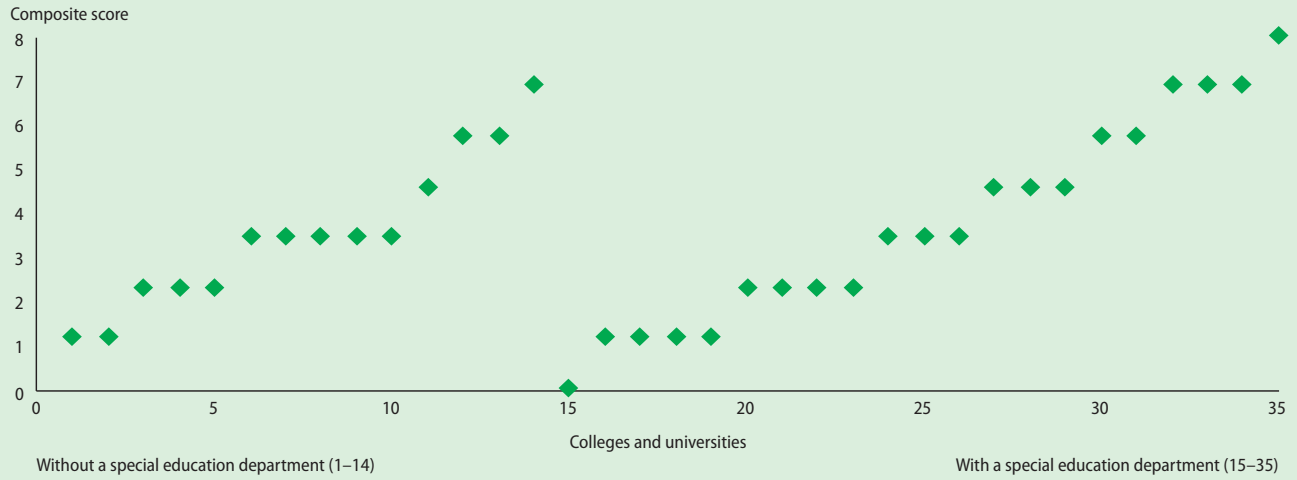
Category	Criterion	Number of points
Mission statements	Incorporating disability content into the college or university mission	0–1
	Incorporating disability content into the elementary education department mission	0–1
Disability-focused courses	Each required course	0–3
Embedded disability-related courses	Incorporating disability content in reading course	0–1
	Incorporating disability content in math course	0–1
Field experience	Requiring field experience in the disability-focused course	0–1
	Requiring fieldwork relating to students with disabilities other than in core course	0–1
Composite score, maximum		9
Average composite score		3.17

Note: The study had no validated means to determine the relative weight to give each component of the scale, especially for the values given to embedded disability content in reading and math courses relative to those given to disability-focused courses. Giving one point for each required disability-focused course seemed justified, however. Giving one point for each reading and math course (and others) with embedded disability content would have inflated the overall value of the strand approach over the requirement of having one or more disability-focused courses. Future investigation to develop and validate such scales would be helpful.

Source: Authors' compilation based on data from course catalogues, syllabi, and related program documents obtained from institution web sites.

FIGURE 8

Composite measure of integration scores by presence of special education department for elementary education teacher preparation programs in sample, 2007



Source: Authors' analysis based on application of criteria; data from course catalogues, syllabi, and related program documents obtained from school web sites.

program graduates a small number of candidates and shares more than half its courses with the special education program, including a practicum. Another program requires multiple disability-focused courses and also embeds disability content into other required courses. Two programs require substantial shared courses with the special education program and are aligned under a common conceptual framework.

Key informants from all six programs indicated that the integration of disability content can be bolstered by regular interaction among faculty with general and special education expertise, whether in the same department or not. For example, a key informant representing North Georgia College and State University who teaches required reading courses explained: "We meet and talk all the time, so . . . if I have a question in my content area reading class on how to address a certain area, with, say, language disability, I can run across the hall and say, 'How do I handle this?,' or 'What strategy should I use to help them understand?'" Yet interview findings indicate that the level of collaboration across general and special education varied even among programs with high scores on the extent of integration composite: one of the highest scoring programs has only intermittent and often obligatory collaboration across general and special education.

APPENDIX A METHODOLOGY

This study used a two-phase descriptive design: a web site data collection phase and a key informant interview phase.

Phase 1: data collection

For phase 1, conducted May–August 2007, a stratified random sample of 36 elementary education teacher preparation programs in the Southeast Region was drawn.[15] Three variables were used for stratification. The first was state, with the number of programs included for each state proportionate to its share of the region's total.[16] The sample frame excluded community colleges and alternative certification programs. These are important sources of teacher preparation, but including them would have introduced additional intervening variables and conditions that could not be adequately considered in the study while maintaining the focus and specificity of a Fast Response Study. The criteria for inclusion were programs that award bachelor's degrees (as identified in MacMillan Reference 2006), have an elementary education preparation program (MacMillan Reference 2006), graduate a minimum of 18 students,[17] and have no missing data for number of graduates based on available data sources.

The second stratification variable was program size based on the number of bachelor's degrees conferred in the most recent year for which data were available. Although setting a minimum program size somewhat biased the sample toward larger programs, it ensured that the programs included would have sufficient activities to be informative.

The third stratification variable was whether a program was part of a historically black college or university. Inclusion of historically black colleges and universities in the sample ensured that teacher preparation programs that train many minority teachers, who often take positions in hard-to-staff and urban schools, were represented.

Although the unit of analysis for sampling was the elementary education program, the larger data collection and analysis effort also related to the institution, college, or department of education of which the elementary education program was a part.

Overall, 117 programs met the four criteria and were included in the sample frame: 23 programs in Alabama, 17 in Florida, 13 in Georgia, 12 in Mississippi, 29 in North Carolina, and 23 in South Carolina (see tables A4–A9 at the end of this appendix for a complete list of the programs). The number of historically black college and university programs randomly selected per state was based on their proportional representation in each state, with at least one per state. For Georgia and South Carolina, this meant that historically black colleges and universities were over-represented.

To determine the scale for program size, programs in each state were arrayed by number of graduates cited in the most recently available source. Creating cutpoints for the scale based on even distributions within each state would have resulted in inconsistencies in the scaling across states (for example, a large program would have been defined as having a minimum of 346 graduates in Florida, but 96 in North Carolina). So, absolute cutpoints were applied across states to define small, medium, and large programs based on aligning the distributions of the number of graduates as much as possible.

Program size was scaled at three levels: small, at 60 or fewer graduates; medium, at 61–200 graduates; and large, at 201 or more graduates. Since the number of programs drawn for each state varied, the number could not always be evenly distributed across the three program size strata. For example, Alabama and South Carolina had seven programs in the sample and Florida had five (table A1). When the three strata for program size could not be distributed evenly within a state, the decision was made to oversample large programs (1 small, 1 medium, and 2 large for Georgia and 2:2:3 for South Carolina) and medium programs (1:2:2 for

TABLE A1

Number of elementary education teacher preparation programs in the sample by state, size (number of graduates), and historically black colleges and university status, 2007

State	Number of programs	Program size distribution (number)			Number of historically black colleges and universities
		Small	Medium	Large	
Alabama	7	2	2	3	2
Florida	5	1	2	2	1
Georgia	4	1	1	2	1
Mississippi	4	1	1	2	1
North Carolina	9	3	3	3	2
South Carolina	7	2	2	3	1
Total	36	10	11	15	7

Source: Authors' analysis based on application of criteria to data from course catalogues, syllabi, and related program documents obtained from institution web sites.

Florida). Small programs were therefore slightly under-represented.

During phase 1 data collection four replacements were made using random selection from the original sample. In two cases this was due to web site construction, in one case to the absence of an elementary teacher preparation program, and in another case to a Christian-oriented program that was not preparing candidates to seek mainstream state certification.

Phase 1 data collection involved searching college and university as well as program web sites for information, following a structured information-gathering protocol. Information was sought on institution and program mission, course requirements, course descriptions and syllabi, faculty expertise and credentials, organizational arrangements, and fieldwork requirements. When information was missing, a second data collector repeated the web search. When key data sources could still not be obtained, researchers followed up with phone calls, including two seeking required course listings, one seeking course descriptions, and five seeking syllabi.[18]

Phase 1 data collection was guided by a conceptual framework developed through a review of literature on general education teacher preparation for working with students with disabilities. Three strategies were used to identify relevant literature. Wilson Web was searched for peer-reviewed studies published in the last 15 years using the following keywords: teacher preparation + students with disabilities + "mainstreaming in education"[19] + "teacher education." Hand reviews of abstracts excluded international studies and studies not dealing with teacher preparation and not focusing on academic subjects. This search yielded five publications. A second search was conducted on Wilson Web using the following search terms: teachers colleges/curriculum + special education + mainstreaming in education. Hand reviews of abstracts excluded publications focusing exclusively on special education. This yielded two more publications.

The second search strategy involved searching the Educational Resources Information Center (ERIC) database for publications in the last 15 years using the following keywords: regular and special education relationship + preservice teacher education + disabilities + elementary. This yielded 85 publications. Hand reviews of abstracts excluded international studies, those that did not focus on preservice undergraduate education, works previously identified, program descriptions and position statements, and works focused on practice/application. This yielded 18 publications. Because of the low numbers of relevant studies, no methodological

criteria were applied, but one study with only a 20 percent response rate was excluded.

The third search strategy involved obtaining and reviewing works recommended through internal and external peer reviews, including review articles and highly relevant publications cited in these items. This yielded seven additional publications.

The following key variables were identified for data collection in phase 1 based on the literature review: institution and program mission, number and content of required courses focused on working with students with disabilities, the infusion of disability content into other required courses, fieldwork and practicum requirements, shared courses between general and special education, and evidence of faculty collaboration. An Excel spreadsheet was created as a repository for indexing the relevant data collected in phase 1, although source documents were also saved. For example, the source document containing a program's mission statement was saved, but only the relevant narrative was extracted and placed in the Excel file. Data indexing included entering verbatim material as well as material from multiple sources when relevant to a variable. Several rounds of interrater reliability checks were conducted at the outset of indexing. Researchers also reviewed each other's work.

The study took a broad approach to operationalizing occurrences of references to students with disabilities in mission statements and curriculum materials. The original study proposal limited investigation to content relating to working with students with learning disabilities, but the researchers soon realized that to capture sufficient information they needed to take an expanded approach. They therefore indexed any content relating to preparing candidates to work with students with disabilities, special needs, learning differences, exceptionalities, multiple abilities, and the like and presented this variability as a finding in the report. Similarly, the study did not exclude information pertaining to any disability and therefore expanded data collection in this regard beyond the original plan.

Data analysis for phase 1 data combined thematic and content analysis of qualitative data as well as tallies and cross-tabulations of quantitative data. Data on qualitative items were extracted from the Excel spreadsheet into Word files. The qualitative data were analyzed manually rather than with a qualitative data analysis software program because of the limited amount of text on each item. Data on quantitative items were tallied and in some cases further analyzed using SPSS. Two researchers independently reviewed qualitative material and identified consistent themes and categories, which were compared and discussed. Similarly, codes identified for content analysis of course content were independently generated by two researchers, and differences were reconciled through discussion. Sometimes data on particular quantitative items—for example, how many disability courses include field components—were embedded in qualitative items (such as course descriptions) and could be tallied.

Confidence intervals on percentages reported in the text can be calculated by finding the row percentage closest in value to the sample percentage (table A2). For example, a sample percentage of 23 percent would have a 95 percent confidence interval of ±10.9 or 12.1–33.9 percent.

To analyze how programs use a combination of integration strategies, a composite measure was developed of the extent of disability integration. The maximum score on the final composite measure scale is 9. To develop this measure, key

TABLE A2

Ninety-five percent confidence intervals for sample percentages, 2007

Sample percentages based on population percentages	95 percent confidence interval for population percentage (percentage points)
10	± 8.1
20	±10.9
30	±12.4
40	±13.3
50	±13.6

Source: Statisticians' analysis.

factors representing the strategies included in the analysis were selected, and the following decisions were made:

1. Incorporating disability priorities into mission statements (0–2 points).

   One point was assigned for incorporating disability content into the college, university, or department mission, and one point for incorporating disability content into the elementary education department mission. Assigning one point for each ensures representation of programs within different governing structures (a program in an institution with no elementary education department or a program in an elementary education department with no institution-level entity). Institutions with missions incorporating disability content at both the institution and department levels could receive two points to reflect the apparent commitment throughout the organizational structure and the potential for coherence of disability as a priority in the program. A check was conducted to ensure that assigning two points would not penalize small programs with flat organizational structures.

2. Requiring disability-focused courses (0–3 points).

   One point was assigned for each required disability-focused course.

3. Embedding disability content in required courses (0–2 points).

   One point was assigned for incorporating disability content into a core reading course and one for incorporating disability content into a core math course. These subjects were chosen because they were common to all programs in the sample and are priority areas under the No Child Left Behind Act.

4. Incorporating experience with students with disabilities into fieldwork (0–2 points).

   One point was assigned for field experience in the core disability course, and one for evidence of fieldwork relating to students with disabilities in other courses or practicum.

5. Aligning mission and coursework requirements.

   No factor was selected to represent this strategy because its core pieces are already represented in the measure, and analysis of the core pieces would result in redundancy.

Factors were not incorporated into the measure for the final two strategies—shared course experiences between general and special education and collaborative program design—to avoid bias. Many of the programs in the sample were part of institutions without special education programs. Assigning points to factors representing these strategies would result in systematic bias against institutions without special education programs. Factors representing faculty expertise and faculty research interest related to students with disabilities were also omitted because of considerable missing data.

Phase 2: key informant interviews

Phase 2 of data collection, conducted August–September 2007, consisted of key informant interviews with the chair (or equivalent) of the elementary education teacher preparation program. The interviews were conducted to gain greater detail about program activities and processes for incorporating content to prepare teacher candidates to work with students with disabilities. These interviews were also intended to gather information on plans that might not be represented on web sites and to gain insight into impediments to these efforts.

Phase 1 data were examined to develop the sampling frame for phase 2 data collection. A subsample of six programs was purposely selected to maximize representation according to four factors: presence or absence of a special education

department, greater or lesser extent of disability content integration, state representation, and program size based on number of graduates. Four programs originally selected for phase 2 investigation were replaced because of nonresponse. Table A3 shows the selection scheme for phase 2 using two of the four criteria.

In addition to the criteria of the extent of integration and presence of a special education program, state and program size were considered. These additional criteria were used to avoid bias toward a particular state context or type of program.

Data collection for phase 2 involved semistructured interviews with representatives of the six selected programs. Web sites were searched for contact information for the chairs of the elementary education programs, who were then contacted by email and phone. Program chairs were selected as key informants because of their programmatic and leadership positions. Participation was voluntary and confidential. An interview guide was developed to collect more detailed information about the key variables, including information not available in program documents, such as details about faculty collaboration, expertise, and interaction across general and special education. Questions were also included to verify and probe the limits of data collected in phase 1. Responses to an interview question about faculty collaboration, for example, confirmed that the level of program collaboration could not confidently be inferred from evidence collected solely from web sites. The questions included in the interview guide were as follows:

1. Can you describe generally if—and if so how—those involved in the elementary education degree program have approached or considered preparing preservice candidates to work with students with disabilities?

    1a. Specific skills, knowledge, and beliefs are prioritized?

    1b. Why this approach? What precipitated it? When did it begin?

2. In our beginning work for this study, we reviewed course requirements and descriptions looking for content that directly relates to working with students with disabilities. It seemed to us that there were [n] courses like this in your elementary education program: [name them]. Is this accurate? Are there others?

    2a. How was the content of this course(s) developed?

    2b. Who teaches this/these course(s)?

3. Are there faculty in the elementary education program with expertise or research interest in anything pertaining to students with learning or other disabilities? What areas?

    3a. If so, how has this influenced the program?

    3a. If not, has this been a limitation program development?

4. [If there is a special education program] How much formal or informal interaction or coordination is there between the elementary and

TABLE A3

Phase 2 selection scheme for extent of disability integration by presence of special education program, 2007

Rating on extent of disability integration	Is there a special education program? (number of programs)	
	Yes	No
Lower	1	1
Higher	3[a]	1

a. This category included one fully merged program, which while sharing some characteristics of programs in this category was selected because it was the only program in the sample that represented the only route to certification in either special or elementary education at the university.

Source: Authors' analysis based on selection approach described in appendix.

special education programs and faculty? What kinds of interaction?

4a. If I understand correctly, there are [n] courses that are shared by both candidates in the elementary and special education programs. How did this come about? (Was this intentional?)

4b. Is there any coteaching, collaborative course development, or other kinds of collaboration?

4c. What, if any, impediments have there been to formal interaction?

5. [If there is a special education program]:

5a. [If unknown] Has there been any discussion of creating a dual certification or endorsement option between elementary and special education?

5ai. Who has been involved?

5aii. Will this result in candidates being able to have two licenses?

5b. [If known that they have a dual certification program]: What was the impetus behind creating the dual certification endorsement option between the elementary and special education programs?

5bi. Is it the only option?

5bii. Who was involved in its development?

5biii. Will this result in candidates being able to have two licenses?

6. One issue that we are trying to understand through this study is how elementary education teacher preparation is addressing the relationship between diversity and disability/exceptionality among students. Has this entered into any internal discussions?

6a. Has the issue of disproportionality of minority students in special education ever come up in discussions or program or course planning?

7a. [If there is a special education program]: How similar or different are the field placements and clinical experiences of general education and special education candidates?

7b. [If there is not a special education program]: In either fieldwork components of courses or in student teaching, do candidates have the experience of working with students with learning problems or disabilities?

8. Another issue that we are trying to understand through this study is if—and if so in what ways—elementary education teacher preparation programs are incorporating content related to Response to Intervention or similar tiered intervention approaches into coursework or field experiences. Has this entered into any internal discussions? Specifically how?

9. [If there have been questions the interviewee has not been able to answer] Is there anyone else in the institution/department that you recommend that I should speak with?

Seven interviews were conducted with key informants representing six programs (one program had two representatives). Interviews were conducted by one researcher over the phone and lasted about half an hour. Detailed notes were taken, with an effort to record responses as close to verbatim as possible. Content relating to the one program that is named in the report (North Georgia College and State University) was reviewed for accuracy by a key informant.

Key informants' responses to questions were compared. Interview data were not intended to

represent the larger sample but to enrich depictions of how teacher preparation programs are integrating disability content into elementary education teacher training. Interviews provided information about collegiality and interaction across disciplines, but, as the self-reports of only a single program representative, the usefulness of these data for gauging collaboration was limited. Interview data were also analyzed to verify data collected from web sites and to gain insight into planned activities not included on program web sites.

Tables A4–A9 list the colleges and universities for the 117 elementary education teacher preparation programs and their number of graduates.

TABLE A4

Alabama sample population of institutions with elementary education programs, 2003/04

	Institution of higher education	Number of graduates[a]	Historically black college or university
1	Alabama A&M University	224	Yes
2	Alabama State University	436	Yes
3	Athens State University	361	
4	Auburn University Montgomery	214	
5	Auburn University	278	
6	Birmingham–Southern College	22	
7	Jacksonville State University	781	
8	Miles College	42	Yes
9	Oakwood College	32	Yes
10	Samford University	71	
11	Spring Hill College	43	
12	Stillman College	34	Yes
13	Troy University	157	
14	Troy University–Dothan Campus	87	
15	Troy University–Montgomery Campus	20	
16	University of Alabama at Birmingham	198	
17	University of Alabama in Huntsville	44	
18	University of Alabama	236	
19	University of Mobile	73	
20	University of Montevallo	102	
21	University of North Alabama	114	
22	University of South Alabama	336	
23	University of West Alabama	99	

a. It is not clear from the source whether number of graduates also includes those with advanced degrees. Six bachelor's degree–granting institutions were dropped because they did not meet the minimum program size criterion of 18 graduates.

Source: Alabama Department of Education 2006.

TABLE A5

Florida sample population of institutions with elementary education programs, 2002/03

	Institution of higher education	Number of graduates[a]	Historically black college or university
1	Bethune–Cookman College	41	Yes
2	Florida A&M University	148	Yes
3	Florida Atlantic University	545	
4	Florida Gulf Coast University	133	
5	Florida International University	436	
6	Florida Memorial University	46	Yes
7	Florida State University	423	
8	Nova Southeastern University	192	
9	Rollins College	30	
10	Stetson University	37	
11	University of Central Florida	868	
12	University of Florida	346	
13	University of Miami	59	
14	University of North Florida	281	
15	University of South Florida	1,029	
16	University of West Florida	143	
17	Warner Southern College	31	

a. Undergraduate completers only. Twenty-two bachelor's degree–granting institutions were dropped because of missing data on number of program graduates. To align the two data sources, 2002/03 data on graduates were used.

Source: For state-approved initial educator preparation programs in the state university system, State University System of Florida (2003). For some of Florida's private and nonapproved universities and colleges, American Council on Education (2004).

TABLE A6

Georgia sample population of institutions with elementary education programs, 2005/06

	Institution of higher learning	Number of graduates[a]	Historically black college or university
1	Armstrong Atlantic State University	54	
2	Augusta State University	91	
3	Clark Atlanta University	45	Yes
4	Covenant College	22	
5	Emmanuel College	32	
6	Georgia Southwestern State University	94	
7	Georgia State University	269	
8	Kennesaw State University	372	
9	Mercer University	173	
10	North Georgia College and State University	135	
11	Shorter College	38	
12	University of Georgia	404	
13	University of West Georgia	275	

a. It is not clear from the source whether number of graduates also includes those with advanced degrees. One bachelor's degree–granting institution was dropped because of missing data on number of program graduates. Two were dropped because they did not meet the minimum program size criterion of 18 graduates.

Source: Georgia Professional Standards Commission (2006).

TABLE A7

Mississippi sample population of institutions with elementary education programs, 2002/03

	Institution of higher learning	Number of graduates[a]	Historically black college or university
1	Alcorn State University	33	Yes
2	Belhaven College	28	
3	Blue Mountain College	40	
4	Delta State University	125	
5	Jackson State University	72	Yes
6	Mississippi College	82	
7	Mississippi State University	408	
8	Mississippi University for Women	66	
9	Mississippi Valley State University	54	Yes
10	University of Mississippi	222	
11	University of Southern Mississippi	408	
12	William Carey College	85	

a. It is not clear from the source whether number of graduates also includes those with advanced degrees. Three bachelor's degree–granting institutions were dropped because they did not meet the minimum program size criterion of 18 graduates.

Source: Mississippi Department of Education (2004).

TABLE A8

North Carolina sample population of institutions with elementary education programs, 2004/05

	Institution of higher education	Number of graduates[a]	Elementary school teacher preparation program graduates	Historically black college or university
1	Appalachian State University	450	196	
2	Barton College	43	23	
3	Campbell University	88	57	
4	Chowan College	19	14	
5	Duke University	19	13	
6	East Carolina University	375	184	
7	Elizabeth City State University	19	11	Yes
8	Elon University	89	54	
9	Fayetteville State University	55	29	Yes
10	Gardner-Webb University	40	28	
11	High Point University	33	23	
12	Lees-McRae College	65	62	
13	Lenoir-Rhyne College	31	9	
14	Mars Hill College	55	43	
15	Meredith College	55	20	
16	North Carolina A&T State University	32	15	Yes
17	North Carolina Central University	105	57	Yes
18	North Carolina State University	113	0	
19	Pfeiffer University	30	20	
20	University of North Carolina at Asheville	40	25	
21	University of North Carolina at Chapel Hill	96	65	
22	University of North Carolina at Charlotte	218	132	
23	University of North Carolina at Greensboro	365	160	
24	University of North Carolina at Pembroke	87	38	
25	University of North Carolina at Wilmington	264	161	
26	Wake Forest University	28	17	
27	Western Carolina University	123	56	
28	Wingate University	27	14	
29	Winston-Salem State University	28	13	Yes

a. Undergraduate completers only. Three bachelor's degree–granting institutions were dropped because of missing data on number of program graduates. Seventeen were dropped because they did not meet the minimum program size criterion of 18 graduates.

Source: North Carolina Institutes of Higher Education (2005).

TABLE A9

South Carolina sample population of institutions with elementary education programs, 2005/06

	Institution of higher education	Number of graduates[a]	Elementary program graduates	Historically black college or university
1	Anderson University	55	9	
2	Bob Johns University	147	50	
3	Southern Wesleyan University	217	41	
4	Charleston Southern University	91	16	
5	Clemson University	525	103	
6	Coastal Carolina University	169	47	
7	Coker College	36	27	
8	Columbia International University	20	0	
9	Columbia College	288	18	
10	Converse College	257	110	
11	Erskine College	23	4	
12	Francis Marion University	112	33	
13	Furman University	189	28	
14	Lander University	105	52	
15	Limestone College	29	26	
16	Newberry College	22	11	
17	North Greenville University	48	28	
18	South Carolina State University	212	24	Yes
19	College of Charleston	297	106	
20	USC–Aiken	102	31	
21	USC–Columbia	457	70	
22	USC–Upstate	176	55	
23	Winthrop University	292	49	

a. It is not clear from the source whether number of graduates also includes those with advanced degrees. Two bachelor's degree–granting institutions were dropped because of missing data on number of program graduates. Three were dropped because they did not meet the minimum program size criterion of 18 graduates.

Source: South Carolina Department of Education 2006.

APPENDIX B
THE INTERSTATE NEW TEACHER ASSESSMENT AND SUPPORT CONSORTIUM 2001 MODEL STANDARDS FOR LICENSING GENERAL AND SPECIAL EDUCATION TEACHERS OF STUDENTS WITH DISABILITIES

The Interstate New Teacher Assessment and Support Consortium (INTASC), a program of the Council of Chief State School Officers, is a consortium of state education agencies and national education organizations dedicated to reforming the preparation, licensing, and ongoing professional development of teachers.

In 1992 INTASC developed model core standards for what every new teacher should know and be able to do. These standards are being translated into model licensing standards for various subject areas and for elementary and special education.

With the Individuals with Disabilities Education Act emphasizing inclusion and the role of the general education teacher in instructing students with disabilities, INTASC drafted a new set of standards in 2001 that articulate for the first time what all general and special education teachers should know and be able to do to effectively teach students with disabilities: Model Standards for Licensing General and Special Education Teachers of Students with Disabilities (Interstate New Teacher Assessment and Support Consortium 2001). Specifically addressing the collaborative relationship between general and special education teachers, the standards represent the only public national document that attempts to clarify and differentiate the roles of general and special education teachers. The document is meant to guide states, professional organizations, and teacher preparation programs in developing their standards and practices. The effort was funded by the Office of Special Education Programs of the U.S. Department of Education.

The document states:

> *The INTASC Special Education Committee endorses a collaborative framework for the teaching of students with disabilities, one in which general and special education teachers work together as members of a team who bring their respective strengths to the task at hand. While general education and special education teachers possess much knowledge and skills in common, they also have differing areas of expertise. One of the purposes of these standards is to articulate similarities and differences in roles, knowledge and skill (Interstate New Teacher Assessment and Support Consortium 2001, p. 54).*

The 10 principles outlined in the 2001 standards are listed here with the corresponding implications for students with disabilities.

Principle #1: The teacher understands the central concepts, tools of inquiry, and structures of the discipline(s) he or she teaches and can create learning experiences that make these aspects of subject matter meaningful for students.

Implications for students with disabilities: Both general and special education teachers demonstrate an understanding of the primary concepts and ways of thinking and knowing in the content areas they teach as articulated in INTASC subject matter principles and other professional, state, and institutional standards. They understand the underlying values and implications of disability legislation and special education policies and procedures as they relate to their roles and responsibilities in supporting the educational needs of students with disabilities. All teachers provide equitable access to and participation in the general curriculum for students with disabilities.

Principle #2: The teacher understands how children learn and develop and can provide learning opportunities that support the intellectual, social, and personal development of each learner.

Implications for students with disabilities: Both general and special education teachers understand that all children have similar patterns of

learning and development that vary individually within and across cognitive, social, emotional and physical areas. They recognize that children with disabilities may exhibit greater individual variation in learning and development than students without disabilities, and that a disability often influences development and functioning in more than one area. Teachers use knowledge of the impact of disabilities on learning and development to optimize learning opportunities for each student.

Principle #3: The teacher understands how students differ in their approaches to learning and creates instructional opportunities that are adapted to diverse learners.

Implications for students with disabilities: Students with disabilities come from a variety of cultures, languages, classes, and ethnicities. Disability, like other aspects of diversity, may affect a student's approach to learning and a teacher's approach to teaching. Teachers understand students with disabilities within the broader context of their families, cultural backgrounds, socioeconomic classes, languages, communities and peer/social groups.

Principle #4: The teacher understands and uses a variety of instructional strategies to encourage students' development of critical thinking, problem solving, and performance skills.

Implications for students with disabilities: Ensuring that students with disabilities can participate successfully in the general curriculum requires teachers to tailor their instructional strategies to the particular learning needs of individual students. General and special education teachers use a variety of instructional strategies and technologies and know how to modify and adapt the general curriculum to accommodate individual students' needs. Students with disabilities who have goals related to an expanded curriculum will also need specialized instruction to achieve those goals.

Principle #5: The teacher uses an understanding of individual and group motivation and behavior to create a learning environment that encourages positive social interaction, active engagement in learning, and self-motivation.

Implications for students with disabilities: Students' affiliation and acceptance within a community is an important basis for developing social responsibility, self-esteem and positive peer relations. Students learn more effectively when they are valued members of a learning community in which everyone can grow and learn. Teachers welcome students with disabilities and take deliberate action to ensure that they are included as members of the learning community. Teachers may also need to structure activities that specifically foster engagement, self-motivation and independent learning in students with disabilities.

Principle #6: The teacher uses knowledge of effective verbal, nonverbal, and media communication technologies to foster active inquiry, collaboration, and supportive interaction in the classroom.

Implications for students with disabilities: Students with disabilities often have communication or language delays or disorders associated with their disabilities. They may require multiple and alternative modes of communication. Teachers set a high priority on establishing a safe and comfortable environment in which students with disabilities are encouraged and supported to use language and contribute their ideas. They teach language and communication skills, make accommodations to promote effective communication, and encourage and support the use of technology to promote learning and communication.

Principle #7: The teacher plans instruction based on knowledge of subject matter, students, the community, and curriculum goals.

Implications for students with disabilities: While students with disabilities often pursue the same

learning goals within the general curriculum and benefit from instruction in a manner that is similar to that of their non-disabled peers, they may require adjustments in goals, teaching strategies or supports. Some students with disabilities may require an expanded curriculum that may include areas such as functional life skills, communication skills, or behavior/social skills. Planning for students with disabilities requires an individualized plan of instruction and is a collaborative process that involves general and special educators, the student (when appropriate), families, and other professionals.

Principle #8: The teacher understands and uses formal and informal assessment strategies to evaluate and ensure the continuous intellectual, social, and physical development of the learner.

Implications for students with disabilities: Individualized comprehensive assessments are required for students with disabilities and are used to determine eligibility for special education services, to plan individualized instruction, and to monitor and evaluate student performance. It is also expected that students with disabilities will participate in the overall assessment programs of the classroom, school district, and state, and that they may require accommodations to demonstrate their knowledge and skills. In addition, some students with disabilities may require assessments related to achievement in an expanded curriculum (i.e. alternate assessments).

Principle #9: The teacher is a reflective practitioner who continually evaluates the effects of his/her choices and actions on others (students, parents, and other professionals in the learning community) and who actively seeks out opportunities to grow professionally.

Implications for students with disabilities: Teacher reflection is essential for designing, monitoring and adapting instruction for all students, including students with disabilities Teachers reflect on their knowledge of the learning strengths and needs of individual students with disabilities, and question and evaluate the appropriateness and effectiveness of their instructional choices and practices for building on those strengths and meeting those needs. Based on their data-based reflections, teachers engage in actions that consistently support and promote the achievement of students with disabilities.

Principle #10: The teacher fosters relationships with school colleagues, families, and agencies in the larger community to support students' learning and well being.

Implications for students with disabilities: Families, schools and communities are important contexts for teaching, learning, and development. Teachers advocate for students with disabilities to receive the support they need to be successful in the general curriculum and to achieve the goals of their individual education plans. They collaborate with each other, with other professionals, and with families to ensure that students with disabilities are valued members of the classroom, school, and larger communities.

APPENDIX C
COURSES SHARED BY ELEMENTARY AND SPECIAL EDUCATION PROGRAMS

Table C1 lists the courses shared by elementary and special education programs at each of the colleges, universities, and departments of education in the sample that offered both programs and for which there were no missing data. The one fully merged program in the sample is excluded, resulting in a total of 17. Each institution is numbered and identified by state.

TABLE C1

Courses shared by elementary education and special education departments in institutions included in the study, by state, 2007

College, university, or department of education identification number	State	Number of courses	Course title
1	Alabama	5	Microcomputing Systems in Education
			Human Growth and Development
			Education for Exceptional Children and Youth
			Education in a Diverse Society
			Foundations of Reading Instruction
2	Alabama	13	Math for Elementary Education Teachers
			Introduction to Teacher Education
			Introduction to Instructional Technology
			Human Growth and Development
			Introduction to the Study of Exceptional Children
			Tests and Measurements
			Foundations of Education
			Educational Psychology
			Materials and Methods of Teaching Social Studies
			Multicultural Issues
			Management of Classroom Behavior
			Materials and Methods for Science, Health and Nutrition
			Materials and Methods for Teaching Mathematics
3	Florida	6	Nature of the Learner
			Assessment of Learning and Behavior
			Field Lab I
			Field Lab II
			Principles and Issues in TESOL
			TESOL Methods and Curriculum
4	Florida	8	Introduction to Education
			Teaching Diverse Populations
			Introduction to Educational Technology
			Learning and the Developing Child
			Social Foundations of Education
			Measurement for Teachers
			Teaching Writing
			Teaching Elementary School Mathematics

(CONTINUED)

TABLE C1 (CONTINUED)

Courses shared by elementary education and special education departments in institutions included in the study, by state, 2007

College, university, or department of education identification number	State	Number of courses	Course title
5	Florida	12	Introduction to Education
			Teaching Diverse Populations
			Introduction to Educational Technology
			Student Teaching
			Language Skills and Literature in the Elementary School
			Teaching Mathematics in the Elementary School
			Teaching Developmental Reading in the Elementary School I and II
			ESOL Principles and Practices
			Empowering Teachers to Teach English to ESOL Students
			Teaching Science in the Elementary School
			Social Studies for Elementary Teachers
6	Georgia	5	Educational Psychology
			Children's Literature
			Teaching Content and Process: Reading Education
			Assessment and Correction Reading Education
			Reading, Writing Connection
7	Mississippi	2	Professional Knowledge and Skills for Education
			Tests and Assessments of Students with Mild/Moderate Disabilities
8	Mississippi	7	Math Elementary I
			Math Elementary II
			Foundations of Professional Growth
			Human Development and Diversity
			Introduction to Special Education
			Planning and Teaching: Strategies for Effective Classroom Practice
			Effective Classroom Management for Teachers
9	Mississippi	10	Foundations of Education
			Vocabulary Development
			Psychology for Exceptional Children
			Early Reading Literacy 1
			Educational Psychology
			Measurement and Evaluation
			Diagnosis and Correction of Reading Disabilities
			Teaching Practicum/Technology
			Early Reading Literacy II
			Managing Classroom Behavior
10	North Carolina	4	An Introduction to Education and Diversity in Schools
			Introduction to Students with Special Needs
			Modifying Instruction for Learners with Diverse Needs
			Teaching Reading to Intermediate Grade Learners

(CONTINUED)

TABLE C1 (CONTINUED)

Courses shared by elementary education and special education departments in institutions included in the study, by state, 2007

College, university, or department of education identification number	State	Number of courses	Course title
11	North Carolina	8	Teacher School and Society
			Field Studies
			Psychological Foundations of Teaching
			Instructional Design and Evaluation
			Instructional Technology
			Lifespan and Human Development
			Social Studies Curriculum and Instruction
			The Teaching of Science
12	North Carolina	8	Technology in Education
			Introduction to American Education
			Educational Psychology
			Fundamentals of Reading
			Introduction to Exceptional Children
			Mathematics Methods Pre-K–2 and Field Experience
			Mathematics Methods Grades 3–6
			Teaching Science in Elementary School
13	North Carolina	11	Psychology of Development in Education
			Education Practicum I
			Introduction to Special Education
			Special Education Practicum I
			Technology in Education
			Literature and Learning I
			Literature and Learning II
			Methods of Teaching Mathematics
			Psychoeducational Intervention
			Technology Integration
			Senior Education Practicum IV
14	South Carolina	3	Introduction to Education
			Human Growth and the Educational Process
			Technology for Teachers
15	South Carolina	6	Computer Technology and Instructional Media
			Schools and Diversity
			Introduction to Human Growth and Development
			Educational Psychology
			Mathematics for Early Childhood/Elementary Education I and II

(CONTINUED)

TABLE C1 (CONTINUED)

Courses shared by elementary education and special education departments in institutions included in the study, by state, 2007

College, university, or department of education identification number	State	Number of courses	Course title
16	South Carolina	12	Introduction to Education
			Human Growth and Development
			Principles of Learning
			Music Education
			Measurement and Evaluation
			History and Philosophy of Education
			Art Education
			Seminar I: Generic Teaching Methods
			Math Education
			Senior Education Seminar
			Black Issues and Historical Figures in Education
			Professional Clinical Experience I
17	South Carolina	12	Orientation to Education
			Math for Elementary School Teachers I
			Principles of American Education
			Introduction to Special Education
			Mathematics for Elementary Teachers II
			Educational Psychology
			Child Growth and Development
			Teaching Social Studies in the Elementary School
			Elementary Methods in Science Teaching
			Health Education Methods for the Classroom Teachers
			Teaching Reading in the Elementary Grades 2–6
			Instructional Technology Strategies

Source: Authors' analysis based on data from course catalogues, syllabi, and related program documents obtained from institution web sites.

APPENDIX D
TEACHER PREPARATION LICENSING OPTIONS IN THE SOUTHEAST REGION STATES

Table D1 shows teacher preparation licenses and their grade spans for graduates from elementary education programs or special education programs (focusing on learning disabilities in Southeast Region states).

TABLE D1

Teacher preparation licensing options in the Southeast Region states, 2007

State	Elementary education license	Special education license
Alabama	Elementary, K–6 Elementary–Secondary, P–12	Special Education, P–12 Collaborative Special Education, K–6 Collaborative Special Education, 6–12
Florida	Elementary Education, K–6 Prekindergarten/Primary Education, age 3 through grade 3	Exceptional Student Education, K–12
Georgia	Early Childhood Education, P–5 Middle Childhood, 4–8	Special Education, P–12 Interrelated Special Education/Early Childhood: Learning Disabilities, P–5[a]
Mississippi	Teacher Education Route License: five-year educator license	Specific five-year educator license: Special Education Birth to Kindergarten (Early Intervention) Special Education K–12 (Mild/Moderate Disability)
North Carolina	Elementary Education, K–6 Elementary Second Language Endorsement (must attach to full licensure in an elementary area)	Cross-Categorical (mildly/moderately disabled), K–12 Learning Disabled, K–12
South Carolina	Early Childhood, PreK–Grade 3 Elementary, 2–6	Special Education, PreK–12

a. Requires a program in both interrelated special education and early childhood education.

Source: Authors' analysis of state education agency web sites.

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1. The report uses the phrase *students with disabilities* to refer to students with special learning needs for consistency with the language used by the U.S. Department of Education and federal legislation, although the term *students who have disabilities* is becoming more common.

2. The report generally refers to *colleges* and *universities* (or *institutions*) when a finding or issue relates to the organizational environment (whether a school, college, or department of education) and to *program* when referring to a course of study.

3. The report uses the phrase *disability content* to refer to content relating to working with students with disabilities, including special education content. Content includes courses, curriculum, priorities and goals, field experiences, and the like.

4. The report uses the term *mission* to include mission statements or conceptual frameworks.

5. For a summary of this research, see National Center on Early Development and Learning (2005).

6. The examples of displayed text throughout the report are verbatim excerpts.

7. Diversity in terms of ability or disability is addressed in a practitioner brief by the National Center for Culturally Responsive Educational Systems (2006).

8. This analysis is based on 35 of the 36 programs, as one program had missing data on required courses that could not be obtained through follow-up contact.

9. The data in these analyses differ slightly from those in figure 3 because figure 3 presents the number of programs requiring each type of course, while the analysis in this paragraph refers to the number of times a course type is required. Some programs require more than one type of course or more than one course of a certain type.

10. The literature on collaborative teacher preparation highlights the importance of the background and expertise of the faculty member who teaches the disability coursework. Generally, it is considered better when the teacher is a full faculty member rather than an adjunct and has special education expertise or coteaches with someone who does (Blanton and Pugach 2007).

11. Content analysis of assessment and evaluation courses is based on five syllabi. The initial data collection scheme did not anticipate that this type of course might be important to examine, and so no effort was made to collect course descriptions or other data. After programs requiring this type of course were identified, five syllabi were obtained online.

12. Course descriptions mention primarily whether field experience is required, but few mention what it entails. When available, descriptions of field experience in syllabi or on student teaching web pages were reviewed.

13. Six of the ten colleges and universities with disability-related missions that embed disability content also require more than one disability course.

14. Eighteen programs with no missing data would have met the criteria of shared courses if the program at North Georgia College and State University had been included. But that program was excluded from this analysis because, as a fully merged program, it offers one set of classes to one set of students—and therefore technically does not have shared courses between two sets of students. Thus, the total number of programs with shared courses was 17.

15. Georgia has an early childhood license that is generally aligned with the grade spans of the elementary education licenses in the other five states, so the early childhood teacher preparation programs in Georgia were examined along with the elementary education teacher preparation programs in the five other states.

16. Another approach would have been to include the same number of programs for each state. This would not have resulted in a sample that was representative of the Southeast Region, since some states have considerably more colleges and universities than others. Also, since all of the Southeast Region states are parties to an interstate licensing reciprocity agreement, this regional approach seemed warranted (Kaye 2006).

17. The original proposal set a minimum of 25 graduating students for inclusion in the sample frame, but the distributions suggested that this might be too stringent a cutoff point, especially given the year-to-year variation in number of graduates for any given program. In addition, the initial proposal set a minimum size for the elementary education program, specifically, that it graduate at least 15 new elementary teachers. But these data were available for only two of the six states and the criterion was therefore excluded from the sampling scheme.

18. Ultimately, only one of the two course listings and three syllabi were received within the time frame necessary to include them in the analysis.

19. This was a preset subject term on Wilson Web.

REFERENCES

Alabama Department of Education. (2004). *Teacher prep report cards 2003–2004*. Montgomery, AL: Alabama Department of Education. Retrieved April 2007, from http://www.alsde.edu/AllReportCards/CollegeReportCards2004/.

American Council on Education. (2004). *Teacher education programs in the United States: a guide*. Westport, CT: American Council on Education and Praeger.

Arthaud, T.J., Aram, R.J., Breck, S.E., Doelling, J.E., and Bushrow, K.M. (2007). Developing collaboration skills in preservice teachers: a partnership between general and special education. *Teacher Education and Special Education*, *30*(1), 1–2.

Artiles, A.J., and Trent, S.C. (1997). Forging a research program on multicultural preservice teacher education in special education: a conceptual scheme. In J.W. Lloyd, E. Kameenui, and D. Chard (Eds.), *Educating Students with Disabilities*. Hillside, NJ: Lawrence Erlbaum Associates.

Blanton, L.P., and Pugach, M.C. (2007). *Collaborative programs in general and special education: an action guide for higher education and policymakers*. Washington, DC: Center for Improving Teacher Quality, Council of Chief State School Officers. Retrieved June, 2007, from http://www.ccsso.org/content/pdfs/CTQ%20Action%20Guide%20060507LB.doc.

Blanton, L.P., Griffin, C.G., Winn, J.W., and Pugach, M.C. (1997). *Teacher education in transition: collaborative programs to prepare general and special educators.* Denver, CO: Love Publishing Company.

Brigham, F.J. (1993). *Cross-training: faculty-sharing between general and special teacher education programs.* Paper presented at the Annual Meeting of the Indiana Federation, Council for Exceptional Children, Indianapolis, Indiana. (ERIC Document Reproduction Service No. ED 358088).

Chang, F., Early, D.M., and Winton, P.J. (2005). Early childhood teacher preparation in special education at 2- and 4-year institutions of higher education. *Journal of Early Intervention*, *27*(2), 110–24.

Council of Chief State School Officers. (2007). *Interstate New Teacher Assessment and Support Consortium (INTASC).* Retrieved November 2007, from http://www.ccsso.org/projects/Interstate_New_Teacher_Assessment_and_Support_Consortium/.

Darling-Hammond, L., Hammerness, K., Grossman, P., Rust, F., and Shulman, L. (2005). The design of teacher education programs. In J. Bransford (Ed.), *Preparing teachers for a changing world*. San Francisco, CA: Jossey-Bass Publishing.

deBettencourt, L.U. (1999). General educators' attitudes toward students with mild disabilities and their use of instructional strategies: implications for training. *Remedial and Special Education*, *20*(1), 27–35.

Dice, M.L., Diederich. R., Gammon, N.W., Schultze, B., and Starr, R. (1996). *Including general and special education: initiatives of one small historically black college.* Jefferson City, MO: Missouri State Department of Elementary and Secondary Education.

Donovan, M.S., and Cross, C.T. (Eds.). (2002). *Minority students in special and gifted education*. Washington, DC: National Research Council. Retrieved August, 2007, from http://books.nap.edu/openbook.php?record_id=10128&page=R1.

Editorial Projects in Education, Inc. (2008). Education Counts Database. State has special education coursework/degree requirements for general education teachers. Retrieved February 28, 2008, from http://www.edcounts.org/createtable/step1.php?categoryId=24

Georgia Professional Standards Commission. (2006). *The Georgia educator workforce 2006: a report of the supply, demand, and utilization of teachers, administrative and student services personnel in Georgia public schools* (Status report November 2006). Atlanta, GA: Division for Educator Workforce Recruitment, Research and Development. Georgia Professional Standards Commission. Retrieved April 2007, from http://www.gapsc.com/Workforce/Data_research.asp.

Goe, L., and Coggshall, J. (2007). *The teacher preparation-teacher practices-student outcomes relationship in special education: missing links and new connections* (Teacher Quality Research and Policy Brief). Washington, DC: National Comprehensive Center for Teacher Quality.

Howey, K. (1996). Designing coherent and effective teacher education programs. In J. Sikula, T.J. Buttery, and E. Guyton, (Eds.), *Handbook of research on teacher education*. New York: Simon and Schuster Macmillan.

Interstate New Teacher Assessment and Support Consortium. (2001). *Draft for comments: model standards for licensing general and special education teachers of students with disabilities: a resource for state dialogue*. Washington, DC: Council of Chief State School Officers.

Interstate New Teacher Assessment and Support Consortium. (2002). *Frequently asked questions: model standards for licensing general and special education teachers of students with disabilities*. Washington, DC: Council of Chief State School Officers. Retrieved October 24, 2008, from http://www.ccsso.org/content/pdfs/SPEC-BROCHURE.pdf.

Interstate New Teacher Assessment and Support Consortium. (n.d.). *Draft: model standards for the review and accountability of teacher preparation programs: A resource for state dialogue*. Washington, DC: Council of Chief State School Officers.

Jenkins, A.A., Pateman, B., and Black, R.S. (2002). Partnerships for dual preparation in elementary, secondary, and special education programs. *Remedial and Special Education*, *23*(6), 359–71.

Jones, S.D., and T. Messenheimer-Young. (1989). Content of special education courses for preservice general education teachers. *Teacher Education and Special Education*, 12, 155–59.

Kaye, E (Ed.). (2006). *Requirements for Certification of Teachers, Counselors, Librarians, Administrators for Elementary and Secondary Schools, Seventy-first Edition, 2006–2007.* Chicago: The University of Chicago Press.

Kirk, R.H. (1998). The link between university course work and pre-service teachers' attitudes toward students with special learning needs. *College Student Journal*, *32*(1), 153–60.

Kozleski, E. B., Pugach, M., and Yinger, R. (2002). *Preparing teachers to work with students with disabilities: possibilities and challenges for special and general teacher education*. White Paper. Washington, DC: American Association of Colleges for Teacher Education. Retrieved April 23, 2007, from http://www.aacte.org/pdf/Publications/Reports%20_Studies/Sped%20White%20Paper%202002.pdf

Lambert, C., Curren, C.M., Prigge, D.J., and Shorr, D. (2005). *Addressing inclusion in an era of education reform: dispositions of secondary and elementary pre-service educators in the pipeline.* Unpublished manuscript.

Lesar, S., Benner, S.M., Habel, J., and Colman, L. (1997). *Preparing general education teachers for inclusive settings: a constructivist teacher education program.* Teacher Education and Special Education, *20*(3), 204–20.

Lombardi, T.P., and Hunka, N.J. (2001). Preparing general education teachers for inclusive classrooms: assessing the process. *Teacher Education and Special Education*, *24*(3), 183–97.

MacMillan Reference. (2006). *The College Blue Book. 34*th *Edition*. New York: MacMillan Reference Books.

Marston, D. (2002). A functional and intervention-based assessment approach to establishing discrepancy for students with learning disabilities. In R. Bradley, L. Danielson, and D. Hallahan (Eds.), *Identification of learning disabilities: research to practice*. Mahwah, NJ: Erlbaum.

Marston, D., Muyskens, P., Lau, M. and Canter, A. (2003). Problem-solving model for decision making with high-incidence disabilities: the Minneapolis experience. *Learning Disabilities Research and Practice*, *18*(3), 187–200.

Miller, P.S., and Stayton, V.D. (1998). Blended interdisciplinary teacher preparation in early education and

intervention: a national study. *Topics in Early Childhood Special Education*, *18*(1), 49–58.

Miller, P.S., and Stayton, V.D. (2006). Interdisciplinary teaming in teacher preparation. *Teacher Education and Special Education*, *29*(1), 56–68.

Mississippi Department of Education. (2004). *Performance report of teacher education programs.* Jackson, MS: Office of Teacher Licensure, Mississippi Department of Education. Retrieved April 2007 from http://board.mde.k12.ms.us/SBE_November_2005/Tab%2003%20-%20TC%20Performance%20Report%20on%20Teacher%20Education%20Programs%20-%20backup%20A.pdf

National Center for Culturally Responsive Educational Systems. (2006). *Becoming culturally responsive educators: rethinking teacher education pedagogy* (practitioner Brief). Retrieved April 15, 2007, from http://www.nccrest.org/publications/briefs.html.

National Center on Early Development and Learning. (2005). Teacher Programs Surveyed for Special Ed Preparation (NCEDL Spotlights 39). Retrieved April 23, 2007, from http://www.fpg.unc.edu/ncedl/PDFs/spot39.pdf.

National Joint Committee on Learning Disabilities. (1997). *Learning disabilities: preservice preparation of general and special education teachers*. Retrieved March 7, 2007, from www.ldonline.org/?module=uploads&func.

No Child Left Behind Act of 2001. (2002). Pub. L. No. 107–110, 115 Stat. 1425.

North Carolina institutes of higher education. (2005). Undergraduate teacher education programs, 2004–2005. Retrieved April 2007, from http://www.ncpublicschools.org/docs/ihe/reports/2004-05/full/undergraduate.pdf.

Nowacek, J.E., and Blanton, L.P. (1996). A pilot project investigating the influence of a collaborative methods course on preservice elementary education teachers. *Teacher Education and Special Education*, *19*(4), 298–312.

Pugach, M.C. (2005). Research on preparing teachers to work with students with disabilities. In M. Cochran-Smith and K.M. Zeichner (Eds.) *Studying teacher education: the report of the AERA panel on research and teacher education*. Washington, DC: Lawrence Erlbaum Association, Inc., for the American Educational Research Association.

Pugach, M.C., and Seidl, B.L. (1998). Associate editors' exchange responsible linkages between diversity and disability: a challenge for special education. *Teacher Education and Special Education, 21*(4), 319–33.

Rademacher, J.A., Wilhelm, R.W., Hildreth, B.L., Bridges, D.L., and Cowart, M.F. (1998). *A study of preservice teachers' attitudes toward inclusion, 62*, 154–63.

Shippen, M.E., Crites, S.A., Houchins, D.E., Ramsey, M.L, and Simon, M. (2005). Pre-service teachers' perceptions of including students with disabilities. *Teacher Education and Special Education*, *28*(2), 92–9.

South Carolina Department of Education. (2006). *Educator preparation ratings for South Carolina institutions of higher education*. Charleston, SC: Office of Educator Preparation, Support and Assessment, South Carolina Department of Education. Retrieved April 2007 from clicking on the Fact Sheet link for each Approved educator preparation program accessed through the drop down list on http://www.scteachers.org/educate/edprog.cfm.

State University System of Florida. (2003). *State University System of Florida Facts and Figures*. Tallahassee, FL: Board of Governors, State University System of Florida. Retrieved April 2007, from http://www.flbog.org/factbook.teacher_ed.asp.

Strawderman, C., and Lindsey, P. (1995). Keeping up with the times: reform in teacher education. *Journal of Teacher Education*, *46*(2), 95–100.

Van Laarhoven, T., Munk, D.D., Lynch, K., Wyland, S., Dorsch, N., Zurita, L., Bosman, J., and Rouse, J. (2006). Project ACCEPT: preparing pre-service special and general educators for inclusive education. *Teacher Education and Special Education*, *29*(4), 209–12.

VanDerHeyden, A.M., and Witt, J.C. (2005). Quantifying context in assessment: capturing the effect of base rates

on teacher referral and problem-solving model of identification. *School Psychology Review*, *34*, 161–83.

VanDerHeyden, A.M., Witt, J.C., and Gilbertson, D. (2007). A multi-year evaluation of the effects of a response to intervention (RtI) model on identification of children for special education. *Journal of School Psychology, 45*, 225–56.

Voltz, D.L. (2003). Collaborative infusion: an emerging approach to teacher preparation for inclusive education. *Action in Teacher Education*, *25*(1), 5–13.