
America's Challenge: Effective Teachers for At-Risk Schools and Students

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Contents

Introduction by Carol A. Dwyer, Ph.D.	1
Chapter 1. Linking Teacher Quality and Student Outcomes by Laura Goe, Ph.D.	7
Chapter 2. Innovation Configurations to Improve Teacher Preparation in Reading, Classroom Behavior Management, and Inclusive Practices by Daniel J. Reschly, Ph.D., Susan M. Smartt, Ph.D., and Regina M. Oliver	25
 Chapter 3. The Teacher Preparation → Teacher Practices → Student Outcomes Relationship in Special Education by Laura Goe, Ph.D.	45
Chapter 4. Implementing NCLB: State Plans to Address the Challenge of Equitable Distribution of Effective Teachers by Tricia Coulter, Ph.D.	55
Chapter 5. Emerging Strategies and Practices to Improve Teacher Quality in At-Risk and Hard-to-Staff Schools and Subject Areas by Cortney Rowland and Michael Allen, Ph.D. <ul style="list-style-type: none">• How the Fifth Largest County in the Country Recruits and Retains Teachers: A Case Summary of the Clark County School District• Recruiting and Retaining Teachers in Shaw, Mississippi: How a Small, Rural District Staffs Its Classrooms	71
Chapter 6. Getting Started: A Survey of New Public School Teachers on Their Training and First Months on the Job by Jonathan Rochkind, John Immerwahr, Ph.D., Amber Ott, and Jean Johnson	89
Chapter 7. The National Comprehensive Center for Teacher Quality: A Resource for Systemic Improvement in the Equitable Distribution of Teachers by Carol A. Dwyer, Ph.D., and Amy Jackson	105
Glossary	109

CHAPTER 3



*The Teacher Preparation → Teacher
Practices → Student Outcomes Relationship
in Special Education*

Chapter 3

The Teacher Preparation → Teacher Practices → Student Outcomes Relationship in Special Education

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Although the teacher preparation → teacher practices → student outcomes link is important for understanding how teacher preparation programs make a difference in student achievement, it is difficult to document the connection because of a scarcity of research that investigates the *complete* three-part connection. This is true of research in both general education and special education settings. There are, however, a number of research studies that illuminate *part* of the connection (i.e., connecting teacher preparation to teacher practices, connecting teacher practices to student achievement, or connecting teacher preparation directly to student achievement—without consideration of teacher practices). This chapter highlights findings from a research synthesis that provides an overview of the evidence on how components of teacher preparation translate into specific classroom practices that in turn impact the achievement of at-risk students and students with special needs (Goe, 2006) and findings from a National Comprehensive Center for Teacher Quality (NCCTQ) TQ Research and Policy Brief focused on the same topic (Goe & Cogshall, 2007).

These documents focused on promising research that investigated *part* of the connection and suggested avenues to follow in establishing the importance of this relationship for the following:

- Developing better prepared teachers.
- Achieving improved academic outcomes for special-needs and at-risk students.
- Establishing a roadmap for what should be done to better evaluate the teacher preparation → teacher practices → student outcomes link.

Definitions as They Apply to This Work

- *Teacher preparation* means the preparation program, typically in a college of education, that a teacher attends in order to obtain a teaching certification and includes alternative certification programs.
- *Teacher practices* consist of instructional strategies, techniques, and classroom practices that teachers use in day-to-day teaching.
- *Student outcomes* encompass evidence of learning as measured by teacher observations, curriculum-based assessments, scores on standardized tests, and other purposeful evaluations of student progress.

Special-Needs Students. Just over 8 percent of students (ages 6–21) in the estimated U.S. resident population in 1999–2000 were served under the Individuals with Disabilities Education Act (IDEA), and specific learning disabilities accounted for about 50 percent of those students (U.S. Department of Education, 2002, pp. 21–22). *High incidence disabilities* are those that occur at a much greater frequency than less common disabilities and account for more than 80 percent of school-aged special education students' disabilities (Chambers, Shkolnik, & Pérez, 2003). High-incidence disabilities include specific learning disabilities, which IDEA defines as disorders in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest themselves in the imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations (IDEA, Section 1401[30]A). Other high-incidence disabilities include emotional disturbance, mild mental retardation, and speech/language impairment. The latter category consists primarily of students with attention deficit/hyperactivity

disorder. The “other” health impairment prevalence is higher than either emotional disturbance or mild mental retardation.

Although the percentage of students with special needs is small compared to the general student population, the numbers are substantial: In 1999–2000, nearly 3 million school-aged children were categorized as having specific learning disabilities (U.S. Department of Education, 2002). According to 2003 data, larger percentages of African-American (11.5 percent) and Native American students (11.9 percent) were identified as having special needs than Hispanic (7.5 percent), white (8.4 percent), or Asian students (4.4 percent) (Freeman & Fox, 2005). Students with special needs and students at risk due to poverty are best served by teachers who have participated in specialized teacher training (as part of their teacher preparation or through professional development) as well as exposure to high-quality, targeted instructional practices.

Teacher preparation programs have found it necessary to make changes to their curriculum to better prepare general education preservice teachers to work with students with special needs. It is no longer sufficient to prepare a relatively small number of highly specialized teachers who will have sole responsibility for providing the educational services to special-needs students.

How the Teaching of Special-Needs Students Has Changed. Until the 1970s, with the passage of Public Law 94-142 (PL94-142), which called for special-needs students to be educated in the “least restrictive environment” (Education for All Handicapped Children Act, 1975), students with special needs were often isolated from the general student population for all or most of the day, usually in self-contained classrooms with a single teacher. Although research has shown that students with special needs are more likely to be successful in the

least restrictive school environments (Baker, Wang, & Walberg, 1994; Peetsma, Vergeer, Karsten, & Roeleveld, 2001), it has taken many years for states, districts, schools, and teachers to make the needed shift in their policies, structures, and practices to ensure that students with special needs are transitioned into general education classrooms for as much of the day as possible.

After many years of schools adapting to the changing nature of special education, the majority of students with special needs now spend at least part of their school day—and often nearly the whole day—in general education classrooms among their peers without special needs. General education teachers, particularly those whose teacher preparation programs provided only limited exposure to the theory and practice of educating students with special needs in general education settings, have not always felt prepared for working with students with special needs. A study of rural educators found that the most difficult aspect of compliance with PL94-142 was teachers’ lack of special education knowledge (Silver, 1987).

Teacher preparation programs have found it necessary to make changes to their curriculum to better prepare general education preservice teachers to work with students with special needs. It is no longer sufficient to prepare a relatively small number of highly specialized teachers who will have sole responsibility for providing the educational services to special-needs students. In the current environment, many teachers, whether their backgrounds are in general education or special education, may share the responsibility for providing instruction and support to special-needs students. Moreover, they may be called upon to collaborate in assessing students and developing appropriate instructional and/or behavioral interventions for students who are deemed at risk of being referred to special education.

This inclusionary approach to teaching students with special needs presents a considerable challenge to teacher preparation

programs, and many of them are working toward better teacher collaboration in their curricular offerings. Some teacher preparation programs still operate under an outdated model of two separate teacher education programs—one for special education teachers and another for general education teachers—with few opportunities for learning how to collaborate to teach students with special needs or to assess at-risk students’ needs and develop appropriate teaching strategies.

Accountability for All Students. One reason for the shift toward moving special-needs students into general education classrooms is that accountability pressures have increased considerably, even for special-needs students, who have often been held to lower academic expectations than their general education peers. The reauthorized Individuals with Disabilities Education Improvement Act (IDEA) of 2004 requires that states make certain that students with special needs meet academic as well as developmental goals. Teachers, including general education teachers who work with special-needs students, must now focus on helping their students meet “to the maximum extent possible, the challenging [academic] expectations that have been established for all children” (p. 118, STAT. 2649).

This push toward special-needs students meeting high-level academic goals has been brought about both by federal legislation, particularly NCLB, and by a deeper understanding of how special-needs students learn. Thus, not only are teacher-preparation programs facing the need to prepare *all* teachers to work individually and collaboratively to educate students with special needs, but there is also an increased impetus to ensure that teaching is *effective* in terms of enabling all students to meet academic demands comparable to those in general education.

In the past, special education teachers had considerable leeway to design an individualized education plan (IEP) for each student, based on his or her current skills and

academic accomplishments. Now, however, special education teachers are expected to provide support for students to meet grade-level standards. Much of the appropriate instruction to meet those standards takes place in a general education classroom, rather than under the direct supervision of a special education teacher. This suggests that general education teachers need considerably more preparation in working with students with special needs in the general classroom setting.

Adapting instructional goals, ensuring positive peer interactions, addressing behavioral issues, and using appropriate teaching strategies are among the challenges faced by teachers working with special-needs students in general education classrooms.

Developing Better-Prepared Teachers. Given the need to prepare teachers to work together to ensure academic success for all students, it is crucial to develop a better understanding of what works in this regard. Unfortunately, there is little evidence, scientific or otherwise, that has convincingly clarified what teachers should be learning in their teacher preparation programs to accomplish this goal (Allen, 2003; Cochran-Smith & Zeichner, 2005). Nor is there substantial agreement in the field about what teachers should be learning in order to increase their effectiveness (Shulman, 2005).

Adapting instructional goals, ensuring positive peer interactions, addressing behavioral issues, and using appropriate teaching strategies are among the challenges faced by teachers working with special-needs students in general education classrooms.

Empirically studying the connection between what teachers learn in their teacher preparation programs and what they do in the classroom is an area of great interest among institutions of higher education that prepare teachers, as

well as education policymakers, business and industry leaders, parents, and others. There are, however, many challenges to learning more about this connection. In a survey of teacher preparation programs, Wineburg (2006) found that teacher preparation programs were concerned with the connection between how they were preparing teachers and how those teachers were performing in the classroom. Wineburg concluded that the programs were expending substantial resources in an attempt to document the connection and found that program effectiveness data was gathered through four primary methods: (1) observation systems supported by faculty rubrics and program standards; (2) surveys of teachers, principals, and program graduates during or after the program; (3) work samples and portfolios of candidates; and (4) state teacher certification tests such as Praxis I and II. Tests were used by most institutions either at the time of admittance, during participation in the program, or upon exit from preservice education; however, many different measures were used for these evaluations, with some more likely to be useful than others in terms of better understanding the strengths and weakness of the teacher preparation program.

A fundamental stumbling block in developing better-prepared teachers is that there is only weak evidence that relates *specific* aspects of teacher preparation to improved teaching and learning.

Wineburg emphasized that although teacher preparation programs are certainly interested in knowing more about how their teacher candidates perform once they begin teaching, there is no standard method of measuring either new-teacher practice or the achievement of new teachers' students in order to assess the effectiveness of teacher preparation programs. To improve their effectiveness, teacher preparation programs must develop and implement their own strategies for conducting

such research and securing the necessary funding. Wineburg also found that states wishing to compare the relative effectiveness of the state's teacher preparation programs are generally left to their own devices, which results in a wide array of evaluation designs, using different measures and methods—not all of which are equally valid and reliable or useful for making curricular adjustments. Thus, it may be difficult for states to determine how their teacher preparation programs are doing in terms of preparing high-quality teachers and how their programs compare with those in other states.

A fundamental stumbling block in developing better-prepared teachers is that there is only weak evidence that relates *specific* aspects of teacher preparation to improved teaching and learning. Until teacher preparation programs are able to conduct research linking what they train teachers to do, whether the teachers actually do it and do it well, and whether their students learn as a result, it will be difficult to know what components of the teacher preparation program should be emphasized, modified, or cut.

The Complex Nature of Research on These Relationships. As a means of illustrating how complex it is for teacher preparation programs to do research on these relationships, consider the large-scale study conducted by Carlson, Lee, and Schroll (2004), which examined special education teacher quality. The researchers identified five key factors that theory and research on general education teachers suggested contributed to the quality of special education teaching: experience, credentials, self-efficacy, professional activities, and selected classroom practices. The researchers developed an aggregate measure of teacher quality composed of these five factors. Using factor analysis on a nationally representative sample of more than 1,400 special education teachers, they found evidence that all of these factors were “viable components to an aggregate teacher quality measure” (p. 350). Although this is an

important and useful finding, the question still remains: Would this constellation of attributes of high-quality special education teachers actually ensure better student outcomes? In other words, are teachers who rate “high” on these measures likely to teach students who subsequently demonstrate *greater* achievement than would be expected given their prior achievement? Answering this research question is the key to the teacher preparation → teacher practices → student outcomes link.

Another important factor to consider is whether the characteristics, qualifications, and behaviors that are important for *general* education teachers are equally applicable to *special* education teachers. Teachers exhibit a preference for *either* general or special education by focusing on one course of study or the other during their years of preparation. Thus, there are differences between the teachers who choose one path or the other. Those who go into special education preparation programs may have a greater eagerness to teach students with special needs because they feel confident that they can master the required theory and practices. On the other hand, their counterparts who go into general education programs may feel less confident in their ability to effectively teach students with special needs. What remains unanswered is whether this preference is a proxy for other important differences that would affect teachers’ performance, and thus student outcomes, in situations in which general educators are teaching students with special needs. Moreover, could these preferences be changed if general education teachers felt *more* competent and confident teaching students with special needs? If so, a teacher preparation program tailored toward greater collaboration and more exposure to strategies for teaching students with special needs might better prepare *both* general and special education teacher candidates for active and effective roles teaching this population.

Collaborative Teacher Preparation Programs.

Griffin and Pugach (1997) evaluated 10 teacher preparation programs with strong collaborative programs between general and special education teacher training. Although each of the programs they described had unique features, they all shared a common theme: ensuring that all teachers are well-prepared to teach a diverse group of students in a variety of settings. Griffin and Pugach suggested that the success of strong collaborative teacher preparation programs depends on factors such as the following:

- Strong administrative leadership.
- Strong partnerships between the teacher preparation programs and K-12 schools, including professional development schools.
- Commitment to evaluating the programs.
- Effective communication strategies.
- Willingness of both the general and special education programs to consider changing their collective vision of the fundamental nature of teaching and learning.

Other researchers have also recommended collaborative teacher preparation programs as a way to better prepare teachers to improve learning for special needs and at-risk students. Hardman, McDonnell, and Welch (1998) recommend moving toward preparation that involves “(a) collaboration and cross-disciplinary training, (b) a common core of knowledge and skills for both general and special education teachers, and (c) field-based training that involves building and sustaining partnerships between higher education and the public schools” (p. 2).

Incorporating greater emphasis on teaching diverse students in general teacher preparation programs has also been noted as important. Brownell (2003) compared general and special education teacher preparation programs and found that all of the “exemplary” general education programs provided their preservice teachers with experiences designed to change their conceptual views of diverse students.

In addition, Brownell noted that the emphasis on diversity in special education programs focused more particularly on special-needs students.

Achieving Improved Student Outcomes for Special Needs and At-Risk Students.

General teacher preparation has been changing to respond to the emphasis on improving education for students with special needs—educational, emotional, behavioral, and cultural—in ways that support their diverse needs (Kavale, 2005; Maheady, 1997; Pugach, 2005; Pugach & Seidl, 1995). There is little evidence thus far, however, to help establish whether these efforts have borne real fruit in terms of improving student outcomes.

One important step for teacher preparation programs is to evaluate how well prepared their *general* education teachers are to work with students with special needs.

There is little documentation of how teacher quality might affect the achievement of special education students because it is so difficult to make the connection between student learning and teacher quality (i.e., the qualifications, characteristics, and behaviors of teachers). Brownell et al. (2005) note the following:

The field of special education does not have the same extensive research base on teacher quality [compared to general education], particularly as it relates to student achievement gains. Less than a handful of studies have examined linkages between dimensions of teacher quality and student achievement in education. (p. 2)

One study that provides an interesting model for examining student achievement in light of teacher preparation is that of Miller (1991), who used a case-study approach to evaluate a project designed to facilitate the gradual integration of the special education and English teacher preparation programs in one institution. Participating teachers field-tested practices they had learned in particular units. The videotaped

field tests were then evaluated to determine whether the unit was taught effectively, whether the “target students” reached the instructional goals set for them (as measured by pre- and posttests), and whether the teachers felt an increase in their sense of competency as a result of implementing these practices. This study is especially useful because it makes two important connections that are missing in most other studies: (1) the knowledge that preservice teachers gained in their coursework is connected with their actual classroom practices and (2) the connection between the teachers’ practices and their students’ learning using a pre- and posttest design focused on the specific unit being taught. This strategic evaluation of the teacher preparation → teacher practices → student outcomes relationship might be useful in investigating the impact on student achievement of specific curricular offerings; course sequencing; and the blending of content, methods, and pedagogy that are used in teacher preparation programs.

Findings and Recommendations

Using Data to Improve Teacher Preparation.

Wilson, Floden, and Ferrini-Mundy (2001) propose the following:

We need more studies that relate specific parts of teachers’ preparation (subject matter, pedagogy, clinical experiences) to the effects on their teaching practice, and perhaps on student achievement. Studies that compare the relative importance of specific parts of teacher preparation could be useful to those designing and revising teacher education programs. (p. iv)

As these authors suggest, we need specific data that will allow teacher preparation programs to retool their course offerings and curriculum to ensure that what teacher candidates are learning will make meaningful contributions to outcomes for all students. One important step for teacher preparation programs is to evaluate how well prepared their *general* education teachers are to work with students with special needs. With that information, preparation programs can design

appropriate curriculum offerings to address areas in which general education teachers appear to have gaps in their knowledge and skills for teaching special education students.

Considering the Entire Continuum of Teacher Learning. Teacher learning continues even after teachers have completed their preparation programs, so it is important to conceptualize teacher learning as a continuum. Feiman-Nemser (2001) suggests a “framework for thinking about a curriculum for teacher learning over time” (p. 1013). From this perspective, teacher preparation is only the first stage of a continuum that includes new-teacher induction and early-career professional development. Teacher learning is a complex, ongoing process, whether through formal mechanisms such as professional development or through informal methods such as discussing a particular student’s needs with colleagues. Furthermore, teacher change is influenced by teachers’ beliefs about the need to adopt specific practices (Richardson, 1990).

Collaboration Between General and Special Education Teachers. There is a need for teacher preparation programs to educate teachers early in their careers about the importance of and strategies for collaboration between special and general educators and help them develop a repertoire of skills and knowledge to teach at-risk students and students with special needs. By staying connected with teachers as they graduate from teacher preparation programs and begin teaching—perhaps by providing professional development opportunities, seminars, and workshops in collaboration with local school districts—teacher preparation programs can also better understand the needs of the teachers they have prepared.

Explicit instruction on developing collaborations among special and general education teachers, along with opportunities to practice collaborative strategies, should also be useful to teachers in an environment where such collaboration is an expected and essential

component of working with at-risk students, particularly in providing early attention and intervention to struggling students. This is especially important for students who are at risk for referral to special education.

Giving teachers opportunities to work together using a case study method or a triage approach and providing opportunities for special and general educators to collaborate on designing and implementing lessons in mixed-ability classrooms are examples of ways that collaboration can be taught, experienced, and evaluated by teacher candidates and their instructors.

Preparing *Both* General and Special Education Teachers to Work with Students with Special Needs. Teacher preparation programs that include ample instruction for all teachers—*general* education as well as *special* education—in educating at-risk students and students with special needs are giving new teachers valuable tools that can serve them well in developing appropriate instruction for the diverse needs of their students.

Learning about what effective teachers actually do in classrooms with students with special needs will facilitate a better understanding of how those practices translate into measurable learning. From there, linking effective practices back to the teacher education program curriculum will enable preparation programs to identify and emphasize instruction in specific practices and strategies.

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Listen to a recording of the webcast, see the presenters' PowerPoint slides, and access prewebcast presentations and additional resources on this topic online (www.ncctq.org/webcasts/payforteach/).

Focusing Teacher Preparation for At-Risk and Hard-to-Staff Schools

On Thursday, September 21, 2006, NCCTQ hosted a live, interactive webcast on the topic of preparing teachers for at-risk and hard-to-staff schools.

A recording of the live webcast and the slide presentations used by the presenters during the webcast are available for viewing online (www.ncctq.org/webcasts/teacherPrep/).

Innovative Ideas and Practical Suggestions for Improving the State Highly Qualified Teacher Plans

On September 7, 2006, NCCTQ and the U.S. Department of Education hosted a live, interactive webcast to help states improve their state plans for highly qualified teachers in every classroom.

A recording of the live webcast that included presenters from the U.S. Department of Education is available for viewing online (www.ncctq.org/webcasts/hqtPlans/).

Raising Student Achievement Through the Equitable Distribution of Teachers

On Thursday, March 30, 2006, NCCTQ hosted a live, interactive webcast that explored the topic of equitable teacher distribution.

A recording of the live webcast, the slide presentations used by the presenters during the webcast, and the archived postwebcast discussion threads are all available online (www.ncctq.org/webcasts/equitable/).