

No Child Left Behind

The Politics of Teacher Quality

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The NCLB requirement for highly qualified teachers has fueled the fires of the already-politicized debate on teacher preparation. The authors present the research from both sides of the debate, in the hope that educators will be able to see beyond the political agendas and make their own informed decisions about the data.

A recent bipartisan national poll finds that 42% of respondents felt it was important for teachers to have “skills to design learning experiences that inspire/interest children,” while only 19% thought it was important for teachers to have “a thorough understanding of their subject.” Similarly, 67% of those who were sampled said that “developing the proper skills to make information interesting and understandable is a greater difficulty than developing adequate knowledge about subject matter.”¹

Overwhelmingly, Americans believe that knowing how to teach is at least as important as knowing what to teach. High-quality teaching—knowing the material and how to convey it—makes the difference in student achievement. Research supports this view.

Some politicians and education officials, however, seem to be saying just the opposite. U.S. Secretary of Education Rod Paige said in February 2002 that teacher certification does not ensure teacher quality and that “highly qualified teachers may not be required to be certified.”² He added that the present certification system reflects both low standards and high barriers to professional entry. The No Child Left Behind (NCLB) law’s definition of a “highly qualified teacher” reflects this view.

As NCLB brings high-stakes testing and its consequences to all 50 states, everyone wants the best-qualified and most effective teachers. However, the new federal requirements seem to contradict both popular belief and the experiences of educators, which affirm that effective teaching practices—rather than content knowledge alone—increase student achievement. Practitioners worry that, while NCLB widens the potential pool of teaching candidates, many of them will not know how to work effectively with students. Many will not know how to package and deliver their subjects in ways that increase student learning.

Instead of expecting new teachers to be “classroom ready”—that is, equipped with at least the basic teaching skills—NCLB permits content experts who lack teaching knowledge or experience to take over classrooms in the nation’s middle and high schools. Once these content experts are on the job, NCLB expects principals and master teachers to educate them using proven, “scientifically based” professional development strategies that will boost student learning. With the federal government saying one thing and the public at large and practitioners believing another, educators are understandably uncertain about how this new definition of “highly qualified teacher” will affect teaching and learning.

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WHERE EDUCATORS AND POLITICIANS AGREE

We use the term “politicians” to refer to knowledgeable thinkers, writers, and political appointees who have an “agenda” about what makes a teacher qualified and who selectively exclude research-referenced views that oppose their agenda. These politicians have had a powerful influence on the current education legislation and on the NCLB guidelines and regulations.

Jeff Archer has noted that there is little actual disagreement about what research on teacher quality says, but the experts from the two camps strongly disagree about how to interpret it and about how policy makers should respond.³ Consensus does exist about how effective teachers affect student achievement.

The effects on student achievement of working for consecutive years with highly effective or ineffective teachers are known, and we will discuss them only briefly here.⁴ The schools students attend and what their teachers know and do are more important influences on student achievement than family characteristics and ethnicity. In addition, the cumulative impact over three years of effective elementary teachers is estimated to produce (on a 100-point scale) more than a 50-point difference in math and a 35-point difference in reading on standardized tests.⁵ Consecutive years with highly effective teachers can produce dramatic achievement gains in all groups—low-, middle-, and high-achieving students. Moreover, high school students working with the most effective teachers show reading and math gains that exceed the national median, while their peers with the least effective teachers showed virtually no growth.⁶

Educators and politicians agree that a clear predictive relationship exists between the basic skills of teachers, especially verbal ability, and student achievement.⁷ They also agree that teachers’ content knowledge affects student achievement. On the 1996 National Assessment of Educational Progress (NAEP), students whose teachers had college majors or minors in the subjects they taught—especially in secondary math and science—outperformed students whose teachers lacked this content knowledge by about 40% of a grade level in each subject.⁸ Likewise, evidence suggests that teacher content knowledge in English and social studies may be no less important.⁹

No evidence, however, suggests that possessing content knowledge alone is sufficient to be an effective teacher.¹⁰ Some have claimed a mixed connection between teachers’ subject-matter knowledge and student achievement that can positively influence student learning. Others have rightly added that college majors vary in rigor and that the college transcript of a prospective teacher may not actually confirm content knowledge.¹¹

The bottom line—and the area of disagreement—is that, while teachers’ strong content knowledge and verbal skills have demonstrated links to higher student achievement, they may be necessary but not sufficient conditions for high-quality teaching and learning.

USING RESEARCH TO ADVANCE POLITICAL AGENDAS

Typically, educational research seeks to provide data to support best practices; consumers assume the findings will be objective and informative. The problem with teacher quality research, however, is that it has become a political battleground, and so it is difficult to know what to believe.

A fundamental disagreement exists over whether traditional teacher preparation positively affects student achievement. Experts with opposing political viewpoints differ strongly about the rigor of the methods, about how to interpret the data, and about how policy makers should respond.¹² The tone of such disputes can sometimes turn disagreeable, as when the Progressive Policy Institute refers to a new study of teacher quality as “Putting Lipstick on a Pig.”¹³

Traditionalists point to the research affirming that teacher expertise—what teachers know and can do—is the most important factor in determining student achievement. Proponents of reduced teacher credentialing, on the other hand, assert that little sound statistical research is available for evaluating which types of training or degrees have the best effect on student achievement or whether teacher preparation even makes a difference.¹⁴ Each camp cites educational research in support of its views.

In this vein, Frederick Hess calls a recent study supporting the benefits of teacher certification on student achievement “Advocacy in the Guise of Research.”¹⁵ This statement applies equally to both sides.

Kate Walsh in her report for the Abell Foundation claimed that the research that suggests that teacher knowledge of instructional ideas and practices (i.e., pedagogy) positively affects student achievement is cited selectively, is too old to be reliable, is not subjected to peer review, uses nonstandardized measures, violates sound statistical analysis, doesn’t control for key variables such as poverty or prior student achievement, uses too small a sample, or inappropriately aggregates data.¹⁶ Others claim that the research supporting teaching knowledge is biased, arguing that education and pedagogy classes are ideologically rather than research driven.¹⁷

Citing Walsh’s analyses as justification, the Secretary’s Annual Report on Teacher Quality states that no “scientifically rigorous” research supports the belief that pedagogy or education degrees are linked to higher student achievement.¹⁸ Using this logic, the NCLB legislation removes

teacher preparation in educational theory and practice as a requirement for hiring middle and high school teachers.

Directly responding to Walsh's report, Linda Darling-Hammond, although agreeing that legitimate concerns exist about various studies, vigorously argued that Walsh's review ignores evidence, makes unfounded claims, misrepresents research, misunderstands some fundamental issues in research design, uses a double standard in citing studies to support Walsh's own viewpoint, and draws illogical policy conclusions.¹⁹

Methodological weaknesses can be important when practitioners try to interpret data. True, teacher certification researchers do not account for the fact that teachers are not randomly assigned to classes within schools. The most experienced, credentialed, and respected teachers usually receive assignments to upper-level and advanced courses. School culture and logic dictate that mature teachers with advanced degrees receive these high-status, intellectually rigorous classes, and parents expect it.²⁰ Comparing certified to uncertified teachers, then, does not present a fair picture of student achievement because students are not starting from the same place. This does not, mean, however, that research limitations undercut all findings.

"As any reader of educational literature knows all too well, one can find experts on both sides of any . . . issues, each armed with his or her supporting data," wrote Howard Gardner in *Education Week*.²¹ Ethically, students cannot be randomly assigned from one condition to another "the way that agricultural seeds are planted or transplanted in different soils," he argued. Educators must consume data knowledgeably and consider these limitations and merits along with the reliable data from their own professional experiences to make sense of the issues and determine appropriate responses.

SUPPORT FOR THE VIEW THAT TEACHING KNOWLEDGE MAKES A DIFFERENCE

Credible research exists showing that teachers' instructional preparation increases student achievement. Darling-Hammond found that teacher preparation is a stronger correlate of student achievement than class size, overall spending, or teacher salaries and accounts for 40% to 60% of the total achievement variance after taking students' demographics into account.²² In fact, studies show that both subject-matter knowledge and knowledge of teaching and learning strongly correlate with teachers' classroom performance.²³

It is clear that teachers who learn and practice sound pedagogical techniques can affect students' measured

achievement. Harold Wenglinsky's 1996 NAEP study found that students of teachers who conducted hands-on learning activities outperformed their peers by more than 70% of a grade level in math and 40% of a grade level in science. Students whose teachers had strong content knowledge and had learned to work with students from different cultures or special needs tested more than one full grade level above their peers. Students whose math teachers stressed critical thinking skills, such as writing about math, scored 39% of a grade level higher. In addition, "the aspects of teaching quality measured have an impact seven to 10 times as great as that of class size" in affecting student achievement.²⁴

Coursework in teacher education is sometimes more influential than extra subject-matter classes in promoting students' math and science achievement.²⁵ David Monk found a positive correlation between the achievement of students and their teachers' coursework in teaching methods. However, he conceded that variations in the content of the courses made it difficult to draw definitive conclusions.²⁶

Education classes do appear to have a point of diminishing returns. Several studies have found that teachers with advanced subject-matter degrees, rather than advanced education degrees, have students who perform better in math and reading, especially beyond elementary school as students need a deeper and more complex understanding of content.²⁷

In addition, systematically studying learning processes results in more effective teaching behaviors and increased student achievement. And when teachers examined contemporary learning approaches and developed their own explicit learning theories, researchers found that the number of their effective classroom teaching behaviors increased significantly. Similarly, they found that 73% of these teachers' students—especially the lowest-achieving students—showed statistically significant learning gains.²⁸

Moreover, research also suggests that teachers without teacher education preparation can be less effective at helping students learn. Teachers who lack effective classroom management skills, regardless of how much content they know, cannot create a classroom environment that supports student learning. A study of alternatively certified teachers with only subject-matter knowledge demonstrated that they had strongly held misconceptions about appropriate ways to teach the content and were unable to integrate their subject knowledge with teaching practices to allow effective instruction.²⁹ Likewise, a study of the impact of different disciplinary practices on student achievement found that student disorder results in lower achievement.³⁰

To a degree, both sides make valid points. Supporters of traditional teacher preparation admit certain shortcomings. Schools of education vary in standards for candidates, programs, teacher education curricula, and quality of faculty members. Most U.S. teachers have had a "relatively

thin” preservice teacher education experience, usually involving tradeoffs between content and pedagogical preparation. Typically, prospective teachers learned subject matter and pedagogical techniques in unrelated courses; the two were not always integrated into real-world teaching experiences. In addition, most teaching candidates have had only short supervised student teaching experiences. It is small wonder that beginning teachers often report that their professional preparation was of little use to them.³¹

In sum, data supporting the impact of pedagogical training on student achievement are available, credible, and substantial, but the research remains open to challenge on logical and methodological grounds. However, the ambiguity of the data invites political use. Both evidence and experience show that effective teaching requires a set of professional practices different from but connected to the content taught. While content knowledge is unarguably essential, knowing how to teach content—whether learned in preservice training or on the job—makes a measurable impact on student achievement.

CONNECTING CERTIFICATION AND TEACHER QUALITY

The research connecting teacher certification and teacher quality is also mixed. Teacher certification lacks consistent standards to classify the effectiveness of candidates. As a profession, teaching has “no consensus on how to train good teachers or ensure that they have mastered essential skills and knowledge,” Hess has argued.³² And this makes certification based on common, mutually agreed-upon, and nationally accepted standards difficult.

Complicating matters further, teacher preparation programs vary dramatically in quality. States have broad flexibility to set their own criteria for teacher education and to define which institutions are “low performing.” When states recently reported information on teacher preparation, much of it was “inconsistent, incomplete, and utterly incomprehensible.”³³ Only one teacher preparation institution among more than 1,300 in the U.S. was classified as “low performing.” Thirteen others were considered “at risk” of being low performing.

Moreover, licensing varies in rigor, and exceptions differ from state to state. The Education Trust reviewed the licensure exams of the states and noted that “most of the content on licensing exams is typically found in high school curricula. . . . [The content was] never at the level of a bachelor’s degree.”³⁴ In spite of the strong evidence relating student achievement to teachers’ knowledge of subject matter, 23 states do not require subject-area knowledge for secondary English or math.³⁵

In addition, some states make no effort to screen out even the weakest applicants. Six states reported 100% passing rates, and only 24 states had teacher standards tied to their respective academic content standards.³⁶ Even the highly regarded National Board for Professional Teaching Standards has been criticized for its vague and broad standards and can show no evidence that certified teachers are more effective than others at raising student achievement.³⁷

What is more, teacher certification places “fiscal barriers to teacher preparation and entry [that] produce both chronic shortages of qualified teachers in some fields and dramatically uneven levels of preparation across the teaching force.”³⁸ Traditional teacher preparation requires many professional courses that cost students time and money. Requirements vary by state for entry into a profession with a salary scale that is lower than that offered to college graduates in other fields and is tied to seniority and advanced degrees rather than to productivity. These factors discourage many promising candidates from pursuing a teaching career.

Stating the facts objectively—warts and all—is one thing. Inadvertently or knowingly misrepresenting them to advance an agenda is another. For instance, The Secretary’s Annual Report on Teacher Quality for 2002 states that “fewer than 36% of new teachers feel ‘very well prepared’ to implement curriculum and performance standards . . . and less than 20% feel prepared to meet the needs of diverse students or those with limited English proficiency” (p. 15), citing the National Center for Education Statistics as the source. The terms “fewer than” and “new,” however, do not appear in the original report from which the statistics were taken.³⁹ In fact, the statistics reported were actually from a survey of practicing classroom teachers in 1998, most of whom were not new. From these and similar data, the Secretary’s Annual Report concludes that a majority of teacher education graduates believe that traditional teacher preparation programs left them poorly prepared for real classroom challenges. Conclusions from such misleadingly presented data can be confusing.

What are practitioners to make of these conflicting views? Considering all the evidence, teacher certification standards are too varied and in most cases too low to ensure teacher quality. For candidates from strong education schools where students have content knowledge linked to teaching practices and many real-world opportunities to integrate and use what they learn with students in well-supervised settings, certification can be a strong predictor of teacher quality. For those with weaker backgrounds, certification cannot.

The practical question is whether “content experts” with academic majors—who lack formal coursework in education—are equal in potential effectiveness to traditional teacher candidates. Although wide variations exist, research nevertheless suggests that teacher candidates from accredited

ited, respected teacher preparation programs probably have an edge—although by no means a guarantee—in terms of potential teaching effectiveness.

There can be no doubt that students need high-quality teachers. The academic and political arguments surrounding teacher quality also affect how educators do their jobs. Research can offer useful guidance about which teacher candidates are most likely to increase student achievement, but the findings must be used critically and cautiously.

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