From “learning to learn” to “training to teach”:
Changing the culture of teacher preparation

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The day after the National Council on Teacher Quality (NCTQ) published the second edition of the Teacher Prep Review, its comprehensive evaluation of programs that train tomorrow’s teachers, noted education reform critic Diane Ravitch turned her well-read blog over to a professor of literacy at a college of education in the Southwest. The professor revealed that her dean had just directed her to cover methods of developing fluency and vocabulary in her reading course—both so elementary teacher candidates would be better trained and so the college could earn a higher ranking in the Teacher Prep Review. The professor decried this infringement on her “academic freedom.” Searching through NCTQ’s list of textbooks that teach scientifically based reading instruction for one that would be acceptable to her and her dean, she was appalled to find that texts by the pedagogue philosopher Paulo Freire had not been considered relevant to the topic.²

This is only one story, but it well reflects both how deeply entrenched the existing culture of teacher preparation is and how the Teacher Prep Review is beginning to change that culture for the better. Education professors have long been enthralled by a Romantic notion of teaching and learning whose goal is not the acquisition of knowledge and specific skills but the liberation of innate human potential. They have therefore rejected the very notion of “training” teachers—not only because this would put them in the ostensibly lowly status of vocational educators, but also because the very idea of training flies in the face of what they believe education to be about.

While schools of education are notoriously resistant to change, they are not immune to outside pressure. By putting information in the hands of the consumers of teacher preparation— aspiring teachers and school districts—the Teacher Prep Review makes it imperative that schools of education improve their programs or face a decline in enrollment. Moreover, the culture of teacher preparation is not monolithic. A small but significant minority of education school professors and programs are already aiming to equip teachers with the tools they need to succeed.

¹ My thanks to my colleagues at the National Council on Teacher Quality, on whose collective work this article draws substantially. Any errors of fact or judgment are mine.
THE PROBLEM

Figure 1: Teacher impacts on math performance by initial certification.


Drawn from a study of thousands of teachers in Los Angeles Unified School District, the graph above sums up the basic conclusion of years of research on the impact of teacher training on effectiveness: there is none. In the aggregate, teachers with very different forms of training—traditional pre-service, alternative “fast-track,” on the job training, or no training—all look alike in terms of the learning gains made by their students.

Taken together, the teacher training delivered by nearly 1,500 institutions of higher education and hundreds more independent alternative certification programs adds no value. The new teachers who go on to teach roughly 1.5 million students every year clearly are not being equipped for success. In what other profession would this be conscionable, or even conceivable?

The very definition of a profession or skilled trade is that its members have mastered a set of knowledge and skills that will enable them to practice competently and independently. By contrast, there seems to be a consensus that teachers should learn their craft while on the job, going through a “trial by fire” in their first years that actually burns out individuals who might have made perfectly good teachers with the right support.

THE INSPIRATION FOR THE TEACHER PREP REVIEW
Teaching is today where medicine was in 1910, when Abraham Flexner conducted the famous study of medical education that led to its overhaul.

Of course, the definition of a profession is not always so clear-cut. A century ago, the same problem that plagues teaching afflicted the profession now considered a paragon of evidence-based practice: medicine. A person in the United States could become a doctor without taking a class in human anatomy or examining a cadaver. An aspiring physician might simply accompany a practitioner while he did his rounds with no explicit instruction whatsoever, apparently having to learn by osmosis.

In the early part of the last century, the Carnegie Corporation commissioned a school headmaster, Abraham Flexner, to visit and evaluate every medical training institution in the United States and Canada. The result was the 1910 Flexner Report, which detailed the tremendous shortcomings in these institutions and set forth a model for how medical schools should be organized, a model to which they largely hew today.

The American Medical Association, which had worked closely with Carnegie in planning the study, seized on the Flexner Report to reshape the profession. Lobbying legislators and regulators, the AMA worked to raise the bar of admission into medical schools and make their courses of study more rigorous and clinically grounded. Within a decade, one third of all medical schools had closed or consolidated. The medical profession had established the foundation necessary for it to develop, adopt, and disseminate evidence-based practice to promote public health.

NCTQ’s *Teacher Prep Review* aims to have the same impact on the teaching profession that the Flexner Report had on the practice of medicine. Launched in 2011, the *Review* examines the programs at 1,127 institutions of higher education that produce 99% of teachers who get traditional pre-service training. Two editions have been published thus far (in 2013 and 2014); a third will be released in 2016. NCTQ examines programs in four key areas:

1. Selectivity in admissions
2. Preparation in subject matter
3. Clinical preparation and practice
4. Outcome-based program management and evidence of effectiveness

Like the Flexner Report, the two editions of the *Teacher Prep Review* have been planted in fertile soil. In the early part of the 20th century, the press raised the alarm about the parlous state of public health just as it does about public education now. Elite opinion, particularly in the medical profession itself, was predisposed to accept Flexner’s conclusions that medical training needed an overhaul. Judging from the hundreds of articles triggered by the *Teacher Prep Review*—including two nearly back-to-back op-eds in the *New York Times* in the fall of 2013—public sentiment in favor of reforming teacher preparation has grown stronger. And
while the main national teachers’ unions have not embraced the Review in the way that the AMA took to the Flexner Report, each has called for the reform of teacher preparation.³

But in one key respect, the context greeting the Teacher Prep Review could not be more different from that of the Flexner Report. A century ago, the medical profession was thoroughly committed to the notion of scientific progress. Even if the development of new therapies did not always proceed in a straight line, doctors by and large believed that the findings of medical research could and should eventually be applied in practice and training. Unfortunately, as the Teacher Prep Review starkly reveals, the culture of teacher education by and large rejects such a notion of how research can be woven into teaching.

**Findings from Teacher Prep Review**

NCTQ has thus far published two editions of the Teacher Prep Review, the second fully evaluating 1,661 programs, one-third more programs than the first.⁴ Even with this expanded sample, the second edition largely confirmed the basic conclusions of the first: teacher preparation is an “industry of mediocrity.”

- Fewer than a third of the programs draw candidates from the top half of the college-going population in terms of academic aptitude. In countries that routinely outperform our own educationally, all teacher candidates are drawn from the top third or higher.

- Fourteen years since the publication of the landmark National Reading Panel report (2000), which definitively established the most effective methods of teaching children how to read, not even one in five elementary and special education programs ensure that their candidates are able to use them.

- American middle and high school students consistently lag behind their peers in other developed countries in math. The problem has its roots in elementary school, where students learn the procedures for solving problems without mastering the concepts behind them. And no wonder: their teachers aren’t prepared to teach them. Only 6% of programs ensure that elementary teachers get the full preparation they need in essential math topics.


⁴ Keep in mind the distinction between institutions and programs when looking at Teacher Prep Review findings. Institutions are the colleges and universities in which schools of education are based. Programs are the state-approved pathways into particular segments of the profession in schools of education (e.g., undergraduate elementary, graduate special education.) There are approximately 7,000 programs at nearly 1,500 institutions of higher education engaged in teacher training in the United States.
Traditional preparation programs wisely insist that candidates apprentice with current teachers as student teachers before taking over classrooms themselves. But only 5% make sure that their student teachers get adequate levels of feedback and are placed with a cooperating teacher of demonstrated effectiveness.⁵

Viewed from the perspective of how to train new members of a profession, teacher preparation appears to be in complete disarray. One would expect to find programs consistently selecting individuals with the traits and background that would likely make them successful, ensuring that they have a thorough grasp of the substance of the profession — which, in the case of teaching, consists of academic content and effective pedagogical techniques — and making them practice until they achieve competence. But, particularly for elementary teachers, inconsistency is the norm of the field.

**Case Study: Training in Classroom Management**

A closer look at how teacher prep provides support in classroom management provides something of the look and feel of this inconsistency. Ask new teachers about their biggest challenge and they will almost invariably say keeping control of the classroom. Feeling overwhelmed by behavioral issues is a prime reason that new teachers burn out and leave the field. And those who do manage to learn effective strategies on the job do so by trial and error with children who will never get back the learning lost to the chaos of the novices’ classrooms.⁶

New teachers’ lack of skill in maintaining an orderly learning environment is not because training programs never touched on classroom management. On the contrary, nearly every program addresses the topic in coursework or clinical practice. And no wonder, as almost all states insist that the teacher preparation programs they approve cover classroom management in some way.⁷

But delving into this coverage makes it clear why new teachers feel like they are at sea. Across the two years that candidates are generally in training, they spend on average less than the

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⁷ Findings in this paragraph and those that follow in this section are drawn from Julie Greenberg, Hannah Putman, and Kate Walsh’s *Training Our Future Teachers: Classroom Management*, 2013, Washington, DC: National Council on Teacher Quality. Evidence base for this report is the same used in the first edition of the *Teacher Prep Review*. 
equivalent of one-half of one course learning about classroom management. 5% may get no more than the equivalent of a lecture.

Even more importantly, the strategies that candidates are being taught does not comport with the extensive research on the subject. Three recent authoritative literature reviews, including one published by the U.S. Department of Education’s Institute of Educational Sciences, converge on what NCTQ has dubbed the “big five” of classroom management strategies:\(^8\)

1. **Establish rules.** Ensure that students know how they are expected to behave.
2. **Establish routines.** Ensure that students know and follow common procedures.
3. **Provide positive reinforcement.** Ensure that acts of good behavior are regularly rewarded.
4. **Apply consequences consistently.** Ensure that misbehavior is addressed appropriately and fairly.
5. **Engage students.** Ensure that students are involved in lessons.

A careful examination of the coursework of a subset of the programs evaluated for the first edition of the *Teacher Prep Review* showed that almost a third of programs addressed *one or none* of these strategies:

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Figure 2: Percent of programs covering “big five” classroom management strategies.

% of programs covering “Big Five” classroom management strategies (N=105)

- 30% for 0 or 1 strategy
- 21% for 2 strategies
- 11% for 3 strategies
- 9% for 4 strategies
- 29% for 5 strategies

What’s more, the strategy that has the strongest basis in the research, positive reinforcement (praise), is actually covered the least frequently in coursework:

Figure 3: Degree of coverage of each of the big five in teacher prep coursework
Learning about these strategies in lectures and from textbooks is useful, but only by putting them into practice and receiving feedback in student teaching can candidates hope to become proficient in using them. Unfortunately, there appears to be no relationship between what candidates learn in coursework and the guidance they receive in student teaching. Programs that devote lectures to the application of consequences, for example, are less likely to provide feedback to candidates on this strategy in student teaching. An even more fine-grained examination of a smaller subset of programs shows that courses address strategies but do not give candidates assignments in them. More troubling still, candidates are held accountable for implementing strategies as student teachers that they never learned in prior coursework.

The Teachers College Record, one of the field’s more authoritative publications, published a telling response to the NCTQ report from which these findings are drawn. The reviewers acknowledged that establishing a good classroom climate was essential and that candidates should learn about the research-based practices NCTQ identified. But they decried NCTQ’s failure to take proper account of context:

[NCTQ’s] simplistic view of teaching and learning assumes that input X always results in outcome Y. In fact, thirty years ago the Effective Schools research (see Hallinger & Murphy, 1986) provided empirical evidence that outcome Y usually did not result from the same inputs, but from different inputs, especially when the schools were situated in different contexts. Similarly, researchers operationalizing how teachers demonstrate care note differences between schools and even within schools among individual students. . . ⁹

As an argument, this is little more than a straw man. No one contends that research-based practices work every time, just that they will generally help teachers be more effective. But as a reflection of the dominant ethos of the field, this review helps explain the inconsistency in training that NCTQ has found not just in classroom management but in every area of teacher preparation. For if teacher educators believe that schools, classrooms, and students all vary so greatly that research-based practices are as likely to fail as to succeed, then why demand that candidates actually master them?

“LEARNING TO LEARN”

As NCTQ president Kate Walsh documented in an Education Next article, the field has altogether abandoned the notion of training candidates. Training is denigrated as a mere “technical transmission activity.” Instead, teacher educators aim to “prepare” teachers and form their “professional identities.” According to teacher educators, teachers do not become professionals by mastering a set of knowledge and techniques. Instead, they have to develop

their own approaches and philosophies—even when it comes to teaching children how to read, an area in which research on what actually works has been demonstrated beyond any reasonable doubt.\textsuperscript{10}

Why do teacher educators embrace and indeed celebrate an approach that in effect turns their candidates into “do-it-yourself” trainers? Partly this is due to the precarious status of their field within academe. It was not until after World War II that almost all traditional teacher education was incorporated into colleges and universities. Before then, a good fraction of public school teachers was trained in “teachers colleges” and “normal schools,” institutions with little prestige whose faculty members focused exclusively on readying candidates for the classroom. Conscious of being newly admitted to the club of higher education, teacher educators eagerly embraced academe’s imperative of producing research and shed their mantle as trainers.

Of course, if teacher educators were regularly producing research that benefited students, this transformation of the field might be a worthwhile trade-off. Unfortunately, by any standard — including that of the field itself — most of the scholarship produced by teacher educators is of little use in improving how teachers are trained. NCTQ’s literature review of over more than 3,000 articles on teacher education from peer-reviewed journals in the past ten 10 years found only 30 that were well-designed and which bore directly on how preparation impacts teacher effectiveness. The American Education Research Association’s own exhaustive review conducted in 2005 found that the research underpinning virtually every aspect of teacher preparation was weak at best.\textsuperscript{11}

The field’s systematic research failure and its approach to preparing teachers are both rooted in a fundamental misunderstanding of learning. Teacher educators tend to see learning as the development of an inner capacity to make meaning out of novel phenomena and concepts. They believe that the more meaning a person can make in one subject, the more that person’s overall capacity to learn any subject grows. Teachers can augment and extend this capacity by providing generic strategies to extract meaning from the unfamiliar, such as “seeking out contextual clues” or “finding the main idea.” Using such strategies, which are often claimed to be how a discipline’s experts learn, obviates the need to actually master a topic. The ultimate goal of education, according to teacher educators, is for students to “learn how to learn.”\textsuperscript{12}

How and what each child learns, teacher educators believe, varies by individual interest and background. One student might learn best through lectures, while another might do well through project-based learning. A unit on computer science that commands the attention of a

\textsuperscript{10}Kate Walsh, “21st Century Teacher Education,” \textit{Education Next,} 13(3), Summer 2013.


\textsuperscript{12} This paragraph and those that follow in this section draw heavily on E. D. Hirsch’s magisterial \textit{The Schools We Need and Why We Don’t Have Them,} 1996, New York: Doubleday.
classroom in Berkeley may bore children in Topeka. This means that teaching must be “child-centered”—not just that it should benefit the child, but that teaching should be completely tailored to each child. Teachers must fully understand each child’s unique identity, and help each child explore his or her own self, so that they can know what works best for each of them.

Here, then, is the reason why positive reinforcement as a classroom management strategy is rarely taught to teacher candidates. Attempting to divert children from their course of learning through praise is not only doomed to failure, but could actually stunt their “natural” development.

Rooted in a Romantic conception of human nature, the field’s notion of learning is fatally flawed. Humans are indeed wired to learn. But in most domains, learning is not so much the unfolding of an innate capacity as it is the commitment and ordering of facts and concepts into long-term memory. True, an individual can learn how to learn better, in the sense of mastering strategies to make learning more efficient. Frequent self-assessment and practicing the same activity over and over again with breaks in between are two such strategies. But knowledge is not transferable, and learning one subject does not in fact make it easier to learn any other subject. For example, a person who knows physics well but not biology will be hard pressed to seek out “contextual clues” to solve a biology problem since the context is understandable only to people with adequate background knowledge. Mastery of subject matter, rather than “learning how to learn,” must therefore be the goal of education.13

The paradoxical stance of teacher preparation—in which candidates are in effect asked to prepare themselves—makes a certain degree of sense. Since teacher educators believe that how and what children learn varies so greatly, there is no body of knowledge and technique that teachers can master to make them more effective. Indeed, attempts to apply such knowledge could be seen as acts of discrimination against the many students for whom it would not work. Whether teachers thoroughly know the subjects they will teach is of no great import, claim teacher educators, because knowing facts and concepts is not nearly as important as knowing how to learn them.

Just as teachers are expected to tailor their lessons to their students, so too must teacher educators tailor their preparation to their candidates. Hence the countless assignments found in education courses asking candidates to provide “personal reflections” on their field experiences or their readings. Hence the constant insistence in reading courses that elementary candidates develop their own philosophy to teaching reading, one often based on their own memories of how they themselves learned how to read. Teacher educators see learning to teach as just another instance of learning anything else, and must be deeply connected with a teacher’s own identity. Only then can teachers, like their students, achieve the goal of becoming lifelong learners.

13 This paragraph draws on Daniel Willingham’s Why Children Don’t Like School (San Francisco: Jossey-Bass, 2009), which provides an excellent overview of the implications of findings of cognitive science for education.
One might hope that the worldview of the schools of education would dissolve as soon as it came into contact with classroom reality. But teacher preparation’s stance against training succeeds through failure. New teachers rapidly discover that they have been let down by the preparation their programs provided them and generally conclude that it was far too theoretical to be of much use. But since what they learned from their “expert” education professors was of little value, teachers tend to suspect the value of any research conveyed by experts. Unmediated by a knowledge base of what works, teachers’ everyday experience of the very real variability in children’s learning tends to confirm that teachers and students all have their own styles of teaching and learning, and that the best they can do is tailor their practice accordingly. The invalidation of teacher preparation’s dominant approach only further ingrains its worldview in the minds of its graduates.

**A CRUMBLING CONSENSUS?**

If the education school professoriate uniformly held to the tenets of the worldview revealed by the *Teacher Prep Review*, then reorienting it toward the task of training teachers would be a fool’s errand. But thanks in part to the increased scrutiny under which teacher preparation finds itself, there are signs that the teachers of teachers are beginning to reconsider their long-held positions.

An in-depth survey of education professors in 2010 revealed significant discontent with the state of their field. Two thirds of those surveyed felt that teacher education needed “many changes.” Half doubted whether programs prepared their candidates “for the real world.” And while the vast majority of respondents (84%) said that the teacher’s role is to serve as a “facilitator of learning” rather than a “conveyor of knowledge,” a sizable minority (37%) did agree that it is imperative to ready “teachers who maintain discipline and order in the classroom.”14

In 2010, the two main accrediting agencies of teacher preparation merged to form the Council for the Accreditation of Educator Preparation (CAEP). Two years later, in the face of staunch criticism from within the profession, CAEP promulgated new standards that would ultimately require accredited programs to draw their candidates from the top third of the college-going population and to be held accountable for the effectiveness of their graduates as measured by the test scores of their students. Unlike medical schools or law schools, schools of education need not be accredited to remain in operation. Nonetheless, these standards, if rigorously applied, could have a salutary effect on the quality of preparation.

States, too, are beginning to raise their standards for teacher training. In the past 2 years, 33 states have made significant changes to their regulations governing entry into the profession and teacher preparation programs, while another 7 have taken initial steps in the right direction. Tellingly, in 23 of these states, would-be elementary teachers are now required to

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demonstrate that they actually know something in disciplines crucial for the elementary curriculum (e.g., the sciences, history, and literature). In other words, states are taking aim at the fundamental tenet of the world view of schools of education, that all that is necessary is to help teachers “learn how to learn.”

There are some initial signs that NCTQ’s own efforts may be bearing fruit. True enough, the pushback from the field against the Teacher Prep Review has been intense, with the doyen of teacher education, Linda Darling-Hammond, denouncing it as “nonsense” from the pages of the Washington Post. In fall 2013, however, 118 institutions chose to submit new information for the Review’s second edition. And while NCTQ did not see as much improvement as hoped, a number of program leaders had definitely changed their programs to meet NCTQ standards: 38%, for example, had strengthened their literacy courses to provide coverage of the fundamentals of reading instruction; and 54% beefed up their training in the use of data to drive instruction.

While the picture of classroom management training is less clear, NCTQ findings give reason for some optimism. To be sure, the field is clearly reluctant to embrace the use of positive reinforcement, with just over a quarter of programs training their candidates in how to use this strategy. And progress is difficult to track, as NCTQ changed the classroom management standard substantially between the first and second editions.

Still, the 130 programs that submitted new data for the second edition were rated more highly in classroom management than the rest of the sample, with 27% percent of new submitters fully meeting the standard compared with just 15% percent of programs that chose not to submit. This was not a case of self-selection: the first-edition scores of programs that chose to submit for the second edition were not statistically different from those of programs that provided no new information.

CONCLUSION: CULTIVATING THE SEEDS OF CHANGE

NCTQ recognized 107 top-ranked programs in the Teacher Prep Review 2014 report. The performance of these programs against the Review’s standards shows that there is a critical mass of teacher educators committed to getting their candidates to achieve a minimum degree of competence in academic knowledge and teaching techniques. The press attention garnered by the winners should fortify their resolve to continue with their approach.

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17 Greenberg et al., 2014 Teacher Prep Review, p. 34. Note that the percentages refer to programs that improved and not institutions. In addition, the percentages do not refer to the net rate of improvement: there were programs whose scores on NCTQ’s Early Reading and Assessment and Data Standards fell.
18 Greenberg et al., 2014 Teacher Prep Review, pp. 43–44.
But more effective signals of reinforcement will come from the market. The rankings of programs are now available on the *U.S. News & World Report* website, the preeminent source of information about higher education for prospective students, with 20 million visitors per month. NCTQ is reaching out to the thousands of high school and college members of Future Educators Association to make sure that they use the *Teacher Prep Review* to help them find the program that provides the best training. It’s been shown that top-ranked higher education institutions see an increase in their enrollment. Higher education leaders, who often view their schools of education as cash cows, will start demanding changes to protect their revenue streams.\(^{19}\)

NCTQ is also putting findings from the *Teacher Prep Review* in the hands of the other consumers of teacher preparation, school districts and principals. Out of their frustration with the poor quality training their new teachers have generally received, over 100 superintendents of large urban school districts endorsed the *Teacher Prep Review*. NCTQ’s findings on the strengths and weaknesses of training received by those applying for teaching positions will be at the fingertips of people hiring teachers, thanks to a partnership with SearchSoft, a company that produces applicant tracking software for thousands of schools in the United States. And on its own, NCTQ has sent out its findings directly to principals all across the country. As the word gets out that graduates of highly ranked teacher preparation programs are more likely to get jobs, enrollment patterns will shift even more decisively.

External pressure is absolutely essential to generate change, but NCTQ is now reaching out to the field to enter into a dialogue about how to move forward. The professor who insists on teaching about “social justice” rather than act against social injustice by teaching his teachers how to teach reading may, in the end, not be amenable to such a discussion. But there are plenty of capable teacher educators who realize that the field needs to change and will welcome the support of those who share their goal of ensuring that every new teacher is trained to succeed.