

Building a Common Core for Learning to Teach

And Connecting Professional Learning to Practice



BY DEBORAH LOEWENBERG BALL AND
FRANCESCA M. FORZANI

Americans expect more than ever from their schools. With an eye on “high-performing” nations, policymakers and education leaders in the United States worry about our global competitiveness and the need to prepare our youth for the demands of the knowledge econ-

Deborah Loewenberg Ball is the dean of the University of Michigan School of Education, where she is also the William H. Payne Collegiate Professor and an Arthur F. Thurnau Professor. She has authored or coauthored over 150 publications, is an elected member of the National Academy of Education, and serves on the National Board for Education Sciences. Previously, she was an elementary classroom teacher for many years. Francesca M. Forzani is the associate director of the Teacher Education Initiative in the University of Michigan School of Education. Previously, she taught high school English for four years in the Mississippi Delta, where she was a Teach for America corps member. She also served on the staff of Teach for America’s summer training institute for three years.

omy. High school graduation requirements are becoming tougher, and new and more complex learning goals are being instituted. At the same time, our education system is underperforming in terms of both what it produces and for whom; it is a system that has never guaranteed or delivered high-quality education to all students.¹ In fact, it is not really a system at all: our schools vary significantly from one neighborhood to the next, there are more curricula than schools, and tests do not assess what students have been taught.²

Improving educational outcomes, and the schools responsible for producing them, requires attention to many interconnected factors, from standards, assessments, and curriculum, to parents, communities, families, social supports and services, and public resources.³ Nonetheless, students’ learning depends fundamentally on what happens *inside the classroom* as teachers and learners interact over the curriculum. Interventions must somehow affect these instructional transactions in order to affect students’ learning. Yet most policy recommendations remain far from this educational fulcrum. Most policymakers are more

concerned with recruiting “better” teachers and developing new approaches to teacher evaluation and accountability than with building the infrastructure needed for high-quality instruction.⁴ This strategy focuses on inputs (teacher “quality”) and gauges its success based on outputs (student achievement gains), without connecting the dots to ensure that what students do with those “better” teachers leads to improved learning. Because “better” is defined by bets such as academic background or commitment, rather than demonstrated instructional capability, it is not surprising that this approach is neither reliable nor effective. It is a gamble, not a systematic strategy for intervening and improving learning and teaching inside classrooms. Because it is unreliable, some students win and others lose.

The Dynamics of Educational Improvement

Focusing directly on the development of instructional practice and its effects is not easy, however. One major shortcoming in our educational infrastructure has been the lack of a common cur-

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riculum. A second has been an impoverished approach to supporting teaching practice. These two are related, for any effort to develop and improve teaching is weakened when there is no agreement about what to teach.⁵ Taken together—no agreed-upon curriculum and no system for developing skilled teaching practice—hope for instructional improvement is slim. In this article, we propose a departure from inherited ideas about instruction and its improvement. Our proposal shifts away from individual “style” and open-ended “learning from experience” as the building blocks of practice, and emphasizes instead the importance of common professional standards.

Given the strong individualistic culture that permeates teaching and learning to teach in the United States,⁶ why might a shift to shared specific standards for professional practice be possible? The Common Core State Standards, which specify a set of learning goals in mathematics and English language arts, represent a watershed for this country.* They offer the possibility of a common foundation on which a stronger educational infrastructure could be built. And more Americans now understand that skillful teaching is crucial for students’ success. Skillful teaching can make the difference between students being at the top of the class or the bottom, completing high school or dropping out.

Of course, many policymakers seem to believe that good teaching is an innate skill or a creative act, not something one can learn to do. This is both false and—if it were true—hopeless. The teaching force numbers over 3.5 million. At this scale, thousands of

regular people must learn to teach effectively. Even if some people teach effectively without training—and some do—there are simply not enough such “natural teachers” to fill every classroom in this country. And in the next few years, we will need about 1.7 million *new* teachers. We would like them to be skillful in helping students learn.

To face this challenge, some argue that we should make it easier for people to enter the classroom, let almost anyone try their hand at teaching, and, with rigorous systems of evaluation, weed out those who prove ineffective. Using tools of labor economics, others propose incentives to recruit “the best and the brightest” and salary schemes that pay for results. Although these strategies may sound sensible, none is sufficient to solve the core problem of ensuring that *every* teacher helps students succeed, because none focuses on the training and support needed to teach responsibly.

Teaching effectively depends on more than being smart and gaining experience. In no other skilled trade or profession would we leave performance so much to chance. We do not believe that flying an airplane, for example, depends on nothing more than a strong interest in and commitment to air travel, a dose of academic knowledge, and hit-or-miss experimentation on real passengers. Few people would travel on planes if such beliefs were the basis for pilots’ training. Neither would they tolerate such haphazard preparation for the practice of hairdressers, veterinarians, or surgeons. Yet somehow it has been tolerated for the practice of teaching children. It is at least as dangerous, and more unethical.

Herein lies the crux of the challenge: improving educational outcomes for young people depends on developing and supplying skilled instructional practice. Such practice is complex and involves much that is not natural or intuitive. However, teaching is a large-scale occupation with high turnover.[†] Thus, we need a system that can enable large numbers of people to carry out this practice reliably and responsibly. For all children to experience high-quality instruction, we cannot depend on individual practitioners making it up based on personal preference and inventiveness. When teachers receive minimal preparation and are encouraged to follow their whims, children are put at risk. No profession or skilled trade that serves adult clients is so cavalier with preparation or so reluctant to set clear, shared standards of practice.

Ironically, this reluctance to specify skilled practice is a barrier to instructional improvement. The widely reinforced belief that teaching is a creative art, mostly learned on one’s own, impedes the possibility of substantial growth in knowledge and improvement in practice. Collective knowledge, shared standards for practice, and common principles and protocols are the markers of a profession. Encouraged by the agreement on a common core of content for students’ learning in mathematics and English language arts, we propose, in parallel, a common core curriculum for teacher preparation.

[†]Although many decry the fact that so many teachers leave the classroom after a few years, this is a complicated issue. In order to attract teachers, the occupation was designed to facilitate eased entry and, hence, weak occupational commitment.⁷ Moreover, it was not designed to support professional advancement. To make teaching a long-term career for more people, more changes would be required than simply calling for better retention.

*To learn about these standards, see www.corestandards.org.



A Common Core for Teaching Practice

To improve the quality of teaching across the entire United States, educators must establish a common core of fundamental professional knowledge and skill that can be taught to aspiring teachers, across all types of programs and pathways. This common content should include knowledge and skills on which novices can be assessed reliably in order to make decisions about their readiness for independent practice and for advancement. It also should serve as the foundation for ongoing professional training.

This common core should focus directly on the development of instructional practice.⁸ Although it should attend to the knowledge and orientations that underlie effective teaching, the academic training should support the demands of the actual work—what teachers need to know in order to practice effectively and make good judgments. If new teachers must be able to help students learn to evaluate sources and write persuasive arguments, explain the concept of gravity, develop young people’s capacity for civic engagement, and diagnose pupils’ difficulties with adding and subtracting fractions, then professional training must prepare teachers for these tasks, which are difficult to do well. Why would we ever think it reasonable for individual teachers to devise ways to carry them out on their own? Or for each new teacher to invent how to teach? If teachers fail to help significant numbers of their students learn, it may be because they do not receive sufficiently explicit professional training that would help them to do so. To blame the environment, the children, or their parents denies the efficacy of skilled professional practice and violates the fundamental ethical commitment of the teaching profession: to help every student succeed.

Along with our colleagues at the University of Michigan, we have worked for the past several years to identify a set of *high-leverage practices* that underlie effective teaching. We also have been developing ways to teach these practices so they can serve as the foundation for the curriculum used in a variety of pathways to teaching.* We have defined high-leverage practices as “those

activities of teaching which are essential; if they cannot discharge them competently, teachers are likely to face significant problems. Competent engagement in them would mean that teachers are well-equipped to develop other parts of their practice and become highly effective professionals.”⁹

In working to articulate these high-leverage practices, we sought to shift teachers’ training from an emphasis on knowledge and beliefs to a focus on judgment and action. A practice-focused curriculum for learning to teach would focus on the actual tasks and activities involved in the work. Such a curriculum would not settle for developing teachers’ beliefs and commitments. Because the knowledge that matters most is that which is used in practice, the professional curriculum would emphasize repeated opportunities to do the interactive work of teaching and to receive feedback—not just to talk about that work.

The identification of a common core of high-leverage teaching practices requires a specific description of skilled teaching practice. The fields of teaching and teacher education often seem

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preoccupied with adjectives for describing practice that distract from deliberate attention to the logical and ethical obligations of skillful teaching. Labels such as “effective,” “teacher directed,” “culturally responsive,” “inquiry-oriented,” “ambitious,” or “reform-oriented,” for example, are attempts to anchor instruction in a set of worthy commitments but say little about its specific entailments. Some center on the connection to student learning (e.g., “effective,” “ambitious”) while others emphasize surface features (e.g., “teacher-directed,” “reform-oriented”). But these terms are vague and can be misleading—instruction that attends closely to children’s ideas, for example, often involves a substantial amount of work on the teacher’s part and might therefore be labeled “teacher-centered” as reasonably as “child-centered.” For the purposes of a core curriculum for learning to teach, we focus on *responsible instructional practice* keyed to a set of basic professional orientations.

Defining Instructional Practice

The fundamental professional imperatives of teaching are to help students master academic knowledge and skill, and to support their social and emotional development. Schools are, for many children, the primary opportunity for academic learning.

By “academic learning,” we do not mean a narrow collection of facts and procedural skills, assessed only by standardized tests. We mean conceptual understanding; the capacity for disciplined

[†]To learn more about this work, which we call the Teacher Education Initiative, see <http://sitemaker.umich.edu/tei/home>.

reasoning, analysis, argument, and critique; and the ability to communicate ideas and interact effectively with others. Academic goals for students include critical and creative thinking, and the ability to solve problems related to local, national, and global issues. Students also must develop the ability to use and adapt to rapidly changing technology, and to interact effectively in a global society. All of this requires factual knowledge and procedural skills, but it also challenges students to review, apply, and expand what they have learned in substantive ways.

Responsible instructional practice means working assiduously to help all students reach these goals, and seeking to minimize educational inequities. This includes skill in selecting, representing, and opening content for a wide range of students from many different backgrounds; establishing sensitive, respectful, and helpful relationships with all students and their families; and resourcefully using students' out-of-school experiences. It is not

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enough for teachers to believe that all students are entitled to a high-quality education and that all students can learn; teachers must also have the skills to act on those beliefs in their teaching. Caring about students, although important, is insufficient for responsible practice. Skillful teaching involves facilitating in-depth analysis of ideas through reading, writing, and discussion; scaffolding students' knowledge and skill development through assignments and projects that require in-depth explanation, the sophisticated use of argument and evidence, and the strategic employment of technology; and encouraging growth in interpersonal skills through whole- and small-group work, oral argument, and other opportunities for social interaction.

The core work of instruction is to build bridges between students and the subject being studied. School subjects and children's ideas about them are, consequently, of primary importance. Teachers must understand their subjects deeply and flexibly, and skillfully represent them in intellectually honest ways to a wide range of students. Care with the subject matter is central to students' futures. If teachers are casual about the impressions that students draw about the nature of a subject, they may lessen students' engagement in the subject and detract from their learning. They may, for example, lead students to think that mathematics is not subject to reason, but is merely a series of mindless rules and formulas (or, just as bad, an endless game of guess and check). Similarly, if teachers are inattentive to important aspects of the ideas that they teach, students may develop misconceptions or distorted understandings of key concepts—many of which may interfere with the pursuit of more demanding learning goals later. An inadequately prepared history teacher, for instance, may gloss over debates about ideas or events, leading students to think that history is not subject to investigation and revision, but is just a



series of dates to be memorized and irrelevant-seeming stories about white men. The responsibility to represent subject matter with integrity and care is at the heart of teachers' obligation to help students learn.

To facilitate learning, teachers must know their students well—not only their personalities and preferences, but also their ideas about subjects and their ways of thinking about them, including their intellectual habits, misconceptions, and interests. They must understand the ways in which students' personal and cultural backgrounds bear on their work in school and be able to respond with appropriate instructional activities. This means skillfully eliciting, probing, and analyzing students' thinking through verbal interactions and written work. It also means teaching students how to be "people who study in school"—learners who are disposed toward questioning, skilled argument and discussion, and intellectual honesty, particularly in relation to specific school subjects.¹⁰ These are examples of what we mean by *high-leverage practices*.

Other Challenges: Lack of Knowledge, Grain Size, and Subject- and Context-Specificity

In addition to identifying the high-leverage practices at the heart of responsible teaching, constructing a common core for teaching presents other problems. Because the tasks and activities of responsible teaching are many and the time for teacher training and professional development is limited, we must identify those aspects of the work that are the most important for novices to learn to do well. Doing this requires addressing our collective lack of knowledge about teaching, questions of "grain size" (i.e., how detailed this work ought to be), and the subject- and context-specific nature of teaching practice.

Identifying the core elements of teaching requires a special "decomposition of practice,"¹¹ which is challenging because of our underdeveloped language of practice. From one teacher preparation program to the next and from one researcher to the next, the language used to describe teaching is neither precise nor com-

mon. For example, although teachers use questions continually, no set of technical labels exists for particular types of questions within a content domain. Questions that teachers use to elicit students' thinking—such as, “What have you found so far?” or “Can you explain how you got your answer?”—are different from ones they might use to challenge or extend their students' thinking—such as, “What if an older student said that $8/8$ is greater than $5/5$ because there are more pieces?” Similarly, even widely used words like “curriculum” and “scaffolding” mean different things to different people. A precise, shared technical language about instructional practice would enable much faster progress in research and thinking about teaching.

A related challenge is finding an appropriate grain size at which to identify and name the work of teaching. A high-leverage practice must be small enough to be clearly visible in practice, but not so small as to atomize it. In other professions, from aviation to medicine to cosmetology, professionals are trained to carry out specific elements of their work that have been articulated at a useful grain size. For example, prospective pilots are trained to execute takeoffs, landings, and turns, not just given basic advice; medical students are taught how to conduct a physical examination and dress a wound; hair stylists learn to precisely cut different textures and lengths of hair and to add highlights with care. Guidance for teaching practice, however, is often much less specific. Saying that teachers should “differentiate instruction” for different learners or “motivate” students or “connect with students' everyday experience” is to articulate principles or goals, not the detailed skills and steps required to achieve them.

In decomposing and naming high-leverage practices around which consensus could be built, another problem that must be faced is the content- and context-specific nature of teaching. Regarding the content-specific nature of teaching,¹² take, for example, the asking of questions. Precision about the purposes and framing of questions, as well as their real-time posing and sequencing, is a high-leverage practice. So is eliciting and interpreting students' understanding. However, both of these practices are tied intimately to specific subject-matter content. A good question in a history class is not the same as one in a mathematics lesson. History teachers ask students to evaluate the credibility of different sources and consider factors that shape their reliability. Mathematics teachers request and support mathematical explanations, which are not the same as either historical or scientific explanations. Asking students to explain why an odd number plus an odd number always equals an even number is different from asking a question about sources or about experimental results. Designing a prompt to assess students' developing abilities to write a comparative essay is different from constructing a task to elicit students' learning about a specific scientific idea, such as force or light.

Regarding the context-specific nature of teaching, a key issue is the unique cultural context of each classroom. Leading a whole-class discussion of themes in Toni Morrison's *Beloved* depends on context: because students' experiences and relationships to the text differ, the instructional work is not the same in a suburban Connecticut classroom as in a classroom in rural Mississippi. Students are likely to interpret the text differently, to interact differently with it and one another, and to react in distinctive ways to its language and imagery. Consequently, the resources avail-

able to and demands on the teacher would differ from one context to the next. Expectations and norms for communicating with parents and colleagues might also vary depending on the community in which a school is located and on the policy context bearing on a particular school system.

Toward a Common Core Curriculum for Responsible Practice

Whereas other professions have been able to decompose practice, agree on the most important knowledge and skills, and develop, support, and assess them, teaching has not. This is our challenge, and our time to overcome it is now.

We must identify the tasks of teaching that are so important that skillfully executing them is fundamental to effective teaching. Examples include being able to figure out and respond to what students say, launch a task in class, check quickly on students'

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understanding, conduct a class discussion, or call a parent about a difficult situation.

In contrast, a high-leverage practice is the ability to recognize key patterns of thinking, ideas, and misconceptions that students in a specific grade level typically have when they encounter a given idea. Elementary mathematics teachers should be able to examine students' solutions to a complex subtraction problem and recognize how students arrived at their answers (right or wrong). Teachers must be able to probe whether correct answers represent valid understanding, and have good sense about when to check. Middle school English teachers should be able to recognize why some populations of students consistently use forms of subject-verb agreement that differ from academic English, and they should have effective strategies for teaching students how and when to use academic English. Elementary science teachers should know that the process of photosynthesis frequently confuses fifth-graders, and they should understand why. Not all common patterns of student thinking involve errors; teachers should be able to recognize common ways that students think about content, including predictable developments they make as they grow. For example, when young children begin to “count on” (i.e., know instantly that there are nine items when one is added to a set of eight that they have already counted, as compared with their earlier practice of counting all over again), teachers should immediately recognize this significant step. Teachers should also have relevant cultural and social knowledge. For instance, urban African American adolescents are likely to have deep experience of word play that can enhance their ability to engage in complex literary analysis,¹³ and middle schoolers' social preoccupations

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Pedagogical Content Knowledge

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Endnotes

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can be harnessed for productive collective work.

In addition to high-leverage practices, we need to identify the content knowledge most important to competent beginning teaching and find ways to articulate professional orientations and commitments. Although instructional practice should be at the center, a common core for teaching practice would include explicit learning goals that encompass the range of skills, knowledge, understandings, orientations, and commitments that underlie responsible teaching. An important aspect of the curriculum for learning to teach would be the special kinds of content knowledge needed for teaching.¹⁴

Teaching is always about teaching *something*. Although the lack of a common curriculum in the United States has often discouraged teacher educators from focusing beginners' training on any particular academic content, the advent of the Common Core State Standards makes it possible to identify specific instructional practices, and specific topics and texts within school subject areas, that could serve as the foci of a redesigned professional curriculum for learning to teach responsibly. One way to approach choosing this content is to think again in terms of what is "high leverage" for beginning teachers. "High-leverage content" comprises those texts, topics, ideas, and skills

in each school subject area that are essential for a beginning teacher to know well. High-leverage content is foundational to the ideas and skills of the K–12 curricula in this country, is taught in some form or another across most published textbooks and curricula, and appears frequently. In addition, high-leverage content is fundamental to students' learning and often causes difficulty if not taught well. It also is often known only superficially by prospective teachers, or is entirely new to them.* Examples of high-leverage content in elementary mathematics, for example, might include place value; computational procedures with whole numbers, decimals, and fractions; and mathematical explanation and representation. In secondary English language arts, it could include writing a coherent essay, and reading and analyzing *Romeo and Juliet* and *Invisible Man*.

With a practice-focused curriculum for learning to teach, prospective teachers would learn to use specific, high-leverage practices to teach specific, high-leverage content, much of it derived from the Common Core State Standards. They would also learn how to enact professional norms and commitments in the context of instruction (not just to talk about them). Although the full curriculum would vary in some ways from program to program, the focus on high-leverage practices and content would not. Our field has shied away from this kind of common core curriculum for new teachers for decades, with troubling results. There has never been a better time to change than now.

We hear a great deal about how much more respected and supported teaching is in other countries than in the United States. Here, teaching is paradoxically both romanticized and disdained. More important, though, is that teaching is broadly underestimated and teacher education, both "traditional" and "alternative," is the object of significant criticism. Demanding that the public respect teachers or defending the status quo, however, will not lead to improved systems for the development of responsible instructional practice.

Our goal is to support the demanding

*This definition of high-leverage content derives from the work of the Mathematics Methods Planning Group at the University of Michigan School of Education.

work of teaching. Doing this effectively means unpacking and specifying instructional practice in detail, and designing professional education that will provide multiple opportunities to fine-tune crucial design, interaction, and analysis skills. Other trades and professions have been able to break their work into meaningfully learnable skills and knowledge, accompanied by discriminating judgment. To move from individualism to professionalism in teaching, and improve the learning of all students, we must do the same. □

Endnotes

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