The infrastructure and conceptual challenges of the Common Core State Standards: English Language Arts as a case.

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Language Arts as a Case

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The Common Core Standards (CCSS) represent a relatively new vision for standards in American Education. The politics of its evolution are well documented in other essays in this volume. This chapter takes a different approach, examining tensions between what is already well known about learning processes, on the one hand, and how this knowledge makes its way— or, just as importantly, *does not* make its way—into the CCCS and the infrastructure meant to support them. To illustrate these tensions, this chapter focuses on the domain of reading across the curriculum in high school, represented in the Common Core State Standards for English Language Arts and Literacy in History/Social Science and Technical Subjects. The goal is to understand what the standards address and what they don't address, as well as the implications of adopting these standards in terms of schools having the capacity, disposition, and resources to fill in the gaps. A third, but closely related, goal is to raise questions about the politics entailed in the uptake of basic research in the design and implementation of public policy in education.

While past efforts at developing rigorous academic standards have not had the national scope of the CCCS, the New Standards Project and the American Diploma Project share with CCCS an attempt to articulate academic standards that move beyond rote learning to address the

complex demands of critical thinking and problem solving. Within disciplines, the National Council of Teachers of Mathematics standards and the several generations of science standards, culminating most recently in the Next Generation Science Standards (NGSS), represent another set of exemplars of using rigorous standards to improve the quality of instruction in US schools.

All of these past efforts share a common fate: the inability of the infrastructure of districts, schools, classrooms, and individual teachers to address the unequal learning opportunities historically associated with students who live in poverty, who are members of historically disenfranchised minority groups, whose first language is other than English, and who may have a history of low academic achievement as represented by scores on an array of standardized and diagnostic tests most typically used in US schools. Many factors contribute to the challenge of scalability with regard to the implementation of such standards. This chapter, however, zooms in on the conceptual issues around learning in disciplines that practitioners on the ground must address, some of which may not be articulated in the standards themselves.

This historic inability to address the rigorous demands requiring critical thinking and problem solving is characterized by a number of "lacks" in the roll out of such standards. Specifically, then and now, the standards do not address the following important factors:

- The lack of a coherent infrastructure for capacity building. Such infrastructure includes teacher preparation, working conditions to support learning in organizations, and specialized in-school supports for teacher learning.

- The lack of any attention to social and emotional demands, that includes identity processes, of the rigorous learning required by the CCSS. This applies to students and teachers alike.

- The lack of pedagogical practices that socialize epistemological orientations and habits of mind required for complex problem solving (e.g. orientations toward issues like wrestling with complexity and ambiguity in how learners approach problems of learning)

- The lack of pedagogical practices that focus on multiple and adaptive pathways through which such learning can be supported, especially for learners with diverse needs

- The lack of a library of tested examples of what such instruction can look like. This might include video cases, samples of student work, or exemplars of generative instructional tasks.[1]

What Teachers Need to Know to Implement the Standards

Lee Shulman noted for his articulation of pedagogical content knowledge (e.g. understanding what makes learning difficult for novices) and Deborah Ball noted for her research on mathematical learning, among others, have talked about the need for teachers and curriculum designers to understand what makes developing rich conceptual understanding difficult for novices. For example, Deborah Ball discovered that her pedagogical content knowledge of the mathematics to be taught in the primary grades was qualitatively different from that of experienced mathematicians. The mathematics she needed to understand about young children learning about fractions was qualitatively different from the formal knowledge of the professional mathematician. In addition to teachers needing to understand what novices need to know in learning academic content, it is equally important that teachers understand sources of resistance and sources of vulnerabilities and strengths that students may have that can contribute

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[1] While the New Standards Project did provide examples of exemplary student work, there was not a sufficient publicly supported system of distribution to have a large-scale impact, and the exemplars did not address how such tasks would be accomplished with important subgroups of students, such as students for whom English is a Second Language or students who are academically struggling.

to or constrain the students' learning; and in so doing, to understand the multiple pathways through which instruction can be designed to mitigate sources of vulnerability, such as poverty and a history of ineffective teachers. These challenges often require individual teachers, as well as entire schools, to resist stereotypes that lead to a culture of low expectations. Practices entailed in such cultures include tracking that positions low-achieving students so that they are never asked to wrestle with complex learning tasks, and low-level instruction focused on rote learning.

<div align="center">Infrastructure Needed to Support Teachers in Implementing the CCSS</div>

From a systems point of view, sometimes these large-scale reform efforts suffer, in part, because there are not sufficient resources available to schools and teachers to meet the demands of the standards. One interesting example is the Reading First initiative to improve reading instruction in the primary grades. On the positive side, there was significant investment in the development of diagnostic tools that schools could use to measure discrete skills in decoding, as well as focused and relatively coherent professional development resources to help teachers and schools generate data that was sufficiently detailed to inform instructional decisions. Interestingly, when the Department of Education tested the long-term impact of Reading First, they found substantive growth in decoding, but virtually no growth in comprehension. This example illustrates how what is *not* addressed in the goals of the reform reasonably inhibits the outcomes. If the Reading First initiative had addressed both decoding and comprehension, and had developed a parallel set of instructional and diagnostic supports for comprehension, would the outcomes would have been different?

By contrast, in terms of the English Language Arts (ELA) CCCS standards for middle and high school, few resources are available to teachers and schools for diagnosing strengths and

weaknesses in reading across the content areas or the writing of arguments, which are both broad goals that are central to the standards in ELA. And while the assessments that are being developed (PARCC and Smarter Balance) may be useful for summative evaluations, they will not provide data on how students are going about tackling the problems of disciplinary texts— diagnostic information that would be extremely useful for informing instruction. In addition, the assessments are not designed to provide teachers with information on the factors that might influence students' abilities to critically comprehend these texts. Such factors include lack of relevant prior knowledge; lack of understanding essential vocabulary; lack of understanding of discipline-specific text structures; and lack of understanding how to reason from evidence to claims in ways that characterize thinking in the disciplines. In addition, while Reading First did lead to state and district efforts to create infrastructure—in the form of reading coaches—to support teachers, the use of such coaches was largely concentrated in the primary grades. To support teacher learning about how to teaching complex comprehension of texts in the disciplines, reading coaches will require a very different kind of knowledge base than most generic reading coaches possess. For example, coaching to support the ELA CCCS goals of critical reading in the disciplines and argumentation requires . . .

- Deep disciplinary content knowledge, including knowing what is entailed in comprehending texts in history, science, literature, and mathematics;

- Reading-strategy knowledge that is discipline specific. In history, for example, this includes sourcing, corroboration, and contextualization; and the ability to understand differences in text genres that go beyond the distinction between primary and secondary sources;

- Epistemological orientations toward argumentation in disciplines, including viewing literary texts as open to dialogue and viewing history as constructed and contested;

- Pedagogical strategies for supporting problem solving and scaffolding;

- Knowledge of adolescent development, in order to understand sources of student resistance and motivation; and

- An understanding of adult development for working productively with teachers as learners.

This list represents the challenging array of knowledge required to help teachers learn to engage in rich, discipline-specific reading and composition instruction. And yet, programs for teacher preparation, reading specialist certification, and teacher leadership do not routinely provide specialists with these skills.

<center>Political Contexts Influencing the Articulation of the Standards</center>

There is another set of interesting links between Reading First and the CCCS in ELA. The decision to focus on decoding in the primary grades was not due a lack of a sufficient research on early comprehension. The so-called reading wars of the 1990s were more ideological than scientific; and the decision to highlight decoding over comprehension in the Reading First investments was not based on what was known about processes of comprehension. One lesson, then, for reform efforts in K-12 schooling is to understand not only what such standards or initiatives demand that is useful, but also what they leave out that must be addressed if students are to learn to engage in the fullness of the rigorous goals.

These tensions are most often rooted in politics, understanding who are the key players driving policy decisions. These players include politicians, nongovernmental organizations,

foundations, professional unions, and business people. Researchers represent another important group of players; they are often invited to participate because they represent an orientation that other vested interests hold. While the CCCSS called for an open process of deliberating the standards among an array of vested interest groups, the emerging backlash confronting the CCCSS suggests that some communities have felt left out of the process. Adding to the complexity, neither the processes of inclusiveness nor the evolving backlash are deeply informed by the full array of available research on reading comprehension, reading in the disciplines, argumentation, or composition.

<center>Tensions Within Basic Research and Its Uptake in the Standards</center>

The CCSS project made explicit efforts to connect the standards to existing research. For example, Appendix A of the ELA standards describe the research base underlying how the standards address problems like understanding sources of text complexity. The CCSS in ELA call for students to learn to read complex texts at earlier grades, to read widely in all content areas, and to be able to construct arguments around generative questions in the content areas by close reading and critical examination of texts. There is no question that these are laudatory goals, and ones that will be necessary to prepare students for college and career readiness. Though such standards were embedded in the College Readiness Standards (CRS) articulated by the College Board, there were so many standards that it was challenging to translate them into instructional goals that were manageable. Developers of the CCSS made a conscious decision, starting with outcome goals for 12th grade, to focus on a smaller and more coherent articulation of goals: more complex texts; close reading; reading across the curriculum; argumentation. Research on the design of academic standards has wrestled with questions around how detailed standards need to be in order to be useful for practitioners. For example, at one point the

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National Council of Teachers of English created ELA standards that were one page in length. In addition, research in mathematics education has emphasized teaching fewer topics in depth.

However, in the efforts to then backtrack from 12th grade to articulate grade-level standards for these four broad goals, they came up against at least two challenges: (a) how to define text complexity; and (b) how to create a developmental progression across the grades. The grade-level progressions suffer from a long-standing tradition in the articulation of ELA goals: reading comprehension standards (whether at the state level, in College Readiness Standards or NAEP reading framework) typically repeat the same skills over from one grade level or grade band to another with minor and quite arbitrary differences in wording to suggest that the skill is becoming more complex.

This problem is not only a historical one concerning how grade-level standards in reading comprehension have been articulated in the past, but equally a scientific conundrum in the field of reading. The conundrum is that most measures of text complexity—that his, how to figure out whether a group of 3rd or 5th or 8th or 11th graders should be able to read a particular text with understanding—focus only on the surface features of texts, such as length, sentence syntax, or vocabulary. These are the dimensions of text complexity in most readability formulas that teachers are familiar and have easy access to. Such dimensions are also used in the Lexile framework, a measure that assigns difficulty levels associated with grade bands and that has a very usable website where teachers can look up common texts to see their readability. There are newer tools available to text complexity quantitatively and automatically (examples include Coh-Metrix, which analyzes sources of coherence in texts and how they might contribute to readability; and TextEvaluator, which examines more nuanced features of vocabulary, syntax, narrative style, and argumentation structure). But these newer tools are not readily available to

practitioners and on the whole require a high degree of technical knowledge to use them effectively.

This limited focus on how to figure out the readability of particular texts for particular groups of students poses several problems. First, a text can have simple words and short sentences and still be very difficult to comprehend. For example, in literature a brief story written with simple language might engage with complex themes and characters. And so even though average readers are able to say the words on the page, they might not be able to access these words' deeper, figurative meanings. Similarly, in each of the content areas—literature, history, science, and mathematics—the organization of the text, rather than the simplicity of the vocabulary or sentences, can make comprehension challenging.

Second, comprehension difficulty is associated not only with the nature of the text but also with the nature of the task. You can have what appears to be a simple text in terms of length and language, but the task associated with it might be challenging. For example, in history, the standards (not only the CCCS but also in the history standards within the discipline) call for readers to wrestle with understanding the historical context in which the text was produced, to interrogate what may be any biases of the author, and to corroborate claims in the text against the historical record. In addition, history comprehension standards included in the ELA CCCSS ask students to wrestle with these problems of historical reasoning across multiple texts. In the teaching of history, these are called document-based questions, in which students interrogate a complex historical question by reading multiple texts. What is emerging in the field of reading comprehension, especially reading in the content areas, is articulating the problem of comprehension difficulty as situated in relationships between texts and tasks. For example, a text can be short and use simple language, as with Alice Walker's short story The Flowers. But if the

task is to interpret the symbolism in the story rather than recall the literal plot, then the complexity of what students have to do is centered neither in the text alone nor in the task alone, but in how features of the text (in this case simple descriptive language that can be read as both literal and figurative) intersect with the complexity or simplicity of the task students are asked to engage. This relationship is further complicated by studies that argue for the importance of context to encompass text-task-context as inter-related sources of complexity in comprehension. For example, how do we account for the observation that we have students who struggle to read with understanding in school, but who engage in complex reading and argumentation in informal learning environments outside of school. This phenomenon suggests that students' abilities to read critically can be influenced by the contexts in which they engage in reading. In community based learning environments (playing digital games, using digital media to examine societal issues in a Boys and Girls Club or Digital Youth Media organization), learners often have greater intrinsic motivation to engage the task – in this case of reading – and greater supports from peers and others to become competent. These everyday learning environments are often more pedagogically engaging than schools.

The point here is that there is a strong research base in support of the idea that complexity of comprehension grows out of the nature of the complexity in the text(s), the tasks, and the contexts in which learning to wrestle with texts takes place. The problem in implementing the ELA CCCSS to achieve the desired outcomes equitably is that the standards do not address these issues. The standards point to quantitative tools for assessing text complexity (such as Lexiles and traditional text-difficulty measures) and some very general qualitative guidelines for teachers to use. However, these tools are not sufficient for making well-informed decisions about text selections. The standards offer exemplary lists of texts by content areas and grade levels without

providing any rationale for why these texts were chosen. The choices not only appear to be totally arbitrary, but in some cases the choices raise questions about whether they are developmentally appropriate for particular groups of students.

These challenges concerning text complexity and text selection are essential conundrums to be wrestled with if the desired goals of the standards for reading comprehension are to be met. These are in addition to the infrastructure challenges regarding diagnostic tools, rigorous curriculum materials, exemplary cases of robust instruction, and professional development opportunities, etc. How can schools and districts organize themselves as learning organizations to tackle a problem that is essential to the enterprise, but for which the standards—as well as much of the industry that is evolving to support their implementation—do not address? This challenge is at the heart of what it means to teach.

Despite the availability of standards, well-crafted curriculum, scripted curriculum, required reading lists, learning is not a transmission model. Children and adolescents are not empty vessels into which teachers can pour information, knowledge, and dispositions. Rather, as in all human relationships, learning is about relationship building, about wrestling to understand the internal state, goals, aspirations, resources and vulnerabilities of the other. That means we are always interacting with other people as we engage in complex problem solving around tasks that are ill structured and for which there is no single right pathway. To what extent, and in what ways, are schools as learning organizations situated to support all stakeholders (administrators, teachers, staff, students, parents) in understanding what we, as a society, are trying to achieve? How are schools able to test multiple pathways for achieving these goals?

Professionally, such problem solving requires deep disciplinary knowledge in several domains: conceptual understanding of how people learn; multiple pathways through which

engagement, motivation, and grit develop; basic classroom management; relationships between sources of risk and sources of resilience; how participation in multiple contexts (family, peer social networks, informal learning environments outside of school, neighborhood resources) provide resources for identity building; goal setting; and engagement. Such professional problem solving also requires wrestling with what are often implicit biases deriving from negative stereotypes that can trigger low expectations, hide the ability to construe sources of resilience in the face of extreme risk, and constrain how learning opportunities are structured. This is a historic challenge that every reform effort has had to face, generally with little success. It involves a set of conversations in the public and within the profession that we examine typically very superficially.

Bottom line: teaching is hard, even for the best teachers. Because of the complexity of teaching, the profession requires what some call *adaptive expertise*—the ability to adapt foundational knowledge to unexpected circumstances. Reading comprehension and argumentation always involve unexpected circumstances, by the very nature of texts and the multiple resources people have for engaging meaningfully with texts. Because of this complexity, any attempt at large-scale reforms, especially on a national level in a federal democratic system that decentralizes education, will require an infrastructure that supports knowledge production as the core practice of teaching.

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