



TEACHERS COLLEGE, COLUMBIA UNIVERSITY

Developmental Education Aligned to the Common Core State Standards: Insights and Illustrations

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Introduction

The Common Core State Standards (CCSS), implemented in 44 U.S. states and the District of Columbia, are pegged to a set of college and career readiness standards. To the extent that these standards represent a consensus on what students should know and be able to do to succeed in college, they provide an opportunity for the creation of a better aligned K-16 system. Ideally, they can offer greater clarity to secondary educators on how to better prepare students for college, with the ultimate goal of increasing the number of high school students who meet college readiness benchmarks.

At the same time, the CCSS point toward several areas that are ripe for improvement within the postsecondary system. For example:

- Standards of college readiness in math and English vary considerably among postsecondary institutions, even within states, making it difficult for secondary students and educators to know what knowledge and skills are needed to enter college well prepared.
- Remedial courses and other measures used to address the needs of college students who are deemed underprepared differ considerably from place to place and may prioritize different areas of knowledge and skill.
- The CCSS point toward the use of more student-centered pedagogy (Conley, 2011). Traditional developmental education pedagogy has been criticized as not very engaging or student-centered (Grubb, 2013; Grubb & Cox, 2005) and as lacking in opportunities for students to develop critical thinking skills.

In some states, there has been movement toward better alignment between K-12 and higher education curricula (Finkelstein et al., 2013) or discussions about the use of CCSS assessments for college placement purposes (McMurrer & Frizzell, 2013). However, there are still relatively few cases in which developmental education or college course content and pedagogy have been examined or reformed as part of these efforts. There appear to be opportunities to improve overall system alignment—and possibly student success in college—through work in this area.

About Developmental Education

Developmental education courses¹ are offered to students enrolled in college who are deemed underprepared for college-level reading, writing, and/or math. Fully 40 percent of all entering college students require some developmental education (Attewell, Lavin, Domina, & Levey, 2006), and many of the least prepared students are required to complete multiple levels of developmental education before enrolling in college-level courses (Bailey, Jeong, & Cho, 2010). Students who begin their college careers in developmental education are substantially less likely to complete a degree or certificate (Adelman, 2006; Attewell et al., 2006).

Developmental Education Informed by the CCSS

Developmental education courses aligned to or informed by the CCSS could have several potential advantages, including: (1) more consistent content and quality, (2) better alignment with both high school graduation standards and entry-level college courses at nearby institutions (or even at the same institution), and (3) more engaging pedagogy. However, there is no information available on whether any colleges have considered or attempted using the CCSS to inform their developmental education curriculum. With the exploratory study discussed in this paper, we aimed to take an initial look at whether the CCSS are informing developmental education anywhere in the United States and, if so, how stakeholders perceive those efforts.

About the Current Study

The Community College Research Center (CCRC) at Teachers College, Columbia University, has conducted extensive research on developmental education, student pathways, and the transition to college. CCRC's research is particularly concerned with traditionally underserved groups of students and their learning opportunities and outcomes. A central focus of the center's work has been the examination of developmental education reform models and strategies for their implementation and scale-up. CCRC has also looked at ways to reduce the need for remediation through

¹ In this paper, we use the terms *developmental education*, *remedial education*, and *remediation* interchangeably.

partnerships between colleges and high schools, with a focus on interventions such as transition courses offered during the senior year of high school.

The current study was undertaken to address the following question: *Are faculty or college leaders considering or undertaking reforms of developmental education informed by the CCSS?* To answer this question, we conducted an email campaign in which we reached out to individuals known to be concerned with developmental education reform and/or policy work related to the CCSS and higher education. A total of 51 people were contacted. Each was asked whether they knew of anyone at the college level working on a developmental education reform informed by the CCSS. Those identified as active in this area were invited to participate in telephone interviews. A total of 18 people participated in telephone interviews, including 12 faculty members, four state policy leaders, and two researchers.

Findings

Below, we present a set of stakeholder perspectives on implementing developmental education reforms that are informed by the CCSS. These insights reveal a spectrum of awareness about, and interest in, incorporating the CCSS into developmental education.

Stakeholder Perceptions of the CCSS

Many of those we interviewed believed that the standards contain benchmarks that accurately reflect college readiness and therefore are relevant to precollege programs, such as developmental education. One community college math instructor reported that he expected that after the CCSS were fully implemented, students would be able to read texts more closely and be able to engage in more abstract mathematical reasoning. Other respondents indicated that they believe that the CCSS are more rigorous than previously used standards and, if implemented effectively, they would greatly reduce the need for remediation. As one stakeholder said about the CCSS in relation to his college's curriculum,

If CCSS is enacted in the high school, we shouldn't have any need for dev ed. Only about one week of [our college-level] college algebra course is not covered in the CCSS. With the CCSS plus standards, college algebra should be obsolete.

However, another expected that it would be a long time before the need for developmental education would disappear, saying,

Will we see a difference in two to three years? You have to start at the beginning, in earlier grades. Starting in the middle or end won't work. Also, not all high schools have the same resources.

Overall, however, interviewees confirmed their belief that most college faculty have thought little about the CCSS and how they can inform developmental education. Evidence from the current study supports the findings of earlier reports (Barnett & Fay, 2012) suggesting that relatively few people in higher education are aware of or concerned with the CCSS. To illustrate this point, a developmental math instructor and professional development coordinator noted that during a recent presentation he made on the intersection between the CCSS and developmental education, the audience exhibited a limited understanding of the CCSS. He spent considerable time explaining the nuts and bolts of the standards and their implications for developmental education.

Stakeholders did indicate, however, that faculty might become more interested in the CCSS once students begin to graduate high school having engaged in a full K-12 curriculum informed by the CCSS. They also believed that colleges would take more interest after the CCSS-aligned PARCC and Smarter Balanced assessments were widely implemented. For example, a member of a group of state-level higher education stakeholders reported that the group had arranged for a speaker to talk about PARCC and discussed why they were interested in hearing him, stating, "Our motivation? We want to be prepared for what we see in the students coming to us. What strengths and weaknesses will they have?" This suggests that in the future, the PARCC and Smarter Balanced assessments may motivate those in higher education to pay more attention to the CCSS.

Motivation to Align Developmental Education with the CCSS

Through this exploratory study, we identified several states and localities that were taking the CCSS into account when developing or changing their developmental education curricula. Their reasons for doing so were varied. In some instances, they were responding to an existing or expected policy requiring attention to the CCSS or system alignment. For example:

- Kentucky’s Senate Bill 1 called for the adoption of “fewer, deeper” standards that were internationally benchmarked. Legislation required both the higher education sector and the K-12 system to participate in the formulation and implementation of these standards.
- In California, the University of California Board of Regents enacted a policy that all Intermediate Algebra and equivalent courses be aligned to the CCSS.
- In 2009, the state of Tennessee rewrote its developmental education competencies in math and English. The responsible state-level committees were instructed to align them with the CCSS, then in draft form.

In other cases, state and college representatives had looked at different sets of standards and resources and found the CCSS to be a useful framework on which to build college developmental education courses and/or likely to promote student success. As one stakeholder said:

If you think these are solid standards that reflect college readiness, then why wouldn’t they be relevant to precollege programs? People understand that this could be conceptually useful.

Another stakeholder suggested that using the CCSS as a framework for developmental education courses could help students make the transition to college and potentially improve persistence rates:

This is the right thing to do—we want students to succeed, not weed them out.

However, stakeholders also described reasons why there might be little attention given to alignment of developmental education with the CCSS. Most importantly, there are few reasons for colleges to make this a priority. As one state higher education representative said, “There are not a lot of resources and incentives to do anything differently—to find the time to figure out what it would look like in individual college classrooms.” Others also believed that problems could result from promoting the alignment of developmental education with the CCSS, such as decreased alignment with college-level coursework.

Other stakeholder comments also suggest that the CCSS are too recently implemented to have had a substantial influence on developmental education. One math instructor we interviewed discussed his work on a cross-college panel, which developed a definition and learning outcomes for the state’s elementary algebra assessment. When writing the learning objectives, the panel discussed whether they should align the objectives to the CCSS. While they found it helpful to look at the CCSS, in the end most of the learning objectives were aligned to the state-level intermediate algebra requirements. He commented that it did not make sense at that time to use the CCSS, since they were not fully implemented in the state.

Developmental Education Changes and the CCSS

Our interviews revealed three approaches to the use of the CCSS in changing developmental education curriculum: (1) the creation of a developmental education curriculum aligned to the CCSS, found in Kentucky and California; (2) the use of the CCSS as one source among others in designing developmental education curriculum, found in Tennessee, Florida, and Illinois; and (3) the review of existing developmental education curricula to look for alignment, found in Illinois and North Carolina.

Creating a developmental education curriculum aligned with the CCSS. In the state of Kentucky, the legislature passed Senate Bill 1 in 2010, requiring changes to the K-12 curriculum and statewide policy changes based on the CCSS. The bill stipulated that students who met the state’s college readiness benchmarks would not be placed into remedial education in college. It also mandated that the K-12 and higher education sectors work together on creating related curricular and policy changes. According to a state-level stakeholder we interviewed, policymakers had an eye on the CCSS when

crafting the legislation, especially given that Kentucky was the first state to adopt the CCSS. At some postsecondary institutions in Kentucky, the developmental curriculum was changed to address the essential skills included in the CCSS.

During the 2012–13 academic year, the University of California’s statewide academic senate made a recommendation to the Board of Regents that all Intermediate Algebra and equivalent courses be aligned to the CCSS; the policy was subsequently approved. Stakeholders familiar with this policy indicated that it has the potential to shift what is taught in Intermediate Algebra and alternative courses. One developmental faculty member expressed concern about prioritizing alignment with high school content rather than college content. This could mean that instructors would be responsible for covering topics that are not necessarily relevant to students’ college and career goals

Drawing on the CCSS in designing developmental education curricula. In several other states, stakeholders reported that the CCSS was one influence on developmental education content, along with other standards and resources. In 2009, Tennessee redesigned its developmental education competencies, and the state instructed the committees to align the competencies to the CCSS, which were still in draft form at the time; their work was also informed by the ACT college readiness standards. Tennessee is also introducing a policy to limit the number of developmental education hours students can take to 15.

In Florida, there has been a move toward the integration of reading and writing in the developmental education curriculum. There is a greater emphasis on critical thinking and problem solving within the new curriculum, an area of emphasis in the CCSS. According to an interviewee, the CCSS were influential as faculty considered how to design the new, integrated courses.

In Illinois, a statewide committee has recently been engaged in updating and improving the developmental math curriculum. The faculty involved conducted extensive research and were influenced by the CCSS in ways that reflected new pedagogical methods. One interviewee commented,

Like the CCSS, they liked the repetitive, mastery-based approach. Homework was mastery based, and you could repeat it until you got it right. ... They built in a hands-on

portion; people need to do to learn. They used a small group project. Students have great success and fun.

Another developmental education math course developer in Illinois reported that her course has become more rigorous, with higher expectations for student learning and an emphasis on more cognitively complex activities:

[The course has] high expectations, is higher on Bloom's taxonomy. Everything is about connections, and is more rigorous. In fact, some faculty will say, "Where's the math?" There are lots of word problems; they're hard. It's not so linear, more integrated. Every unit has math from different areas, connected through rich problems.

Reviewing the alignment of existing developmental education curricula with the CCSS. Some states have engaged in after-the-fact reviews of their changed developmental curricula to see if they are aligned with the CCSS. In these instances, most of our respondents noted that their recent developmental education redesigns predated the standards. In Illinois, respondents offered examples from both math and English. According to one math instructor, Illinois redesigned its developmental math curriculum without explicit consideration of the CCSS. However, while researching the content, they became aware of the CCSS and noticed that the standards relied on similar ideas and approaches to student learning. She commented, "Alignment with the CCSS is the biggest happy accident in the world. Actually, everyone around that time was coming to the same conclusion about what should change in math."

The state of North Carolina has fully redesigned its developmental math and English programs within the past few years. A spokesperson from North Carolina pointed out that the redesigned programs were not aligned to the CCSS because the changes in curriculum occurred before the standards were implemented. Despite this, she expressed the belief that both the North Carolina learning objectives and the CCSS emphasize conceptual learning, and she considers them well aligned.

Changes Beyond Developmental Education

A number of interviewees spoke of ways in which the CCSS could inform other aspects of the college curriculum. For the most part, these possibilities dealt with the

provision of developmental education in high school in the form of transition courses, changes to entry-level college courses in English and math, and changes to the designation of course content as high school–level or college-level.

High school transition curricula. High school transition curricula are defined as courses, learning modules, or online tutorials developed jointly by secondary and postsecondary faculty and offered no later than 12th grade to students at risk of placement into remedial math or English in college (Barnett, Fay, Trimble, & Pheatt, 2013). Several of the state-level policymakers we interviewed viewed high school–college transition courses as the ideal site for alignment between the CCSS and developmental education. A number of them referred to work currently underway in Kentucky, Tennessee, Illinois, and other states where colleges work with high schools to develop college-readiness curricula for transition courses, which may also be aligned with the CCSS.

College-level English and math courses. Through this study, we also learned about attempts to align the CCSS with entry-level college math and English courses. In Tennessee, efforts are underway to incorporate CCSS-inspired tasks and activities into existing college math courses. One state representative expressed the hope that this process would increase college math faculty’s knowledge of and involvement with the CCSS. A North Carolina instructor who developed a new college-level math course stated the belief that it aligns nicely with what math students will be doing through the CCSS. Kentucky has changed college-level English and history courses to be better aligned with the CCSS. Interviewees from several states noted that limited numbers of faculty are involved in these changes. A stakeholder in Illinois commented that engaging faculty in changing their college-level courses to align with the CCSS is a “tough sell.”

Changes in high school versus college-level designations. In a number of cases, interviewees raised questions about what should, and will, constitute college-level content once the CCSS are fully implemented. This appeared to be a thornier issue in math than in English. For example, in many colleges, College Algebra is considered the first college-level course for students. However, under the CCSS, students will be exposed to and expected to master similar algebra content while in high school, which

could make College Algebra obsolete. Similar questions were raised about statistics by one interviewee:

The CCSS includes content beyond Algebra I, such as statistics and quantitative reasoning. Students exposed to these topics in high school will arrive in community colleges with background in the statistics pathway; this is different from most current students. . . . Under CCSS, the definition of college ready could be expanded to include stats.

He also stated that he believed that community colleges should leverage this shift in content exposure to help more students persist and graduate.

Practices and Processes for Change: Faculty Engagement

Broadening stakeholder engagement is essential to successful reform implementation (Edgecombe, Cormier, Bickerstaff, & Barragan, 2013). Interviewees spoke of a number of ways in which they had structured opportunities for faculty engagement in particular. Several pointed to occasions where college faculty had been involved in reviewing the CCSS alongside K-12 teachers. Work of this type has been facilitated by initiatives such as Core to College.² In Tennessee, state leaders are encouraging and supporting P-16 councils, organized at the regional level, to examine alignment issues. According to interviewees from Tennessee, there is extra motivation to undertake this work because of the state's performance funding policies.

The state of Kentucky provided funding to colleges and universities to revise developmental, entry-level English and math, and teacher education curricula to better align with the CCSS. Several universities in Kentucky implemented professional learning communities (PLCs) as a way to engage faculty in aligning the curricula with the CCSS. One university created curriculum alignment PLCs for English, math, social sciences, natural sciences, and teacher education. University leaders provided training to these teams, and each had a facilitator. At the end of two years of arduous work, all introductory courses were aligned across the designated fields. At a different Kentucky institution, cross-departmental workshops helped to create a common understanding of

² For more information on Core to College, see <http://rockpa.org/page.aspx?pid=580>

the CCSS, leading up to changes in course designs. As a part of one of these workshops, community college faculty observed high school classrooms and vice versa.

According to several interviewees, the conceptual approach underlying the CCSS may require developmental instructors to make a pedagogical shift. One developmental math instructor commented that many faculty are accustomed to teaching skills-based math. Incorporating the more engaging pedagogical approaches encouraged in the CCSS standards would require extensive professional development and more collaboration among faculty.

Summary

Broadly, we found that there is little concern among postsecondary educators about aligning developmental education with the CCSS. Few in higher education know about the CCSS or believe that the standards have implications for postsecondary practice. Those who do see a connection mainly focused on the use of the forthcoming CCSS-aligned assessments as of potential value for placement purposes.

Among those who have reflected on the possibility of creating developmental education courses informed by the CCSS, there are mixed reactions. Many believe that the standards contain worthwhile learning objectives and that aligning developmental education with the CCSS could offer students more consistent content and expectations. Others note that an education system that includes aligned coursework could provide a smoother transition from high school to college. A number are interested in the ways that alignment with the CCSS may improve pedagogical practices in college, decreasing the prevalence of formulaic learning and increasing the use of pedagogy that promotes critical thinking and application of concepts to new situations.

On the other hand, some interviewees raised concerns about aligning the CCSS with developmental education. They believe that students are best served when developmental content is derived from and aligns with college-level work rather than high school content and pedagogy. Some also expressed concerns that policies which require developmental education to be aligned with the CCSS could hinder other high-

potential reforms that do not incorporate the standards, in particular emerging pathways in math that de-emphasize algebra in favor of quantitative reasoning or statistics.

It is important to note that the CCSS have only recently emerged, and there is considerable uncertainty about their value (Strauss, 2014), the extent to which they will be adopted (Bidwell, 2014), and the ways in which they can and should be used in higher education (Education Trust, 2011). At the same time, they appear to represent an important shift in the education system at the national level, and they have the potential to improve K-12 education as well as the transition from high school to college. Thus, as states, institutions, and educators become more familiar with the CCSS, it will be important to follow their effects closely in both research and practice.

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