Teacher Professional Development for Common Core Standards Transition

In this report, Hanover Research investigates professional development programs that support teachers implementing the new Common Core State Standards. First, we review available literature on the skills and abilities teachers must acquire in order to implement the new standards. In the second section, we provide four profiles of professional development services offered by districts or LEAs to teachers working toward implementation of the CCSS. Professional development programs available in Southern California, Baltimore, New York City, and Cleveland are examined.
Executive Summary

In this report, Hanover Research investigates professional development programs that support teachers implementing the new Common Core State Standards. First, we review available literature on the skills and abilities teachers must acquire in order to implement the new standards; this analysis includes general guidelines for the new standards and assessments, as well as content-specific professional development activities in the areas of mathematics and English language arts. In the second section, we provide four profiles of professional development services offered by districts or LEAs to teachers implementing the CCSS. Professional development programs available in Southern California, Baltimore, New York City, and Cleveland are examined.

Key Findings

General Professional Development Needs

- Basic professional development needs among teachers implementing the Common Core include assessment literacy training, technology skills, practical learning experiences oriented toward the new standards and assessments, time for professional collaboration, a teacher leader in each school, and continuous networking between teachers.

- The updated Model Core Teaching Standards, designed to accommodate the CCSS and new understandings of how learning occurs, emphasize the following themes: personalized learning for diverse learners, a stronger focus on the application of cross-disciplinary knowledge and skills, improved assessment literacy, and a collaborative work culture.

Professional Development for Mathematics

- Our research indicates that professional development activities targeting mathematics instructors should follow several guidelines:
  - Teachers need opportunities to engage with the CCSS content and practices, following a deliberate sequence based on mathematical concepts and foundations.
  - Schools should create materials that specifically address local content and provide teachers with tangible examples of CCSS-aligned practices.
  - Professional development should be consistent with existing knowledge on effective ways to support learning, particularly regarding the number and spread of hours, alignment with school goals, and collaboration between educators.
Professional development activities should be established as coherent and continuous experiences that provide a consistent message of how CCSS should be incorporated into the classroom.

Professional development for mathematics instructors should follow a deliberate sequence that focuses on understanding content domains that may be unfamiliar to teachers at particular grade levels or foundational to later mathematical concepts.

Examples of specific skill areas in which mathematics teachers may need additional training include: providing feedback to students to enhance formative assessment; designing concept development lessons, as well as problem solving lessons; questioning students to prompt reflection; and encouraging students to work collaboratively.

**Professional Development for English Language Arts**

Professional development for ELA teachers appears to be based less on specific content domains and more on the transition to a collaborative mindset that encourages teachers to collectively deliberate effective methods of teaching under the new standards.

Examples of particular ELA skill areas for which professional development resources have been provided by some state departments of education include:

- Finding the time for daily reading instruction for students with different learning needs;
- Teaching the essential elements of reading instruction, which include phonological awareness, the alphabetic principle, fluency and vocabulary development, academic language, reading comprehension, and motivation;
- Using evidence-based instructional programs and materials for the core reading program, supplemental reading programs, and interventions;
- Learning how to incorporate particular features of effective instruction into the classroom; and
- Other teaching strategies, including annotating, peer editing, and answering a synthesis essay prompt.

**Profiles of Professional Development Programs**

District-level professional development programs typically include resources such as: locally-designed online professional learning modules; partial-, full-, and multi-day workshops and learning seminars; one-time and ongoing learning opportunities for educators; updated curriculum sequencing guides; and professional learning communities and other opportunities to collaborate.
Section I: Best Practices in Professional Development

In this section, we review best practices related to professional development for implementing the Common Core State Standards in the classroom. We particularly focus on specific skills and abilities that teachers need in order to effectively deliver instruction based on the new standards. We begin with an overview of general guidelines on to help teachers understand the new standards and assessment systems, and follow with content-specific best practices in the areas of mathematics and English Language Arts.

General Professional Development Needs

The executive director of Learning Forward, “an international membership association of learning educators focused on increasing student achievement through more effective professional learning,”1 recently released a report outlining recommendations for professional development activities that can assist educators in implementing new standards and assessment systems. The report is intended to guide local and state discussions on how professional development can address educator skill deficits.2 According to author Stephanie Hirsch, the following professional needs are common among educators implementing the CCSS:3

- **All educators require basic assessment literacy training.** Ensure that educators understand the distinctions between formative, interim, and summative assessments. Teachers also need to learn how to prepare and use common assessments.

- **Many educators lack the technology skills they will need to use the new assessments.** Teachers will need to understand the technology associated with the new assessments, including what knowledge and skills they are required to possess to access and use the new assessment systems in their classrooms. Additionally, teachers will require specific skills to effectively administer, understand, and generally work with computer-adaptive and computer-based testing, as well as with acquiring and interpreting results.

- **Teachers need practical but intensive learning experiences oriented toward the Common Core State Standards and new assessments.** Teachers need to integrate the new expectations into their own classrooms, and these experiences must be introduced over several months and followed by ongoing support for a minimum of one year. Experiences should include oral, written, and collaborative engagement in teaching, learning, and evaluating the knowledge, skills, and dispositions and practices related to implementation of the CCSS and the assessments.

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3 Ibid., 8-11.
- **Resources, in many formats, will be essential to efforts to transition to the new standards and assessments.** Teachers must be trained to use a variety of resources to assist them in making transitions to new assessments and curricula. These include curricula guides, pacing guides, strategies, student work, and anchor lessons that align to the assessments and standards. Contributing to the development of resources is another form of valuable professional development.

- **Teachers need schools where collaboration is required and time is provided.** The pace of change will be faster than previously experienced for many teachers, and the stakes will be higher; all teachers will require time to gain the knowledge and skills and apply the new tools in real work settings, and the success of such efforts will be accelerated when work is conducted in collaboration with peers. Principals and other school leaders can use this transition to establish new governing norms for collaborative work cultures and expectations for shared responsibility within their schools.

- **Teachers need ready access to one or more teacher leaders in their buildings who are broadly expert on Common Core State Standards and related curricula and assessments.** Early in the transition process, it is important to identify and support teachers who become early adopters and serve as models for implementation by coaching other teachers. These teacher leaders will require professional development for the new standards and assessments in addition to training to support their roles as coach and facilitator.

- **Teachers require networking with peers in the same grade level or course for support with implementation.** Regular time should be set aside, and a well-prepared facilitator can guide these teams of teachers as they study the standards at a deeper level (unpacking the standards), plan for integrating the new assessments, interpret assessment results, problem solve, construct new lessons in response to assessment findings, and more.

The 2011 Model Core Teaching Standards, developed by the Council of Chief State School Officers’ Interstate Teacher Assessment and Support Consortium (InTASC), have been cited as a potential resource for districts to consider in aligning their professional development programs with the CCSS. The Model Core Teaching Standards is a manual that “ensures that teachers... have not only a coherent set of content standards in mathematics and English Language Arts, but also in how to deliver instruction and assess their students.”4 Thus, the standards “outline what teachers should know and be able to do to ensure every K-12 student reaches the goal of being ready to enter college or the workforce in today’s world,” and also “articulate what effective teaching and learning looks like in a transformed public education system.”5

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The updated Model Core Teaching Standards expand on the original Model Standards from 1992 to accommodate the CCSS. This revision “was driven both by new understandings of how learning occurs but also by the new requirement that every student achieve high standards. The updated teaching standards embrace the new emphasis on educator accountability for student outcomes and describe what effective teaching looks like.”

Key themes emphasized in the new Model Standards are shown in Figure 1.1, below.

### Figure 1.1: 2011 Model Core Teaching Standards – Key Themes

<table>
<thead>
<tr>
<th>Theme</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Personalized Learning for Diverse Learners</strong></td>
<td>Teachers need to adapt to a variety of learners, including students with disabilities as well as those who perform above grade level and need opportunities to accelerate. Cultural and linguistic differences also must be addressed. Along these lines, teachers must provide multiple approaches to learning so that students may personalize their learning experiences, including what is learned, how it is learned, and how learning can be demonstrated.</td>
</tr>
<tr>
<td><strong>Stronger Focus on Application of Knowledge and Skills</strong></td>
<td>Teachers need to be able to impart global skills and dispositions on learners, particularly in the areas problem solving, curiosity, creativity, innovation, interpersonal skills, the ability to synthesize across disciplines, global awareness, ethics, and technological expertise. There is an emphasis on cross-disciplinary skills, including communication, collaboration, and critical thinking, as teachers must design learning experiences that draw upon multiple disciplines.</td>
</tr>
<tr>
<td><strong>Improved Assessment Literacy</strong></td>
<td>Teachers must gain “knowledge and skill around how to develop a range of assessments, how to balance use of formative and summative assessment as appropriate, and how to use assessment data to understand each learner’s progress, adjust instruction as needed, provide feedback to learners, and document learner progress against standards.”</td>
</tr>
<tr>
<td><strong>Collaborative Professional Culture</strong></td>
<td>In order to deliver rigorous and relevant learning for all students, teachers need to collectively engage in collective inquiry, particularly with regard to decision-making processes, lesson design, and analyzing data from multiple sources.</td>
</tr>
</tbody>
</table>

Source: Council of Chief State School Officers’ Interstate Teacher Assessment and Support Consortium

All of the Model Core Teaching Standards, along with their corresponding essential knowledge, or the “declarative and procedural knowledge as necessary for effective practice,” are reproduced in Appendix A of this report.

Many of the professional development recommendations uncovered in our research target specific subjects covered by the Common Core Standards, particularly mathematics and English Language Arts. In the following two sections, we review professional development needs that relate directly to each of these content areas.
Professional Development for Mathematics

Three prominent mathematics educators, Paola Sztajn (North Carolina State University), Karen Marrongelle (Oregon University System), and Peg Smith (University of Pittsburgh), recently released a report describing research-based recommendations for professional development to help teachers effectively implement the Common Core State Standards for mathematics. The recommendations are aimed at large-scale, system-level implementation, and are intended to support the teacher’s role in implementing the standards. Four of the nine standards specifically relate to the manner in which teachers should receive professional development in order to successfully implement the CCSS in mathematics (CCSSM); these standards are described in the paragraphs that follow.

First, the authors suggest that schools or districts emphasize the substance of CCSSM professional development by providing “opportunities for practicing mathematics teachers to engage with both the CCSSM content and the CCSSM practices in a focused and integrated way.” The mathematical concepts selected for initial focus in these learning opportunities should be those that are treated differently in CCSSM than in previous standards, those that may be new to teachers at a particular grade level, or those that are foundational to what is to come in later grades. The authors reference another report, entitled “Gearing up for the Common Core State Standards in Mathematics,” which lists five content domains that serve as starting points for professional development in kindergarten through Grade 8. These content domains are detailed later in this section. Suggested action steps related to “focused and integrated” teacher engagement are as follows:

- **School Leaders:** Make teachers’ experiences with CCSSM content and practices a priority, allocating time and resources for teachers to discuss and reflect on the CCSSM standards progressions, new practices, and the ways in which content and practices support each other in instruction.

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10 Ibid., 5.
11 Ibid. (Bullet points quoted verbatim)
**District or State-Level Personnel:** Organize and offer professional development that is focused on a few specific content standards progressions and integrates mathematical content and practices. Over time, a broad set of content and practices can be addressed, but this should be done sequentially rather than all at once.

**Professional Development Providers:** Design professional development that addresses specific content strands and integrates the CCSSM content and practices.

Second, the authors suggest that districts and schools **create and adapt their own professional development materials for use in CCSSM professional development**, as “materials are needed that explicitly address the mathematics content and practices of the CCSSM and provide vivid images of teaching and learning that are consistent with CCSSM.” The authors suggest that, in order to fulfill this need, district or state personnel “collect artifacts from teachers (e.g., tasks, lesson plans) and classrooms (e.g., video, student work samples) that highlight aspects of the CCSSM that can be used locally in connecting professional development with teachers’ practices.”12

Next, the authors recommend that districts and schools **design CCSSM professional development based on features that support teacher learning** by taking into “account existing knowledge about effective ways to organize learning experiences for teachers of mathematics.” Examples of such features that relate to the ways in which professional development promotes teacher learning include “offering a substantial number of professional development hours; spreading these hours over time; aligning the professional development goals with school improvement priorities; attending to student learning; and fostering strong working relationships among teachers.”13 Suggested action steps for accomplishing this task are as follows:14

- **Teachers:** Examine whether the professional development experiences you choose in support of CCSSM attend to important features of effective professional development. Let school leaders know of professional development that does not adhere to these features and does not provide you with opportunities to learn about the mathematics content and practices of CCSSM.
- **School Leaders:** Select only professional development options that are in line with known features that support teacher mathematics learning.
- **District and State-Level Personnel:** Allocate funds only to professional development opportunities that incorporate known features that support teacher learning.

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12 Ibid., 6.
13 Ibid., 7.
14 Ibid. (Bullet points quoted verbatim)
Finally, the authors explain that it is important to build coherent programs of CCSSM professional development that “provide a continuous and coherent set of experiences in which practicing mathematics teachers engage over an extended period of time.”15 Professional development activities must offer “an overall consistent message about what the CCSSM is and how it should be incorporated into instruction to improve mathematics teaching and learning.” Further, a coherent set of experiences means that “in addition to ensuring that each professional development initiative emphasizes substance, uses materials that are tightly connected to teaching practices, and incorporates features that support teacher learning, a program of professional development takes into account teachers’ experiences across all initiatives.” Suggested action steps for building a coherent program are as follows:16

- **School Leaders**: Clarify and communicate school improvement priorities in relation to the CCSSM so that programs of professional development can be designed to align with such priorities.

- **District or State-Level Personnel**: Select professional development opportunities for teachers that are focused and sustained over a period of time, and that build on one another in coherent ways. Do not fund on-off professional development that is not tied to the goals established for your professional development program.

- **Professional Organizations**: Disseminate information regarding the need for teachers to engage in programs of professional development opportunities that are aligned with CCSSM and are combined in coherent ways to support teacher knowledge growth over long period of time.

As explained previously, the 2011 report entitled “Gearing up for the Common Core State Standards in Mathematics” identifies five content domains that serve as starting points for professional development in kindergarten through Grade 8. For each domain, the report provides a rationale for inclusion in professional development, a brief description of where to start, and connections between the domain and other content or practice standards.17 The five content domains are shown in Figure 1.2, on the next page.

15 Ibid., 8.
16 Ibid. (Bullet points quoted verbatim)
### Figure 1.2: Content Domains for Teacher Professional Development

<table>
<thead>
<tr>
<th>Domain</th>
<th>Overview</th>
</tr>
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</table>
| **Counting and Cardinality & Number and Operation in Base Ten (K-2)** | This concept is a target for professional development because the emphases on connecting counting to cardinality (in kindergarten) and on understanding place value (in kindergarten through grade 2) are new for many teachers. Specifically, “learning to count is a complex mental activity that requires staying connected to objects that are being counted, moving from the objects to the numbers and from counting back to the objects.” Meanwhile, understanding the concept of place value involves being able to identify 1s, 10s, and 100s places (and so on) in multi-digit numbers while “also understanding that each digit represents an amount of 1s, 10s, or 100s, and that the number is expressed as a sum of these amounts.”  

18 Ibid., 4.  
19 Ibid., 5.  
20 Ibid.  
21 Ibid., 7. |
| **Operations and Algebraic Thinking (K-5)** | This concept is a target for professional development because “algebraic thinking in the elementary grades involves understanding the structure of the number system, examining the behavior of the operations, and articulating and proving generalizations,” and the key to this “is developing representations of the operations using objects, drawings, and/or story contexts and keeping these connected to interpretation of symbols.” While students eventually learn to function in the abstract, they retain the ability to show how ideas can be represented using pictures, number lines, and manipulatives as essential tools for thinking. Therefore, it is important that teachers “become familiar with the kinds of actions represented by each of the operations, the variety of representations, and the affordances and limitations of different representations.”  

20 Ibid. |
| **Number and Operations – Fractions (3-5)** | This concept is a target for professional development because the CCSS describes the development of fractions and operations on fractions in a careful sequence across grades 3 to 5, and these areas may be unfamiliar to many teachers. Teachers must be able to give students opportunities to reason both abstractly and quantitatively about fractions in order to foster an understanding of fractions as numbers on the number line.  

21 Ibid. |
| **Ratios and Proportional Relationships (6-7)** | This concept is a target for professional development because the language of the standards is different from what teachers may be used to, and it may be challenging for teachers to assess new standards that call for understanding rather than the ability to solve a specific type of problem. Professional development activities should encourage teachers “to emphasize problems in which students explore ratios and rates in real-world contexts.” |
| **Geometry (8)** | This concept is a target for professional development because “geometry in the CCSS is based on transformations, an approach that is significantly different from previous state standards.” This presents challenges in the areas of attention to precision and language about transformations, so professional development must support teachers in establishing a vision for the mathematics classroom related to this domain of instruction.  

Source: “Gearing Up for the Common Core State Standards in Mathematics.” |
The CCSS critical areas for professional development by grade level, as presented in this report, are reproduced in Appendix B.

Another example of professional development for implementing the CCSS specifically tied to mathematics instruction is provided by the Mathematics Assessment Project (MAP). The MAP’s website explains that “the Standards’ emphasis on Mathematical Practices requires students to be able to think mathematically, and apply the techniques they have learned to rich problems in diverse contexts, [and that] achieving this requires changes in the way mathematics is taught and assessed in most schools.” MAP’s modules for professional development are activity-based and are built around a collection of sample classroom activities. The intention of the modules is to support teacher collaboration on the implementation of the CCSS. Each module includes a professional development session guide and handouts for teachers, plus sample handouts and lesson plans. The five modules are briefly described below.

- **Module 1: Formative Assessment**
  The quality of feedback given to students ultimately determines the effectiveness of formative assessment lessons, and one important way teachers can help students progress is by prompting them to reconsider their reasoning with carefully chosen questions. Module 1 provides a selection of professional activities that are designed to help teachers to reflect on the “characteristics of their questioning that encourage students to reflect, think, and reason; ways in which teachers might encourage students to provide extended, thoughtful answers, without being afraid of making mistakes; and the value of showing students what reasoning means by ‘thinking aloud.’”

- **Module 2: Concept Development Lessons**
  Formative Assessment Lessons (FALs) fall into two categories, the first of which focuses on the development of conceptual understanding. Concept Development lessons are activities that “assess and develop students’ understanding of fundamental concepts through activities that engage them in classifying and defining, representing concepts in multiple ways, testing and challenging common misconceptions and exploring structure.” Research has shown that teaching becomes more effective when existing interpretations of concepts are shared and systematically explored within the classroom instead of using routine practice on standard problems. Module 2 allows teachers to explore the pedagogical demands of Concept Development lessons: the FALs included in this module typically begin with a formative assessment task that exposes students’ existing ways of thinking, and then present the teacher with specific suggestions on how these ways of thinking may be challenged and developed through collaborative activities.

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Module 3: Problem Solving Lessons
The second category of FALs focuses on problem solving. Problem Solving FALs allow teachers to “assess and develop students’ capacity to select and deploy their mathematical knowledge in non-routine contexts and typically involve students in comparing and critiquing alternative approaches to solving a problem.” Module 3 prepares teachers to provide students with problems and situations that arise in the real world, which “require students to make simplifications, model situations, choose appropriate knowledge and processes from their ‘toolkit,’ and test whether their solution is ‘good enough’ for the purpose in hand.” These real-world situations mark a departure from the more structured tasks used with the former standards, in which students would learn simply by following instructions.

Module 4: Improving Learning through Questioning
Similar to Module 1, which focused on giving quality feedback to students, Module 4 presents a variety of activities that are intended to assist teachers in reflecting on “the characteristics of their questioning that encourage students to reflect, think and reason; ways in which teachers might encourage students to provide extended, thoughtful answers, without being afraid of making mistakes; the value of showing students what reasoning means by ‘thinking aloud.’”

Module 5: Students Working Collaboratively
Research has shown that cooperative small group situations can have a positive effect on learning as long as there are shared goals for the group and individual accountability for the attainment of these goals. Module 5 offers professional development resources that help teachers “consider the characteristics of student-student discussion that benefit learning, recognize and face their own worries about introducing collaborative discussion, explore techniques for promoting effective student-student discussion, consider their own role in managing student-student discussion, and plan discussion-based lessons.”

Professional Development for English Language Arts

Our research on professional development activities for English Language Arts (ELA) did not uncover the same kinds of concrete guidelines as for mathematics; rather, it appears that professional development activities for this portion of the Common Core are geared more toward shifting the mindset of teachers toward one that emphasizes collaboration and collective inquiry. Much of this guidance comes from the National Writing Project (NWP), which offers “a variety of resources and online spaces to help educators provide the professional development necessary to implement the work of the Common Core State Standards Initiative.” Following these broad recommendations regarding ELA professional development, we also offer examples of specific ELA topics recommended by state departments of education for classroom teachers implementing the CCSS in writing and reading.

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General Guidance

Jessica Cuthbertson, a literacy coach in Aurora Public Schools, noted in an article on the winter meeting of the NWP’s Literacy Design Collaborative (LDC) that the LDC has been successful in providing professional development to teachers to help them change the way students “think as readers, writers, speakers, and thinkers.” According to Cuthbertson, there are several takeaways from the LDC that districts and schools can incorporate into professional development programs; Cuthbertson writes that the following were key factors in the success of the LDC professional learning experience:

- **Time**: Teachers had time to write, discuss, read, reflect and question. Every participant received the same amount of time to share and receive support specific to their work.

- **Creativity**: While each teacher is producing a module using a similar template and process, the content and context of each module is unique to the teacher and the students it will serve. Teachers were encouraged and supported to be creative and to think outside the box to ensure that their module was meeting the needs not just of a range of learners, but of their specific learners.

- **Clear Commitments**: Clear communication, organization and planning on the front end ensured that every teacher arrived prepared to share their work and left the weekend with clear commitments and next steps between now and the summer meeting. Teachers will carry out their work in unique and varied ways with their specific students, but understand the shared commitments and data they need to bring to move the work forward.

- **Professionalism**: While feedback and support was provided, each teacher was trusted as a professional to make the revisions that best suited the context where they work and the students they serve. Ongoing support for feedback will also be provided as teachers finalize and implement their modules. In every conversation, teachers were honored and respected as pedagogy and content experts, elevating the conversations and creating a community of camaraderie among the teachers.

An article by Tim Dewer, Director of the South Coast Writing Project (SCWriP), an affiliate of the NWP, describes what he calls “the key and necessary ingredients for professional learning, particularly around CCSS,” in order to “realize the transformational potential of this moment.” These key ingredients draw upon his experiences with the SCWriP and other local branches of the National Writing Project, which has been supporting writing teachers nationwide in improving their practice for nearly 40 years. According to Dewer, the following principles should be

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25 Ibid. (Bullet points quoted verbatim)
used by teachers to evaluate the potential value of professional learning opportunities:

- **Professional learning must place classroom teachers at the center as both the subject and object of the learning.** Dewer explains that “classroom teachers are the most trustworthy and credible authorities on what works in classrooms with students, [so] they must be the leaders of professional development and the ‘inservicing’ of teachers.” Therefore, professional development activities that help teachers implement the Common Core should allow teachers to “share their expertise and experience with colleagues in hands-on investigations of practice so that everyone involved learns.”

- **The best professional development not only claims teachers’ knowledge as a valid expertise, but also obligates teachers to challenge, validate, and enhance the knowledge developed in, through, and for practice.** This process requires that teachers inquire into their “own practice and the work of others, including educational researchers and theorists” to adapt features from successful lessons or construct concrete ideas from theory.

- **Real professional development is not a standalone or short-term event, but rather an ongoing practice of reflection and inquiry that promotes this generation and distribution of knowledge of, for, and through teaching.** Professional development should be expanded through sharing with other educators, and it is precisely this process of sharing that sustains the reflection and inquiry processes. According to Dewer, “the best PD offers all of those involved a chance to share successful adaptations and puzzling questions after the initial PD event. These long-term, sustained pathways for sharing new ideas, lessons, and knowledge facilitate communication in all directions.”

- **High quality professional development treats all teachers, kindergarten through university, as belonging to a single, interdependent, collegial community with shared professional challenges.** Dewer encourages the use of collaborative “inquiries into practice” across grade levels and content areas to meet shared challenges. These inquiries, such as examining student work or sharing lessons, should make up the bulk of professional development activities. Dewer explains that “such collaborative efforts in turn foster mutual respect among the teachers based on the professional expertise displayed during this inquiry-oriented work.”

- **Teachers of teachers must teach.** Dewer advises that professional development activities be led by teachers who “know first-hand the struggles and satisfactions of teaching,” as “it is the grounding in the daily and personal experience of teaching that supplies authority.” Rather than suggesting simple solutions to complex classroom situations, professional development leaders teaching experience are able to “treat the activity of teaching in all its complexity and allow teachers to do the same.”

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Overall, Dewer’s five principles for professional development “share a common philosophical understanding of the professionalism of teaching and professional development that places ‘teachers at the center.’” Teachers are thus supported as individuals, and also “as a collective power to address the needs of students and schools.” This model based on collective wisdom allows teachers to “engage in the real work of teaching in a supportive, collegial environment, [in which] they are able to apply professional judgment to unique and dynamic situations.” Dewer further describes the benefits of a professional development model based on these practices:

As a teacher, I am not left to follow hunches about what might work (or mandates imposed from above). Instead, I know what will work because it has been tried and refined in the crucibles of practice and dialogue. I gain the confidence to change my practice from what others think of my work. A teacher engaged in professional learning with colleagues draws power from the collected experiences of all teachers.

State Examples

Ultimately, Hanover found that the most comprehensive sources of “best practices” for particular ELA-related skills come from state-level professional development offerings. The Oregon Department of Education, for instance, has established a website dedicated to professional development resources in support of the Oregon K-12 Literacy Framework. The ‘Instruction’ component of this literacy framework “addresses the essential elements of reading instruction: phonological awareness, alphabetic principle, reading fluency, vocabulary development and reading comprehension. It also includes guidelines for scheduling instructional time and for selecting and using instructional materials to optimize learning.” The website presents several professional development modules on literacy instruction, each of which includes the following components to be addressed in a professional learning community setting:

- Several **key concepts**, that outline the main ideas within the topic
- A **professional development presentation** that uses a narrated multimedia sequence of content material
- **Practice activities** to help [teachers] understand the material and how to begin implementing the procedures being described

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27 Ibid., 2.
A series of related resources, including links to related information and sources for further study of the subject

The following modules are currently available to help Oregon teachers learn effective instructional techniques while implementing the Common Core:

- **Allocate and Differentiate Sufficient Instructional Time**
  - Follow Minimal Recommended Times for Daily Reading Instruction Based Upon Student Needs: One of the challenges frequently facing schools is how to find the time needed for a strong literacy program. This presentation offers sample solutions to typical scheduling and organizational issues, as well as resources to help schools identify particular infrastructure changes that may be needed. A critical piece to a schoolwide reading model is to apply the concept of differentiation not only to curriculum materials, but also to instructional time, in order to maximize learning opportunities for all children.

- **Focus Resources on the Essential Elements of Reading Instruction**
  - Phonological Awareness: While many children enter school with well-developed phonological awareness skills, research has shown the critical need for explicit instruction to ensure all children have this foundation in learning to read. In this module, specific examples of several phonological awareness skills and suggested methods for planning effective instruction are demonstrated.
  - Fluency Development: Understanding that fluency is not speed-reading, and knowing how to assess and teach fluency, is critical to improving reading instruction at all levels. In addition to explaining the component skills necessary, this module provides an overview of the research on and rationale for assessing and teaching reading fluency. Several practical tools for planning fluency instruction are included, as well as resources and hands-on practice activities.
  - Vocabulary Development: Teachers who are masterful in engaging students with new vocabulary attend to certain critical components of instructional design and delivery. This module offers recommendations for incorporating strategies such as read-alouds with embedded vocabulary instruction, suggests criteria for selecting words to teach, and provides ways to increase student exposure to new word meanings. Practical and easy-to-use sample formats, graphic organizers and systematic routines to teach specific word meanings in everyday language are included, along with additional resources to support vocabulary development for English Learners.
  - Academic Language: Although the definitions of academic language vary in their complexity and scope, researchers and practitioners alike agree that all students, not just English Learners, need explicit instruction focused on the academic language used in the classroom in order to be successful in school and beyond. The purpose of this presentation is threefold: (1) to provide a comprehensive, thorough understanding of academic language, (2) to discuss the

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30 “Instruction.” Op. cit. (Bullet points quoted verbatim from individual module pages)
importance of academic language, and (3) to present examples of instructional practices educators can engage in to teach and promote academic language.

- **Reading Comprehension**: Reading comprehension is not one fixed skill, but is developed over time with effective instruction in multiple strategies. In this module, teachers will become familiar with six main classroom practices to include in comprehension instruction. Examples of valuable teaching procedures, templates and frameworks are provided to help plan instruction.

- **Motivation**: Older students, as well as struggling readers, frequently lose motivation to read as texts become more complex and demanding. By gaining information on students’ feelings and reading practices, teachers can begin to develop a plan for increasing student motivation. This presentation proposes that through incorporating collaborative instructional practices, allowing some choice of reading materials and activities, and including the use of technology will increase student motivation, foster engagement with the text and lead to improved comprehension.

- **Use Evidence-Based Instructional Program Materials**
  - **Using a Comprehensive Core Reading Program Which is Based Upon Evidence-Based Practices**: Selecting an effective Core Reading Program is one of the foundations of a strong schoolwide literacy model. This presentation familiarizes staff with critical elements to look for when evaluating Core Reading Programs and selecting the one that best meets the needs of 80% of students. Tools and resources that are available to help with evaluation and selection are shared.

  - **Use Supplemental Reading Programs and Materials Based Upon Evidence-Based Practices**: As discussed in the presentation on Comprehensive Core Reading Programs, it is likely that schools will need to purchase supplemental materials to support and extend the core program. You may find that your core program has a particular area of weakness or that some students need more practice in one of the essential elements of reading. This presentation will guide teachers in determining these needs and provides resources to help in the selection of quality supplemental reading materials.

  - **Use Highly Explicit and Systematic Intervention Materials for Students Significantly Below Grade Level**: To address the needs of students who are performing below grade level and not responding to the core and/or supplemental reading programs, teachers will need to carefully select a program designed to accelerate their learning. Schools may need to make adjustments, such as scheduling instructional time, aligning curriculum, coordinating resources and providing professional development. Sample schedules and recommendations to help effectively implement intervention reading materials are provided in this presentation.

- **Use Essential Features of Effective Instruction**
  - **Incorporate Features of Effective Instruction Into Daily Lessons**: When used in conjunction with high quality curriculum materials, employing these effective strategies will enhance and strengthen instruction. All children will
benefit from teaching techniques that increase student engagement in the lesson, provide clear instruction with opportunities for all to respond, allow for sufficient practice and encourage their effort. This presentation will provide an overview of the essential features of effective instruction to increase student achievement and offer resources available to gain further knowledge on the topic.

Another state-level example is provided by the Maine Department of Education. Maine provides resources to teachers in three professional development modules: introduction to the CCSS ELA standards (Module 1), alignment of curriculum to the CCSS (Module 2), and topic-specific support for implementing the new standards (Module 3). Module 3 presents a catalog of resources that “are intended to help fill the gaps educators might encounter as they transition to the CCSS.”31 The following topics are recommended for review by educators implementing the Common Core in ELA:32

- **Reading like a Writer**: A guide for helping students evaluate and annotate text. This document provides a model with notes for teachers and a student template for reading short articles and passages.
- **Peer Edit Protocol**: A model for helping students learn how to edit a partner’s paper. This instructional tool can also be used as formative assessment.
- **Writing Next: Effective Strategies to Improve Writing of Adolescents in Middle and High School**: This report includes 11 Key Elements of Writing Instruction.
- **Writing to Read: Evidence for How Writing Can Improve Reading**: This study identifies three core instructional practices that have been shown to be effective in improving student reading.
- **The Synthesis Question**: A workshop about teaching the skills necessary to create a strong response to the AP synthesis essay prompt. These instructional strategies are applicable to anyone providing opportunity to learn how to analyze text, extract information, and use it effectively.
- **Common Core State Standards for Reading, Grades 6-12** ([Webinar](#) or [PDF](#)): Beginning in grade 6, the reading standards include Literacy in History/Social Studies, Science, and Technical Subjects. Understanding the reading strand necessary involves understanding the relationship between and among the reading standards for literature, informational text, and the content areas. In this presentation, Patsy Dunton and Lee Anne Larsen explore the standards and offer suggestions for aligning curriculum and practice.
- **Common Core State Standards for Writing, Grades K-5** ([Webinar](#) or [PDF](#)): The writing standards are rigorous and developmentally incremental. Participants in

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32 Ibid. (Bulleted descriptions quoted verbatim)
this session will understand the learning targets and explore some instructional strategies for implementation. Transition resources are also shared.

- **CCSS – Vocabulary** ([Webinar](#) or [PDF](#)): This presentation, for educators at grade levels 6-12, discusses the philosophy of vocabulary instruction, demonstrates some strategies, and explores a few resources including the two books presented in the September workshops.

- **Vocabulary at the Center** ([Webinar](#)): The Common Core State Standards includes significant expectations about vocabulary learning: no less than three of the 35 standards address vocabulary development. This webinar features Amy Benjamin, author of Vocabulary at the Center, offering ideas about vocabulary instruction in middle and high school.

- **P21 Common Core Toolkit**: This toolkit includes lesson starters which are aligned to CCSS standards at grades 4, 8, and 12.

- **Literacy Micro-Courses**: The Literacy Micro-course collection is a professional learning tool developed as a resource to K-5 educators. The courses are designed specifically for teachers seeking to further their knowledge of research-based, literacy-related content and explore methods for applying that knowledge to their classroom practice. The Micro-courses combine online reading with opportunities for discussion, video viewing, and exploration of additional web-based resources and tools.
Section II: Profiles of Professional Development Programs

In this section, we present four examples of professional development provided at the local level to teachers implementing the Common Core. In order to provide information relevant to our member’s request, we aimed to include examples of professional development programs offered by districts or LEAs, rather than by state departments of education. However, although a September 2011 report from the Center on Education Policy revealed that nearly 50 percent of districts in CCSS-adopting states had professional development activities underway or planned for 2010-11 or 2011-12, Hanover’s search for these professional development services yielded few district-level examples. Based on our research, it appears that extensive support programs for teachers are not common at the district level, and that state departments of education are the main source of professional development resources.

Los Angeles and Orange County, California

At the state level, the California Department of Education provides resources to educators implementing the Common Core by offering free, online Professional Learning Modules (PLMs). The PLMs are being developed by a state task force and are intended to enhance educators’ understanding of the new standards; instructional strategies to support the learning of all students; instructional strategies that promote creativity, innovation, critical thinking, problem solving, collaboration, and communication; interdisciplinary learning; and instructional leadership. Five initial modules are scheduled to be completed by fall 2012:

- **Overview of the Professional Learning Modules (PLMs), CCSS for math and ELA:** This module will guide educators to discover the shifts and changes from the 1997 standards and how they affect their learning contexts. It will include high quality resources for CCSS implementation.

- **Math: K-12 Standards for Mathematical Practice:** This module will review each of the standards for mathematical practice and describe the important processes and abstract thinking needed to develop a deeper understanding of mathematics.

- **Math: K-12 Learning Progression:** This module will assist educators in applying coherence and deep understanding of mathematical concepts and using diagnostic and formative assessments to inform them about students’ progression.

- **ELA: Non-fiction Reading:** This module will embed lesson design for grade spans K-12, and address text complexity, text-based answers, academic vocabulary, diagnostic and formative assessment, 21st century skills, technology and integrate

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35 Ibid. (Bullet points quoted verbatim)
differentiated instructional techniques, such as Response to Instruction and Intervention.

- **ELA: Non-fiction Writing:** This module will embed lesson design for grade spans K-12, including writing from sources and using academic vocabulary. Use of 21st century skills, technology, and integrated differentiated instruction, such as RtI, will also be addressed.

Individual LEAs in California also offer support to teachers through various professional development activities. For example, the Orange County Department of Education (OCDE), which comprises 28 K-12 school districts in Southern California, provides a variety of partial-, full-, and multi-day professional development seminars to teachers and administrators. Examples of OCDE’s offerings, and their associated descriptions, are listed below:

- **CCSS Curriculum and Instruction Round Table: Teaching and learning in 2012-13**
  Join Curriculum and Instruction Leaders throughout Orange County in designing district and site Professional Learning sessions that support 21st Century teaching and learning and are aligned with district strategic plans and the CA suggestions and recommendation as outlined in the implementation guide.

- **Understanding the Common Core State Standards: Multiplication & Division in Grades 3-5**
  How are the Common Core State Standards for Mathematics (CCSSM) similar and different to the CA Standards? What strands of mathematics do this new sets of standards emphasize? In moving toward greater focus and coherence, this two-day workshop will focus on making sense of the structure of the CCSSM and the key mathematical concepts and computational strategies emphasized by the standards. Participants will engage in discussions on the different types of multiplicative tasks and concepts addressed by the CCSSM, how to assess children’s thinking, and what instructional strategies teachers can use to promote student understanding and achievement.

- **CCSS Unit of Study Design**
  Explore basic principles of designing a Unit of Study as you begin implementing the CCSS this next school year. Apply learning in the areas of Common Core Standards content and “habits of mind,” 21st Century Skills, integrated curriculum, and infusing technology. This hands-on session will provide an opportunity to work with colleagues across Orange County and exercise your creativity, problem-solving, and critical thinking skills in the context of 21st century curriculum design.

Nearby Los Angeles Unified School District (LAUSD) established an entire website dedicated to building awareness of and helping educators transition to the Common Core. Available on the website are downloadable files for professional development modules; each module includes a facilitated version (fully automated PowerPoint

36 “Common Core Professional Development and Networks.” Orange County Department of Education. http://www.ocde.us/CommonCoreCA/Pages/Professional-Development-and-Networks.aspx
37 Ibid. (Bullet points quoted verbatim from individual pages)
presentation with built-in narration) and a non-facilitated version (standard PowerPoint presentation with notes to be read aloud by a facilitator to a live group). Currently, only the first two modules are available, with two additional modules expected to be released this summer.  

- **Module 1: Introduction to the Common Core State Standards**  
  This module provides an introduction to the Common Core, including LAUSD’s plan for implementation; the development process, structure, and purpose of the Common Core State Standards, and implications for teaching and learning in all content areas.

- **Module 2: Instructional Shifts**  
  This module provides an understanding of the shifts required in Mathematics and English Language Arts. The Common Core State Standards embody six instructional shifts, three in Mathematics and three in ELA, which will significantly impact the teaching and learning process.

- **Module 3: Structure of the Standards**  
  In this module, schools will gain understanding of how the standards are organized and structured. It is critical for educators to understand the underlying structural components of the Common Core State Standards for mathematics and English Language Arts. The term ‘structure’ relates to how the standards document should be read, as well as understanding the sequence of topics and performances students will be expected to learn and able to do.

- **Module 4: Assessments**  
  In this module, schools will be provided with an overview of how Common Core State Standards will be assessed.

**Baltimore, Maryland**

Baltimore City Public Schools (BCPS) is integrating CCSS training resources into the district’s existing professional development framework:39 “Alignment to the Common Core State Standards” is included in the district’s vision of high-quality professional development, as described in the BCPS professional development guide. Starting next year, the district will introduce strategic professional development and resources to support schools in their implementation of the Common Core. Schools must opt-in to receive these supports, which are provided at no cost; schools that opt out of the services must provide evidence in their School Performance Plans of their own professional development efforts toward advancing the Common Core State Standards.
Standards. To opt-in, school leaders must complete a Memorandum of Understanding that outlines provisions for school leaders and teachers.

Through these Common Core Opt-In Supports, schools that choose to opt in receive the professional development services shown in Figure 2.1.

**Figure 2.1: BCPS Common Core Professional Development Activities**

<table>
<thead>
<tr>
<th>Subject and Grade Level</th>
<th>PD Activities/Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Math PreK-K</strong>&lt;br&gt;(Full implementation of CCSS)</td>
<td>- District-sponsored professional development on systemic PD days&lt;br&gt;  - August, January, April, and June&lt;br&gt; - Preferred registration into content courses (Achievement Unit bearing)&lt;br&gt;  - Grades PreK-K: Counting and Cardinality</td>
</tr>
<tr>
<td><strong>Math Grades 1-5</strong>&lt;br&gt;(Phased-in scope and sequence of CCSS)</td>
<td>- District-sponsored professional development on systemic PD days&lt;br&gt;  - August, January, April, and June&lt;br&gt; - Preferred registration into content courses (AU bearing)&lt;br&gt;  - Grades 1-2: Number Core Concepts&lt;br&gt;  - Grades 3-5: Fundamentals of Fractions&lt;br&gt; - Complete set of Marilyn Burns professional development materials for school resource room (13 CCSS topics)</td>
</tr>
<tr>
<td><strong>Math Grades 6-8, Algebra I, Intensified Algebra I</strong>&lt;br&gt;(Full implementation)</td>
<td>- District-sponsored professional development on systemic PD days&lt;br&gt;  - January and April&lt;br&gt; - Four days of professional development prior to August 22&lt;br&gt;  - Three hours of monthly professional development (evenings or Saturdays)</td>
</tr>
<tr>
<td><strong>Math Grades 6-8, Algebra I</strong>&lt;br&gt;(Partial Implementation)</td>
<td>- District-sponsored professional development on systemic PD days&lt;br&gt;  - August, January, April, and June</td>
</tr>
<tr>
<td><strong>ELA PreK-K</strong></td>
<td>- District-sponsored professional development on systemic PD days&lt;br&gt;  - August, January, April, and June&lt;br&gt; - Preferred registration into content courses (AU bearing)&lt;br&gt;  - Comprehensive Literacy Academy&lt;br&gt;  - Oral Language Academy&lt;br&gt;  - Literacy Academy I: Phonological Awareness&lt;br&gt;  - Literacy Academy II: Systematic Phonics&lt;br&gt;  - Informational Reading and Writing Academy</td>
</tr>
</tbody>
</table>

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41 “Memorandum of Understanding Between The Office of the Chief Academic Officer and Schools Opting In to Common Core District Supports for SY12-13.” Baltimore City Schools. Available for download from http://www.baltimorecityschools.org/domain/257
<table>
<thead>
<tr>
<th>Subject and Grade Level</th>
<th>PD Activities/Resources</th>
</tr>
</thead>
</table>
| ELA Grades 1-5         | ❖ District-sponsored professional development on systemic PD days  
                        | - August, January, April, and June  
                        | ❖ Preferred registration into content courses (AU bearing)  
                        | - Comprehensive Literacy Academy  
                        | - Oral Language Academy (PreK-3)  
                        | - Literacy Academy I: Phonological Awareness (PreK-3)  
                        | - Literacy Academy II: Systematic Phonics (PreK-3)  
                        | - Independent Reading Academy  
                        | - Word Study/Vocabulary Academy  
                        | - Writing Academy  |
| ELA Grades 6-12, Social Studies Grades 6-8, U.S. History Grade 9, Government Grade 10, World History Grade 11 | ❖ District-sponsored professional development on systemic PD days  
                        | - August, January, April, and June  
                        | ❖ Preferred registration into content courses (AU bearing)  
                        | - Comprehensive Literacy Academy  
                        | - LDC Instructional Ladder: An In-depth Study  
                        | - Independent Reading in the Secondary Classroom  
                        | - It’s Debatable: Structured Argumentation Skills and Strategies  
                        | - Characteristics and Needs of Adolescent Readers  
                        | - What Happens When We Read?  
                        | - Reading in the Content Area  
                        | - Engaging Students Through Inquiry |

Source: BCPS

Descriptions of selected CCSS-related professional development courses are provided in the summer 2012 Professional Development Course Guide.

New York City, New York

The New York City Department of Education’s website provides teachers with access to a wide variety of professional development resources to guide implementation of the CCSS. Examples of such resources include:

❖ **Citywide Instructional Expectations for 2012-2013**
  This document provides an overview of teacher and school leader tasks for adjusting their practice, classroom- and school-level conditions for successful implementation, assessment changes, and accountability and evaluation procedures.

❖ **Implementation Guidance for the 2012-13 Citywide Instructional Expectations**
  This set of frequently asked questions provides guidance on using a framework for teaching, implementing CCSS-aligned units of study, definitions, guidance and support.

❖ **Instructional Shifts**
  This site provides downloadable professional development resources on Common Core instructional shifts in mathematics and ELA/Literacy, including a Facilitation Guide, the state’s detailed Learning Standards, crosswalks of instructional shifts, and a Note-Taking Guide.
Teacher Effectiveness Resources
This site provides links to an internal database of teacher resources that include Teacher Competencies, School Leader and Teacher Self Assessments, assistance for creating a learning plan, an “Introduction to Designing Coherent Instruction,” and an “Introduction to Engaging Students in Learning.”

The city provided teachers with a full day at the beginning of the 2011-2012 academic year to engage in these professional activities and plan for full implementation of the CCSS. Teachers were also asked to access the library of materials online and become familiar with the new standards and concepts prior to the beginning of the school year.43

Additionally, EngageNY, which serves as a statewide resource for educators, offers a Common Core Professional Development Kit. The kit is intended to help LEAs prepare teachers for the implementation of the CCSS and contains a facilitation guide and a full-day presentation. The presentation addresses general awareness of the Common Core as well as instructional shifts, and provides an opportunity to identify gaps in student knowledge between the former learning standards and the Common Core.

Cleveland, Ohio

A recent blog post by the director of professional issues for the Cleveland Teachers Union revealed the steps taken within the Cleveland Metropolitan School District to establish a professional development program for teachers implementing the Common Core. First, the district investigated strategies for integrating CCSS training into its existing professional development activities, which included recurrent grade-level training. The district determined that grade band implementation would be most effective because “smaller groups of teachers could get the personalized training they needed to become experts.”44 Training is being implemented in one-year phases, beginning with teachers of kindergarten through Grade 2, followed by Grades 3-5 and 6-10.

The district’s 80 schools were further divided into cohorts of 20 schools each. Training first began last spring: the district “brought all … K-2 teachers together, in cohorts by grade level, for two six-hour professional development programs during the school day.” This initial training session focused on:45

45 Ibid.
Unpacking and becoming familiar with the CCSS. This first day is focused on delving deeper into the standards and on resource alignment. A focal goal of this session is to help teachers understand what the standards would look like in day-to-day lessons. The second day includes actual lesson planning in addition to helping teachers understand the need for and to design appropriate formative assessments so our teachers would know their students ‘got it.’

As teachers began introducing the CCSS in their classrooms, they continued to receive professional development over the course of an additional four sessions. Teachers participated in “professional learning communities” led by instructional coaches, and explored the different resources that can be used to teach the CCSS. Teachers also used these sessions to collaborate on effective instructional strategies.

Additionally, the district updated its existing “Scope & Sequence” curriculum pacing guide by including the CCSS. This guide will continue to be updated each year as the different grade bands participate in CCSS implementation activities.

Finally, the district ensures that teachers have ongoing support by selecting a “Common Core Advocate” at each school, who receives “four additional training sessions after school and [becomes] an expert in their school building, serving as an on-site resource for teachers.”46

46 Ibid.
Appendix A: Updated InTASC Core Teaching Standards

Below we reproduce the updated InTASC core teaching standards and essential knowledge.47

**Learner Development:** the teacher understands how learners grow and develop, recognizing that patterns of learning and development vary individually within and across the cognitive, linguistic, social, emotional, and physical areas, and designs and implements developmentally appropriate and challenging learning experiences.

- The teacher understands how learning occurs—how learners construct knowledge, acquire skills, and develop disciplined thinking processes—and knows how to use instructional strategies that promote student learning.
- The teacher understands that each learner’s cognitive, linguistic, social, emotional, and physical development influences learning and knows how to make instructional decisions that build on learners’ strengths and needs.
- The teacher identifies readiness for learning, and understands how development in any one area may affect performance in others.
- The teacher understands the role of language and culture in learning and knows how to modify instruction to make language comprehensible and instruction relevant, accessible, and challenging.

**Learning Differences:** the teacher uses understanding of individual differences and diverse cultures and communities to ensure inclusive learning environments that enable each learner to meet high standards.

- The teacher understands and identifies differences in approaches to learning and performance and knows how to design instruction that uses each learner’s strengths to promote growth.
- The teacher understands students with exceptional needs, including those associated with disabilities and giftedness, and knows how to use strategies and resources to address these needs.
- The teacher knows about second language acquisition processes and knows how to incorporate instructional strategies and resources to support language acquisition.
- The teacher understands that learners bring assets for learning based on their individual experiences, abilities, talents, prior learning, and peer and social group interactions, as well as language, culture, family, and community values.
- The teacher knows how to access information about the values of diverse cultures and communities and how to incorporate learners’ experiences, cultures, and community resources into instruction.

Learning Environments: the teacher works with others to create environments that support individual and collaborative learning, and that encourage positive social interaction, active engagement in learning, and self-motivation.

- The teacher understands the relationship between motivation and engagement and knows how to design learning experiences using strategies that build learner self-direction and ownership of learning.
- The teacher knows how to help learners work productively and cooperatively with each other to achieve learning goals.
- The teacher knows how to collaborate with learners to establish and monitor elements of a safe and productive learning environment including norms, expectations, routines, and organizational structures.
- The teacher understands how learner diversity can affect communication and knows how to communicate effectively in differing environments.
- The teacher knows how to use technologies and how to guide learners to apply them in appropriate, safe, and effective ways.

Content Knowledge: the teacher understands the central concepts, tools of inquiry, and structures of the discipline(s) he or she teaches and creates learning experiences that make these aspects of the discipline accessible and meaningful for learners to assure mastery of content.

- The teacher understands major concepts, assumptions, debates, processes of inquiry, and ways of knowing that are central to the discipline(s) s/he teaches.
- The teacher understands common misconceptions in learning the discipline and how to guide learners to accurate conceptual understanding.
- The teacher knows and uses the academic language of the discipline and knows how to make it accessible to learners.
- The teacher knows how to integrate culturally relevant content to build on learners’ background knowledge.
- The teacher has a deep knowledge of student content standards and learning progressions in the discipline(s) s/he teaches.

Application of Content: the teacher understands how to connect concepts and use differing perspectives to engage learners in critical thinking, creativity, and collaborative problem solving related to authentic local and global issues.

- The teacher understands the ways of knowing in his/he discipline, how it relates to other disciplinary approaches to inquiry, and the strengths and limitations of each approach in addressing problems, issues, and concerns.
- The teacher understands how current interdisciplinary themes (e.g., civic literacy, health literacy, global awareness) connect to the core subjects and knows how to weave those themes into meaningful learning experiences.
- The teacher understands the demands of accessing and managing information as well as how to evaluate issues of ethics and quality related to information and its use.
o The teacher understands how to use digital and interactive technologies for efficiently and effectively achieving specific learning goals.

o The teacher understands critical thinking processes and knows how to help learners develop high level questioning skills to promote their independent learning.

o The teacher understands communication modes and skills as vehicles for learning (e.g., information gathering and processing) across disciplines as well as vehicles for expressing learning.

o The teacher understands creative thinking processes and how to engage learners in producing original work.

o The teacher knows where and how to access resources to build global awareness and understanding, and how to integrate them into the curriculum.

Assessment: the teacher understands and uses multiple methods of assessment to engage learners in their own growth, to monitor learner progress, and to guide the teacher’s and learner’s decision making.

o The teacher understands the differences between formative and summative applications of assessment and knows how and when to use each.

o The teacher understands the range of types and multiple purposes of assessment and how to design, adapt, or select appropriate assessments to address specific learning goals and individual differences, and to minimize sources of bias.

o The teacher knows how to analyze assessment data to understand patterns and gaps in learning, to guide planning and instruction, and to provide meaningful feedback to all learners.

o The teacher knows when and how to engage learners in analyzing their own assessment results and in helping to set goals for their own learning.

o The teacher understands the positive impact of effective descriptive feedback for learners and knows a variety of strategies for communicating this feedback.

o The teacher knows when and how to evaluate and report learner progress against standards.

o The teacher understands how to prepare learners for assessments and how to make accommodations in assessments and testing conditions, especially for learners with disabilities and language learning needs.

Planning for Instruction: the teacher plans instruction that supports every student in meeting rigorous learning goals by drawing upon knowledge of content areas, curriculum, cross-disciplinary skills, and pedagogy, as well as knowledge of learners and the community context.

o The teacher understands content and content standards and how these are organized in the curriculum.

o The teacher understands how integrating crossdisciplinary skills in instruction engages learners purposefully in applying content knowledge.
The teacher understands learning theory, human development, cultural diversity, and individual differences and how these impact ongoing planning.

The teacher understands the strengths and needs of individual learners and how to plan instruction that is responsive to these strengths and needs.

The teacher knows a range of evidence-based instructional strategies, resources, and technological tools and how to use them effectively to plan instruction that meets diverse learning needs.

The teacher knows when and how to adjust plans based on assessment information and learner responses.

The teacher knows when and how to access resources and collaborate with others to support student learning (e.g., special educators, related service providers, language learner specialists, librarians, media specialists, community organizations).

**Instructional Strategies:** the teacher understands and uses a variety of instructional strategies to encourage learners to develop deep understanding of content areas and their connections, and to build skills to apply knowledge in meaningful ways.

The teacher understands the cognitive processes associated with various kinds of learning (e.g., critical and creative thinking, problem framing and problem solving, invention, memorization and recall) and how these processes can be stimulated.

The teacher knows how to apply a range of developmentally, culturally, and linguistically appropriate instructional strategies to achieve learning goals.

The teacher knows when and how to use appropriate strategies to differentiate instruction and engage all learners in complex thinking and meaningful tasks.

The teacher understands how multiple forms of communication (oral, written, nonverbal, digital, visual) convey ideas, foster self expression, and build relationships.

The teacher knows how to use a wide variety of resources, including human and technological, to engage students in learning.

The teacher understands how content and skill development can be supported by media and technology and knows how to evaluate these resources for quality, accuracy, and effectiveness.

**Professional Learning and Ethical Practice:** the teacher engages in ongoing professional learning and uses evidence to continually evaluate his/her practice, particularly the effects of his/her choices and actions on others (learners, families, other professionals, and the community), and adapts practice to meet the needs of each learner.

The teacher understands and knows how to use a variety of self-assessment and problem-solving strategies to analyze and reflect on his/her practice and to plan for adaptations/adjustments.

The teacher knows how to use learner data to analyze practice and differentiate instruction accordingly.

The teacher understands how personal identity, worldview, and prior experience affect perceptions and expectations, and recognizes how they may bias behaviors and interactions with others.
o The teacher understands laws related to learners’ rights and teacher responsibilities (e.g., for educational equity, appropriate education for learners with disabilities, confidentiality, privacy, appropriate treatment of learners, reporting in situations related to possible child abuse).

o The teacher knows how to build and implement a plan for professional growth directly aligned with his/her needs as a growing professional using feedback from teacher evaluations and observations, data on learner performance, and school- and system-wide priorities.

Leadership and Collaboration: the teacher seeks appropriate leadership roles and opportunities to take responsibility for student learning, to collaborate with learners, families, colleagues, other school professionals, and community members to ensure learner growth, and to advance the profession.

o The teacher understands schools as organizations within a historical, cultural, political, and social context and knows how to work with others across the system to support learners.

o The teacher understands that alignment of family, school, and community spheres of influence enhances student learning and that discontinuity in these spheres of influence interferes with learning.

o The teacher knows how to work with other adults and has developed skills in collaborative interaction appropriate for both face-to-face and virtual contexts.

o The teacher knows how to contribute to a common culture that supports high expectations for student learning.
Appendix B: CCSS Critical Areas for Professional Development

The CCSS critical areas for professional development targeting the five key mathematical concepts for kindergarten through grade 8 are as follows:48

- In Kindergarten, instructional time should focus on two critical areas: (1) representing, relating, and operating on whole numbers, initially with sets of objects; (2) describing shapes and space. More learning time in Kindergarten should be devoted to number than to other topics.

- In Grade 1, instructional time should focus on four critical areas: (1) developing understanding of addition, subtraction, and strategies for addition and subtraction within 20; (2) developing understanding of whole number relationships and place value, including grouping in tens and ones; (3) developing understanding of linear measurement and measuring lengths as iterating length units; and (4) reasoning about attributes of, and composing and decomposing geometric shapes.

- In Grade 2, instructional time should focus on four critical areas: (1) extending understanding of base-ten notation; (2) building fluency with addition and subtraction; (3) using standard units of measure; and (4) describing and analyzing shapes.

- In Grade 3, instructional time should focus on four critical areas: (1) developing understanding of multiplication and division and strategies for multiplication and division within 100; (2) developing understanding of fractions, especially unit fractions (fractions with numerator 1); (3) developing understanding of the structure of rectangular arrays and of area; and (4) describing and analyzing two-dimensional shapes.

- In Grade 4, instructional time should focus on three critical areas: (1) developing understanding and fluency with multi-digit multiplication, and developing understanding of dividing to find quotients involving multi-digit dividends; (2) developing an understanding of fraction equivalence, addition and subtraction of fractions with like denominators, and multiplication of fractions by whole numbers; (3) understanding that geometric figures can be analyzed and classified based on their properties, such as having parallel sides, perpendicular sides, particular angle measures, and symmetry.

- In Grade 5, instructional time should focus on three critical areas: (1) developing fluency with addition and subtraction of fractions, and developing understanding of the multiplication of fractions and of division of fractions in limited cases (unit fractions divided by whole numbers and whole numbers divided by unit fractions); (2) extending division to 2-digit divisors, integrating decimal fractions into the place value system and developing understanding of operations with decimals to hundredths, and developing fluency with whole number and decimal operations; and (3) developing understanding of volume.

48 “Gearing up for the Common Core State Standards in Mathematics.” Op. cit. (Bullet points quoted verbatim)
In Grade 6, instructional time should focus on four critical areas: (1) connecting ratio and rate to whole number multiplication and division and using concepts of ratio and rate to solve problems; (2) completing understanding of division of fractions and extending the notion of number to the system of rational numbers, which includes negative numbers; (3) writing, interpreting, and using expressions and equations; and (4) developing understanding of statistical thinking.

In Grade 7, instructional time should focus on four critical areas: (1) developing understanding of and applying proportional relationships; (2) developing understanding of operations with rational numbers and working with expressions and linear equations; (3) solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume; and (4) drawing inferences about populations based on samples.

In Grade 8, instructional time should focus on three critical areas: (1) formulating and reasoning about expressions and equations, including modeling an association in bivariate data with a linear equation, and solving linear equations and systems of linear equations; (2) grasping the concept of a function and using functions to describe quantitative relationships; (3) analyzing two- and three-dimensional space and figures using distance, angle, similarity, and congruence, and understanding and applying the Pythagorean Theorem.
Project Evaluation Form

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