Understanding Language | Language, Literacy, and Learning in the Content Areas

Teacher Development to Support English Language Learners in the Context of Common Core State Standards

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The Common Core State Standards (CCSS) define the knowledge and skills in English language arts and mathematics that students need for success in college and careers upon high school graduation. These widely adopted documents create powerful, unique and unprecedented opportunities to design and implement high quality education across the majority of states. The Next Generation Science Standards (NGSS) are expected to do the same in the sciences.

Assessments aligned to the CCSS are being developed by two assessment consortia (SBAC and PARCC) to track students' progress over time. The standards and the work of the assessment consortia aim to focus the academic core and to organize instruction around a set of learning progressions along multiple dimensions within subject areas. They promise to integrate the teaching, learning, and assessment systems that have grown fragmented in many American school districts and to transform teaching and learning across classrooms and schools.

The content, performance, and language demands in the new standards and assessments are deeper and greater than those in most previous state standards. These challenges will impact all students and are especially challenging for English Language Learners (ELLs).

Demands of the New Standards

The new standards require students to engage deeply with complex text within and across all three disciplines. The CCSS for ELA/Literacy include three key shifts that reflect the demands of college and career readiness:

- An emphasis on text complexity and language (academic vocabulary and function).
- Increased emphasis on building knowledge from informational text.
- An expectation that students will produce and use evidence in text to justify their views.

The CCSS for Mathematics move instruction and assessment beyond the notion of answer-getting driven by procedurally-based questions to one that focuses attention on students' mathematical sense making and understanding. The standards envision:

- Problem situations that are language-rich and require multiple steps. Students will be expected to decipher text for relevant phrases and for specific use of language structures and vocabulary, relationships, important concepts, and goals to tackle problems situations.

- Concepts represented in multiple ways. Text can require students to translate between and among words, numbers, tables, diagrams, and symbols. Students will need to understand these various representations and move among these various types of texts (representations) in mathematics.

- Procedures that constitute a special narrative. They are step-by-step actions that lead reliably to a result. They are not merely procedures for getting answers. Students will be called on to determine relevant ideas and the reasonableness of an answer.

The Next Generation Science Standards (NGSS) are currently being developed based on a recently-released Framework for K-12 Science Education written by an expert panel convened by the National Research Council. The framework reflects leading thinking on the nature of the science and engineering education that is needed in the 21st century. Its vision of science learning is predicated on language and literacy and builds on the CCSS in ELA and math. Based on the Framework and the nature of the field, we can expect the science standards, and related instruction and assessment, to pose the following expectations:

- A technical vocabulary that is peculiar to each science discipline, requiring students to code-switch from everyday uses of language to the language of science (Brown & Ryoo, 2008; Moje, Collazo, Carillo, & Marx, 2001).

- Information conveyed not just through texts, but also through visual representations including pictures, drawings, diagrams, graphs, charts, tables, maps, and equations.

- Texts that have features unique to science, including the use of passive rather than active voice, nominalization, abstraction, embedded clauses, and lexical density to build cohesion (Schleppegrell, 2004).

Across these disciplines, learning and assessment tasks will require students to engage in greater written and oral discourse, as well as argumentation from evidence – a practice found across the disciplines. We highlight this practice because it represents a significant teaching and learning demand across the standards. This practice has a common structure built around claims and evidence, and the ways in which students engage in arguments (discourse) in the classroom setting will have overlapping features across disciplines. However, the ways in which evidence is used in each discipline will vary. For example:

- In English Language Arts, students will need to “write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.” (CCSS ELA/Literacy, p. 42).

- In mathematics, the CCSS call for students “to construct viable arguments and critique the arguments of others.” (CCSS, Standards of Mathematical Practice, p. 6-7).

- In science, when students engage in argumentation, they use models as evidence, construct explanations using evidence and logic, and evaluate and communicate information. (NRC Science Framework, Science and Engineering Practices).

Implications for Teacher Development

The content, performance and language demands of the new standards and aligned assessments will augment the challenges for English language learners. Teacher preparation and professional development programs will need to be designed to support the deeper content, performance and language demands expected of students. Consequently, the content, quality and delivery of professional learning opportunities will need to support teachers' deeper understanding of content and mastery of instructional strategies that assist all students' attainment of more rigorous standards.

Meanwhile, Institutions of Higher Education (IHE), school districts, and other partners need to prepare both for the implementation of the new practices and for the impact of new standards within and across systems. Institutions will also need to prepare leaders to guide and support the changes required to implement the CCSS and NGSS. These systems will need to build the capacity of all educators to serve all students, with special attention to the needs of English language learners, who are a growing share of the school population.

Educational attention to the needs of ELLs can no longer be considered a boutique proposition concentrated within a handful of states. By 2010 Limited English Proficient (LEP) individuals accounted for nine percent of the US population over the age of five. Between 1990 and 2010 the number of LEP individuals in the US grew by eighty percent, with significant growth in states that are not traditionally considered immigrant-destination states. Five states with the largest share of LEP residents have adopted the CCSS: California, New York, Florida, Illinois and New Jersey serve 54.1% of the total LEP population (Migration Policy Institute, 2011). Educators in these five states and those in the more than 40 other states that adopted the CCSS are charged with ensuring that implementation of the new standards and assessments attends to the challenges for students classified as ELLs.

Educators will need to understand the shifts required in curriculum, instruction and assessment for implementation of the new standards, and then they will need to have hands-on opportunities to acquire teaching strategies that respond to these shifts. These shifts in practice will rely on deep content knowledge that is pedagogical in nature. Educators will need to understand deeply the core areas of the disciplines and the learning progressions that operate within the domains of each discipline. They will also need to know a great deal about formative assessments to help them understand where students are in relation to the learning continuum, and they will need to have a variety of curriculum and instructional supports to respond to students' needs in ways that produce deep learning.

In addition, for meeting the specific needs of English learners, teachers need to know how to address:

1. Language progressions - How students learn language, both in terms of general language acquisition and in terms of the acquisition of discipline-specific academic language;

2. Language demands - What kinds of linguistic expectations are embedded within specific texts and tasks with which students are being asked to engage;

3. Language scaffolds - How specific representations and instructional strategies can be used to help students gain access to the concepts as well as to the language they need to learn; and

4). Language supports - How classrooms and schools can be organized to support students in continually building a deep understanding of language and content.

Language Progressions. The CCSS seek to build on what is increasingly known about progressions of learning within some disciplinary domains – that is, the sequence in which most students tend to acquire certain kinds of skills in reading, writing, and mathematical understanding. The CCSS use this notion of progressions to create the framework for a curriculum and instructional sequence outlining what should be taught from grade to grade. This sequence of topics and concepts also implies a progression in the learning of domain-specific language needed to understand these concepts and to express ideas about them. It will be important for curriculum developers and teachers to make explicit, study, and then be prepared to teach these implied language progressions in a coherent, conceptual fashion that also takes advantage of what is known about language acquisition generally.

Language Demands. Teachers and curriculum developers will also need to consider the language demands embedded in particular texts that students will encounter and in tasks that they are asked to perform in the classroom and on assessments. It is important for teachers to understand that disciplines like mathematics, science, history, and language arts each embody languages unto themselves – bodies of domain-specific representations and vocabularies – as well as bodies of content knowledge. When developing lessons and assignments, and when choosing materials, teachers need to know how to evaluate both the content demands and the language demands that they imply. Analyzing these demands means asking: What do the students need to know about the content in order to enter into this task? What language must they understand? What prior teaching is needed and what other tools can be provided to make these accessible so that students can work with the content and the language to progress in their understanding?

Language Scaffolds. Once teachers have analyzed the language and content demands of the curriculum, they need to design learning experiences to help students meet these demands. The design of tasks needs to consider the disciplinary language demands for specific concepts and topics in addition to the language proficiency of students. Within disciplinary tasks, teachers

need to know how to provide scaffolding through the use of multiple representations, including choice of texts and tools (dictionaries, glossaries), teaching of key vocabulary, visual representations, models, strategic questioning, and coaching. Language scaffolds need to be purposefully aligned to concept and skill development targets as well as to language development goals. Teachers need to learn how to develop scaffolds with attention to their purpose: to support both comprehension and student production of language that allows them to express their ideas. As teachers learn to support student production of language, they need to understand how to elicit and interpret what ELLs know and can do by giving opportunities for communication using multiple forms of representation, and by focusing on concepts rather than getting distracted by syntax and other peripheral concerns.

Language Supports. While supporting access to content, teachers of ELLs are called upon to accelerate English language development and literacy and, in bilingual classrooms, native language and literacy development. Thus teachers need to know how to create classrooms that are supportive of using and learning language. Such classrooms benefit all students and are essential for ELLs. To do this, teachers must learn to:

- Build opportunities for students to learn language and content from each other through purposeful, carefully structured and scaffolded tasks;

- Create engagement and discussion opportunities that socialize students to the language of the discipline through structures and routines that develop skill in disciplinary discourse;

- Carefully organize groupings (pair, small group, and whole group) in classrooms to amplify and enrich the opportunities for comprehension, discussion, and interactions with ideas;

- Consider student's language proficiency and native (home) language when organizing students in groups for the purposes of learning (mixing diverse proficiency levels of the same native language) and production (mixing students from diverse native languages).

- Take advantage of the assets of diverse students by understanding students' language skills and their culture, background knowledge, and experiences.

The Design of Teacher Learning Opportunities

Both pre-service preparation and ongoing professional development should enable teachers to create both the dispositions and competencies to serve all students well. Both need to be designed with the interrelationships between content and language in mind. Finally, both initial teacher preparation and ongoing professional development should start from a recognition that teacher inquiry provides a powerful framework for teacher learning.

In initial teacher preparation, teachers need to develop a foundational understanding of content pedagogy that incorporates an understanding of the language of the discipline(s). They also need to develop a foundational understanding of language development and strategies for teaching English learners, preferably with applications *within* the discipline(s) they will be called upon to teach.

In addition to linguistic knowledge that sensitizes them to the nature of language and its use, pre-service teachers should learn about approaches to language learning that can build bridges between students' native language knowledge and their evolving acquisition of a new language in an academic context.

Pre-service teachers should examine the CCSS, including the kinds of tasks students will be expected to undertake in learning the standards and demonstrating their knowledge. They should also learn how to evaluate the content and language demands of these tasks, as they learn to build curriculum, lessons, and assignments, and how to create scaffolds for enabling students' entry into the tasks of learning. Just as students learn by doing, teachers also learn about practice *in* practice. Thus pre-service preparation should link coursework to fieldwork that allows the application of theory to practice. Assignments in teacher education classes should engage novices in assessing students, designing lessons, trying out strategies, evaluating outcomes, and continuously reflecting with expert guidance on what they are learning. The clinical curriculum should be directly tied to the coursework novices engage in. And cooperating teachers and supervisors should be chosen for their own expertise as teachers of English learners.

Where this happens, new teachers enter classrooms prepared to work effectively with their ELL students. (For examples of teacher education programs that accomplish this, see Bransford & Darling-Hammond, 2005; Darling-Hammond, 2006). However, initial preparation is currently highly uneven and teachers typically have very different levels of knowledge and skill for teaching all students. In this context, districts and schools must be able to figure how to design professional development that is useful to diverse teachers and meets their needs.

Professional development opportunities need to be designed to build the knowledge, strategies and skills of all teachers of ELLs to integrate language development scaffolds for students at varying level of English proficiency within a classroom. Schools and districts need to combine information on teachers' skills and felt needs with English learner classification data (for current and former ELLs) and performance data to determine where professional development would help build teacher capacity.

Disciplinary teachers of ELLs will typically benefit from professional development on academic language and literacy that introduces them to scaffolds and strategies aligned to language functions and structures in the discipline, supports the design of tasks, provides coaching, and allows time for reflection during implementation. Teacher capacities and the capacities of sites will be important in the design of professional development and the pace of improvement in teacher practice. Shifts in teacher practice will require sustained and varied support structures to apprentice teachers to new practices in ongoing classroom instruction, curriculum planning, and assessment.

Schools and districts should identify and support expert teachers who act as models of strong teaching practice for ELLs. To ensure that expert practices are disseminated, master/ mentor/cooperating teachers will need to have opportunities to continually develop their

expertise so that they can model strong practices. Teachers benefit from observing the classrooms of master practitioners for content and academic language development. Teams of teachers can deconstruct the classroom practice, supported by professional development leaders and observation protocols. Coaching from master teachers in developing these elements of practice helps strengthen implementation. Schools and districts need to structure time and build observation protocols for learning visits of educators to observe student practice in classrooms that align deep subject matter and language development to support ELLs.

Expert knowledge infused into professional learning will need to include a combination of language and content expertise. These individuals can come from within schools and districts, or externally, through partnerships with support organizations and/or research partnerships with institutes of higher education. Experts can support cross-role teams (including, for example, parents, teachers, and administrators) and job-alike teams to provide opportunities to try out new practice, reflect on what they are seeing, and build curricular coherence.

A district can facilitate a learning community for a set of school-based cross-role teams focused on a shared problem of practice. A cross-role team is composed of key constituencies from a school site that share in leadership for implementing changes to address a problem of practice. For example, in one district a set of cross-role teams engage in inquiry (what is the set of strategies that will accelerate conceptual and language development for ELLs in science in our community?). They learn from experts and from engagement in their peer group in planning with their cross-role team.

The cross-role teams are composed of school-based leaders that include at minimum the principal and teachers. Some teams include parent leaders as well. During the team learning institutes the district establishes an engagement structure for each day. For example, during the morning, principals, teachers and parents may engage in a science task and discuss the learning (e.g., identify targeted and supporting concepts and language functions and structures in the lesson, as well as strategies employed to support learning and language development). They then may work in role-alike groupings across the district, discussing implementation possibilities for their leadership roles. Individuals may then return to their cross-role teams with ideas for integrating the new strategies into the science learning at their schools. For example, parents might collaborate with teachers in hosting family science sessions that integrate the new strategies. During the afternoon, schools share what they plan to integrate from the day's learning. Teams are regularly asked to report to another school on the impact of prior implementation efforts. This type of cross-roles and job-alike teamwork is initiated in the summer, and teams continue meeting regularly during the years.

Job-alike teams allow individuals in similar positions to grow as professionals. Teachers can learn about classroom practice, while principals can learn about how to support this practice. Cross-role teams empower sites to take charge of their learning at the school sites. School leaders' engagement with professional development is critical. Principals need to support the efforts of teachers to learn in a range of contexts and structures. That learning time needs to scheduled and protected.

Designers of teacher preparation and professional development programs need to consider the integration of resources and expertise across disciplinary content, literacy and English language development. The traditional isolation of supports for ELLs in literacy and language development will be insufficient to help students engage the new demands of the CCSS and NGSS. All teachers of ELLs need to increase their language and literacy development skills to design and deliver curriculum, instruction and assessment in core content areas. Educators with deep disciplinary knowledge and content pedagogical skills will need to partner with English language development specialists to guide professional development.

Together in these cross-disciplinary (content and language specialist) teams, educators can think about unique uses of language in content areas. For example, words like “if” and “of” have special implications in a mathematics word problem and in the Common Core standards. They can work on designing instruction that will help students “break the code(s)” and learn how to make sense of these different uses of language. Such teams can also help teachers learn how to develop tasks that provide access for students and how to choose texts that are appropriate. Teams of educators can work together to design and share tasks and lessons, try them out, bring student work back to the table, and reflect on the tasks and how to refine and use them in a growing base of tested curriculum.

By enriching the curriculum for students in this teacher-engaged manner, professional development can increase the effectiveness and quality of teacher’s professional practice. For this strategy of research-informed practice to be well-implemented, it is critical to prepare teachers for collaboration. Through sustained learning institutes, secondary subject matter teachers and English Language Development (ELD) specialists can collaborate to build shared understandings of the challenges confronted by students learning new content and language. These subject matter networks will build teacher capacity to design instruction collaboratively and to integrate ELD strategies in core courses.

Sustained subject matter networks focused on problems of practice, such as the performance of long term ELLs in Algebra, can integrate and combine expertise to develop and test solutions to break the barriers that impact learning and performance. Teachers need the opportunity to deconstruct the problem within their own context so that they can make the learning applicable to their classrooms. They can study artifacts such as student work and videotapes of teaching to illustrate the problem. To facilitate disciplinary and language work, some schools have developed new structures in which subject area teachers work with ELD teachers to study, practice, co-construct and deliver lessons. This requires that school leaders schedule planning time for these teachers, and where team teaching is involved, it also requires scheduling ELD teachers to co-teach in content classes in addition to providing targeted supports in ELD classes.

Districts can support this kind of work within schools. They can also initiate and support cycles of inquiry across schools. Districts can provide economies of scale and a wider range of expertise, not just what is isolated at the school site. Whereas schools as the sole unit of

professional development can be inefficient and ineffective, clusters or networks of schools with common needs can work with expert knowledge via professional development, and integrate new knowledge and practices within their own context. Such professional development becomes a cycle of working with expertise, reflecting, and refining practice.

School-based or district networks can also create a culture of supported accountability through the study of artifacts (student work, videos, etc.) for shifts in practice that are public, transparent, and results-driven. Teachers can benefit from opportunities to study student work and assessments for their reasoning and production of language aligned to standards. Teachers also benefit from the analysis of text complexity in the textbooks, articles, problems or other sources used in their diverse disciplines. These types of professional learning activities not only heighten awareness, but offer significant benefits to improve ELLs' access and production. Leaders need to provide time for teachers to study texts, tasks, and assessments, and to examine student work products at different levels of English proficiency in collaboration with content, ELD and literacy experts.

Elementary and secondary bilingual teachers that are instructing in languages other than English need professional learning opportunities that build their competence and confidence with academic discourse in languages other than English. Many bilingual teachers have not had the opportunity to engage in deep study of the subject matter and pedagogy in languages other than English. Their use of the language other than English in instruction is usually limited to translating. To engage students in deep disciplinary discourse as they develop concepts and build skills in student's native language, teachers need a stronger command of the academic language in the targeted language of instruction. Their command of the language other than English in the disciplines would be enriched through professional development delivered in the target language that helps them learn and practice academic discourse in the target language for the discipline.

For example, New York City supported Spanish bilingual teachers' mathematics and literacy professional development by providing Spanish-delivered institutes for mathematics and literacy professional development, which improved instruction and student performance in elementary mathematics and literacy (Master et al., 2012). Institutes such as these deepen teachers' mathematics competencies and facility with academic language in the Spanish as well as language transference in English. Bilingual instruction can be enriched by teachers who can design and deliver robust instruction in the target language with appropriate English language transfers. Given the demands of the Common Core Standards and Next Generation Science Standards, districts should consider how to strengthen the capacity of teachers to deliver richer bilingual instruction.

Elementary teachers will also benefit from collaborative networks focused on subject matter disciplines, especially in the upper elementary grades where the content demands of teaching and learning have increased beyond the traditional comfort and confidence level of many teachers, especially in elementary science and mathematics. Growing communities of science and mathematics educators will be needed to increase access to robust learning in these

disciplines. To offer ELLs access beyond basic skills in these fields, capacity development for teachers of ELLs needs to include content and pedagogy, as well as language development.

In sum, new and deeper academic and language demands on students will require new skills from teachers and school leaders. In communities with ELLs, the demand has been amplified even for educators that have been successful under traditional supports and programs. Institutions will need to consider more aggressive and creative capacity-building initiatives that strengthen and integrate the development of disciplinary teaching strategies with literacy and language development strategies.

This will require new partnerships, structures for collaboration, and time to engage content, practice, language development and literacy experts in the design and delivery of teacher preparation and professional development. Multiple and sustained opportunities will be needed for the deliberate integration of resources and expertise to deepen and accelerate teacher learning of high impact practices to graduate ELLs ready for college and careers.

References

Brown, B., & Ryoo, K. (2008). Teaching Science as a Language: A 'content-first' approach to science teaching. *Journal of Research in Science Teaching*, *45*(5), 529-553.

Bunch, G., Kibler, A., & Pimentel, S. (December, 2011). *What are the particular challenges that English learners face within English Language Arts as formulated in the CCSS, and what opportunities exist to advance their development of proficiency in the linguistically-mediated forms, functions, and substance of language arts?* Unpublished paper outline presented at the Understanding Language Initiative Steering Committee Meeting, Stanford, CA.

Darling-Hammond, L. (2006). *Powerful Teacher Education: Lessons from Exemplary Programs*. San Francisco: Jossey-Bass.

Darling-Hammond, L. & Bransford, J. (2005). *Preparing Teachers for a Changing World: What Teachers Should Learn and Be Able to Do.* San Francisco: Jossey-Bass.

Daro, P. (December, 2011). *Mathematics, Language, and ELL*. Unpublished PowerPoint presented at the Understanding Language Initiative Steering Committee Meeting, Stanford, CA.

Daro, P. (November, 2011). *CCSS mathematics: Structure, coherence and focus. Implications for correspondence*. Unpublished paper presented at the Understanding Language Initiative Steering Committee Meeting, Stanford, CA.

Daro, P., McCallum, W., & Zimba, J. (2010). Common Core State Standards for Mathematics. Retrieved from http://www.corestandards.org/the-standards/mathematics

Institute for Learning. *Research on ELLs Aligned with DL Design Principles: A Tool for ILF ELL District Work*. Retrieved (December 29, 2011) from http://ifl.lrdc.pitt.edu/ifl/index.php/resources/other_resources/

Lee, O. & Quinn, H. (December, 2011). *Science Practices for ELLs.* Unpublished paper presented at the Understanding Language Initiative Steering Committee Meeting, Stanford, CA.

Master, B., Loeb, S., Whitney, C., & Wyckoff, J. (2012). “Different Skills? Identifying Differentially Effective Teachers of English Language Learners.” Manuscript submitted for publication.

National Research Council. (2011). *A framework for K-12 science education: Practices, crosscutting concepts, and core ideas*. Washington, DC: National Research Council.

Migration Policy Institute. (2011). *Limited English Proficient Individuals in the United States: Number, Share, Growth, and Linguistic Diversity*. Washington, DC: Pandya, C., Batalova, J., & McHugh, M.

Moje, E. B., Collazo, T., Carrillo, R., & Marx, R. W. (2001). “Maestro, what is quality?": Language, literacy, and discourse in project based science. *Journal of Research in Science Teaching, 38*(4), 469-495.

Moschkovich, J. (December, 2011). *Math, Common Core, and ELs.* Unpublished paper outline presented at the Understanding Language Initiative Steering Committee Meeting, Stanford, CA.

Pimentel, S. & Coleman, D. (2010). Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects. Retrieved (December 29, 2011) from http://www.corestandards.org/the-standards/english-language-arts-standards.

Pimentel, S. (October, 2011). *Underlying Learning and Instructional Assumptions of the CCSS for ELA/Literacy.* Unpublished paper presented at the Understanding Language Initiative Steering Committee Meeting, Stanford, CA.

Schleppegrell, M. (*2004*). The language of schooling: A functional linguistics perspective. Mahwah, NJ: Erlbaum.

SMARTER Balanced Assessment Consortium. (2011). *Mathematics Draft Content Specifications*. Washington State.

SMARTER Balanced Assessment Consortium. (2011). *English Language Arts & Literacy Draft Content Specifications*. Washington State.

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