

2-18-2014

## A Collaborative Model for Implementing State Common Core School Standards

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### Recommended Citation

Larson, Ann; McGatha, Maggie; Peters, Sue; Howell, Penny; Wolph, Jean; Webb, Joanne; Lewis, Starr; and Hunter, Seth (2013) "A Collaborative Model for Implementing State Common Core School Standards," *Kentucky Journal of Excellence in College Teaching and Learning*: Vol. 11, Article 10.

Available at: <http://encompass.eku.edu/kjectl/vol11/iss1/10>

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**A Collaborative Model for Implementing State Common Core School Standards** *RESEARCH*

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**Abstract**

In this early part of the 21st century, education leaders are increasingly challenged to improve P-12 teaching and learning to increase student achievement and to prepare all students for college and career success. Education reforms such as the adoption of the Common Core Standards within existing policies and practices of state department, district and school bureaucracies requires the repurposing and refocusing of existing resources and structures. This article describes the efforts in one state to employ collaboration to meet the requirements of legislated mandates for implementation of the Common Core Standards in English language arts and mathematics and the implications of the legislated mandates for postsecondary education. Three education entities (a university, schools, and a state agency) collaborated to design and implement professional development to inform K-12 teachers, state agency personnel, and university faculty about legislated mandates for K-12 education (e.g., state implementation of the Common Core Standards for college- and career-readiness, increase in high school graduation rates, etc.). As the state was the first to adopt the Common Core Standards and the first to assess K-12 student learning in this education reform context, this early adopter model of professional development will be useful and informative for others embarking on such efforts.

**Keywords:** common core, collaboration, professional development, teacher content knowledge, education reform

**Introduction**

This article provides a narrative about a collaborative effort among diverse stakeholders (state, school, and district partners) to engage in a dynamic and sustainable model to meet the requirements of legislated mandates related to the Common Core and College and Career Readiness Standards. This model, developed by collaborative teams in the first state to adopt the Common Core and College and Career Readiness Standards and among the first to use aligned assessments, may be useful for audiences engaged in this work as these Standards are adopted and implemented by states (including the newly released Next Generation Science Standards) (Next Generation Science Standards, 2013).

Kentucky's efforts to build equity and excellence in public education have produced substantial results over the past several decades (Weston & Sexton, 2009). Beginning with the 1989 court ruling that declared that the school finance system violated equal protection guarantee and 1990 legislation that provided the state with mechanisms to take steps toward a school system that delivers a high-quality education for all children, the state has continued to focus on improving education to serve all students. From 1990 to 2000, the Kentucky legislature enacted major education reforms such as House Bill 197, which established a pilot program in end-of-course testing for Algebra I, Algebra II, and Geometry. Senate Bill 130, which required, beginning in 2008-2009, a series of diagnostic

assessments to assess high school readiness (in grade eight), college readiness (in grade 10), and college admission and placement examinations (using ACT test scores) in grade 11. While each set of reforms was ambitious, each addressed just one segment of education, and none was specifically aimed at improving students' college and career readiness.

In 2009, and in response to the new Common Core Standards, the Kentucky legislature passed Senate Bill 1, an omnibus education reform bill that called for standards to be based on national and international benchmarks and that mandated collaboration among state agencies and elementary, secondary, and postsecondary education institutions to reduce the percentage of students needing developmental work in college and to increase the number of students graduating from high school and college (Senate Bill 1, 2009). This collaboration led to the development of a unified strategy for college and career readiness that included professional development for teachers and postsecondary faculty (Kentucky Council on Postsecondary Education, 2011). The current reform efforts related to the new Common Core Standards differ from earlier reforms in three primary ways: 1) state supports are more focused on changing instruction in all Kentucky classrooms, 2) district-level leadership is included in all reform activities, and 3) all education-related agencies are involved, including the Kentucky Department of Education (KDOE), the Kentucky Council on Postsecondary Education (CPE), and the Education Professional Standards Board (EPSB). In short, Kentucky's current reform effort is focused on affecting the entire education system in support of increased college and career readiness.

Kentucky is certainly no stranger to reform efforts or content standards, having led the nation in reform efforts with the 1990 *Kentucky Education Reform Act*. This legislative attempt to improve education outcomes for Kentucky students included development of standards regarding what students should know and be able to do, as well as performance assessments. Since that time, Kentucky has revised standards a number of times and made numerous changes to its assessment system. While Kentucky has demonstrated improvements in student performance on both state and national measures, college readiness measures on the ACT have proved disappointing. Kentucky's 4<sup>th</sup> and 8<sup>th</sup> grade mathematics scores on the National Assessment of Education Progress (NAEP) have, since 2000, continued to show improvement and have remained around the national average and Kentucky's 4<sup>th</sup> and 8<sup>th</sup> grade reading scores have also improved and are higher than the national average (Kentucky's NAEP Scores, 2011). Kentucky student performance on the ACT has remained below the national average and has been unchanged for the last several years (2010 Public School, 2010).

Through "Learning Forward," part of Kentucky's *Transforming Professional Learning to Prepare College- and Career-Ready Students: Implementing the Common Core initiative* (2013), Kentucky has engaged in a statewide infrastructure to support educator effectiveness in collaboration with the Kentucky Department of Education, Commissioner [Anonymous] and leading state agency personnel. An exciting next step in the education reform related to the Common Core Standards is the development of a state professional learning system where "all components are clearly articulated and integrated into policies and practices across all functions of the

department of education where professional learning occurs (Learning Forward, Gates Foundation, MetLife Foundation, & Sandler Foundation, 2013, p. 3).

The professional learning strategies and activities described in this article are reflective of the kinds of professional learning articulated in the Kentucky's new model, developed to support critical policy elements, including: vision/function of professional learning as a part of an education system; definition of professional learning to establish common understanding and practice; standards for professional learning to establish quality indicators; roles and responsibilities of stakeholders, including teachers, principals, central office, regional agencies, state agency, etc.; and resources (e.g., time, staff, technology, funding, and materials) for ensuring effective professional learning (Learning Forward, Gates Foundation, MetLife Foundation, & Sandler Foundation, 2013).

The initiatives described in this article are transferable to the new Kentucky professional learning model, in that they are (as a model system of professional learning should be) directly related to the Common Core State Standards. They ensure that the standards are used to enable teaching and learning that prepares students for college and/or careers (at all grade levels); are sustainable over time; and can be replicated in other states.

At the time of the national movement to develop Common Core Standards in mathematics and English/language arts, Kentucky college remediation rates were quite high. Only 40% of Kentucky high school students' ACT scores met college readiness expectations for reading, 16% for science, and less than 21% for college-level algebra. Kentucky legislators responded to this dismal situation with Senate Bill 1:

Whereas, the General Assembly finds the continuing high rates of high school students who require remediation at the postsecondary education level totally unacceptable and an unwarranted additional expense to the state, students, and parents who expect that completion of high school coursework should lead to successful entry and success in postsecondary education, the Council on Postsecondary Education, the Kentucky Board of Education and the Kentucky Department of Education are hereby directed to develop a unified strategy to reduce college remediation rates by at least fifty percent (50%) by 2014 from what they are in 2010 and increase the college completion rates of students enrolled in one (1) or more remedial classes by three percent (3%) from 2009-2014.

Earlier legislative attempts to improve student outcomes focused on the Kentucky Department of Education (KDOE) and high-stakes accountability for schools and districts. What makes Kentucky's current reform effort unique is the requirement to include higher education faculty in the development of new standards and to ensure that all teacher preparation faculty engage in professional development related to the standards. In addition, SB1 mandated that the Kentucky Educational Professional Standards Board (EPSB), Kentucky DOE and Kentucky CPE "coordinate information and training sessions for faculty and staff in all of the teacher preparation programs in the use of the revised academic content standards." The bill also required training in the planning of classroom instruction based on the revised standards in pre-service teacher preparation programs and teacher internships. In effect, SB1 required all the

education partners to come together to remedy the college readiness problem in Kentucky. The bill mandated adoption of new standards, development of a balanced assessment system that emphasizes the use of formative assessment, and a coordinated teacher preparation program that ensures teacher candidates understand the standards and how to use formative and summative assessment results to support student achievement.

In March 2010, Kentucky became the first state to adopt the new Common Core Standards. For the first time, the three main education boards (the Kentucky Board of Education, the CPE, and the EPSB) met together for the sole purpose of adopting the standards. The three entities collaborated to establish a statewide system of support to encourage implementation of the standards at all levels of the education system with the vision that “Every school district in the Commonwealth of Kentucky has a knowledgeable and cohesive leadership team that guides the professional learning and practice of all administrators, teachers, and staff so that every student experiences highly effective teaching, learning and assessment practices in every classroom, every day” (Leadership Networks).

Implementing the components of the legislative mandate and the new academic content standards would require significant change from all constituency groups. Kezar (2006) identified the combination of expertise through partnerships as one of the strategies for maximizing resources and identifying new solutions to problems. The greater challenge for instituting collaboration is the organizational approach of department silos within hierarchical administrative structures (Zemsky, Massy, & Wegner, 2005).

### **Senate Bill 1 Responsibilities for Teacher Educators**

Collaboration leverages one of the most valuable resources available to any institution or entity by coordinating specialized expertise and knowledgeable personnel. Given the lack of sufficient supporting data to demonstrate the implementation of such a strategy, institutions of higher education in Kentucky were directed to collaborate with elementary, secondary, and postsecondary education institutions, as well as with state agencies and other educational partners, to help teacher educators in the state’s public and private institutions address and provide evidence to state agencies and legislators in the following areas:

- Disseminate content standards to teacher preparation programs.
- Provide statewide training for teacher preparation on integration of standards instruction, assessments, and improvement of student higher order thinking and communication skills.
- Build expertise in deconstructing the standards so that teacher candidates have strong grounding in mathematics, literacy, and literacy across the content areas.
- Analyze current requirements at the pre-service teacher level to identify weaknesses in writing instruction and consider how skills to improve writing should best be taught to teachers.
- Understand Kentucky Department of Education’s Characteristics of Highly Effective Teaching and Learning (HETL) and their practical applications. HETL includes characteristics that are common to all content areas: learning climate; classroom assessment and evaluation; instructional rigor and student engagement; instructional relevance; and knowledge of content.
- Work to develop teacher education course syllabi to engage teacher

candidates in learning Senate Bill 1 elements, alignment of standards and objectives, program reviews, classroom assessment, and the new state accountability assessment system for P-12 schools and students.

- Prepare teacher candidates to translate the standards into clear learning outcomes/targets to facilitate designing high-quality, formative, interim, and summative assessments to meet outcomes/targets.
- Collaborate to share models of high-quality instruction, including with P-12 partners at the cooperative, district, and school levels.
- Prepare teacher candidates to produce ongoing diagnostic assessment systems to improve student achievement and to meet the needs of individual instruction.
- Provide training to integrate standards in instruction, assessments, and improvement of student higher-order thinking/communication skills.
- Provide teacher candidates with classroom, field, and clinical experiences that focus on rigorous and congruent high-quality learning experiences to engage P-12 students.
- Integrate and model research-based and effective assessment practices in teacher preparation programs to help teacher candidates assess the learning of their diverse student populations.
- Prepare teacher candidates to understand, implement, and be able to communicate about an assessment system that uses multiple measures and formative assessment and to be knowledgeable about how the system leads to student achievement on summative assessments.
- Coach and prepare teacher candidates to use clear, reliable, and valid

communication skills with stakeholders regarding student performance.

- Implement new state agency Program Review Document (PRD) requirements and Kentucky Teacher Internship Program (KTIP) elements and tasks in teacher education program course syllabi, field and clinical experiences, and the unit's assessment system for accreditation evidence.

### **Content Leadership Networks**

To foster collaboration between institutions of higher learning and K-12 schools, Kentucky put in place a comprehensive support system at the state, district, school, and university levels that includes a regional infrastructure based in the eight regional education cooperatives. Each cooperative is provided with a mathematics and an English/language arts content specialist who worked with Kentucky DOE-based consultants to plan Content Leadership Network (CLN) sessions focused on the Kentucky Core Academic Standards (KCAS), assessment literacy, and characteristics of highly effective teaching and learning. Each regional network includes at least three teacher leaders (elementary, middle, and high) from each district. Some districts have opted to include additional special education teachers. The first year of network meetings focused on understanding and deconstructing the new standards. In the second year, the focus was on developing instructional plans to implement the new standards. The Kentucky DOE also provided resources to the regional cooperatives to support higher education faculty in facilitating and participating in the networks.

Two university faculty members from both mathematics and English/language arts served as members of the Content Leadership Network (CLN)

facilitation team. In addition, faculty members from the College of Education and the College of Arts and Sciences attended as network participants. Involving higher education faculty members ensures that university faculty members have deep understanding of the content and expectations of the new standards and familiarity with the state's implementation strategies.

CPE has also supported this work with grants to each of the state's public universities and to a consortium of independent Kentucky colleges. The University of Louisville used the grant funds to provide professional development on the new standards and SB1 and to support the alignment of introductory mathematics and English courses to the new standards. Perhaps the most promising grant activity has been the establishment of Faculty Learning Communities that include university faculty and high school teachers so that each can better understand the content of the standards and the level of rigor required for college success.

In addition to the CLN, Kentucky DOE established regional Instructional Support Leadership Networks (ISLN) focused on curriculum, which include principals and district-level leadership such as superintendents and assistant superintendents (see Fig. 1). These district and teacher leaders work together to establish a district plan to ensure that all teachers receive professional development on the content and implementation of the standards.

The statewide system has strengthened many existing partnerships and encouraged new ones. The University of Louisville and the Kentucky Valley Education Cooperative have worked together for many years to ensure that teacher candidates are placed in highly

effective classrooms and on school and district leadership development. The CLN collaboration has strengthened this partnership. Facilitators from the leadership networks share information about standards implementation at meetings of KVEC's Organization of Principals, Instructional Coaches Network, and Guidance Counselor Network and with the leadership of KVEC's Teaching American History Grant and CATALYST Grant for Library Media Specialists. A member of KVEC's Supervisors Organization serves as a facilitator on the Math network. The involvement of higher education faculty in the work of implementing the content and expectations of the new standards has strengthened pre-service teacher education, and all involved have benefited from the knowledge gained from the collaboration.

A new partnership established with the networks is the collaboration of the Kentucky DOE and the Bill and Melinda Gates Foundation (BMGF). The foundation has provided Kentucky DOE with resources to support this work and an instructional framework for both mathematics (Formative Assessment Lessons) and English/language arts (Literacy Design Collaborative).

Following is a description of the work of two regional Instructional Support Leadership Networks, the Mathematics Leadership Network and the English Language Arts Leadership Network.

### **The Mathematics Leadership Network**

The KVEC Mathematics Leadership Network (MLN) facilitation team consisted of representatives from higher education, K-12 administration, and the state department of education. The team varied in expertise, as noted in Table 1. KVEC MLN participants represented 15 school districts in the KVEC region and the University of Louisville. Each district selected three



participants (teachers, instructional coaches, or district personnel) to represent each grade band (K-5, 6-8, 9-12). Additional representation was allowed for the largest district in the state and districts that wanted to send participants with expertise in special education. At the university level, mathematics educators and mathematicians representing each grade band participated.

Facilitators designed MLN professional development around the four following principles of effective professional development outlined by Guskey (2000, p. 36-38).

- *A clear focus on learning and learners.* Year 1 of the MLN focused on supporting participants as learners of new content (e.g., Common Core State Standards for Mathematical Content and Standards for Mathematical Practices [CCSS-M]). During Year 2, the focus shifted to students as learners by supporting participants in implementing CCSS-M in their classrooms. The final year of the MLN focused on participants supporting non-network teachers in their districts as learners of CCSS-M.
- *An emphasis on individual and organizational change.* By design, the participant structure (three participants from each district at each grade band) supported individual change in Year 1. The beginnings of organizational change occurred in Year 2 as MLN participants provided district leadership to support implementation of CCSS-M. Further individual and organizational change, the details of which were determined by contextual factors, constituted the focus of Year 3.
- *Small changes guided by a grand vision.* The vision for the MLN was for building capacity within districts for effective implementation of the CCSS-M. Over the course of three years, participants

focused on a variety of smaller changes to support this overall vision.

- *Ongoing professional development that is procedurally embedded.* Participating districts were encouraged to make a three-year commitment to the MLN. In Years 1 and 2, participants met for two days in the summer and six full-day meetings during the school year. In Year 3, the meetings shifted to one day in the summer and four full-day meetings during the school year. Over the three years of the MLN, the Kentucky DOE mathematics specialist spent time in schools providing job-embedded professional development to enhance MLN participants' practices in alignment with network goals.

The main MLN curriculum focus was CCSS-M, but KDOE purposefully incorporated additional content and practices to support the foundational belief that good teaching, not new standards, would lead to improved student achievement (Wagner, 2003). In conjunction with CCSS-M, mathematics content networks across the state focused on assessment literacy, best teaching practices, and building participants' leadership skills. By the time the MLN disbanded, activities were used to strengthen connections among the four foci.

**Common Core State Standards for Math (CCSS-M).** Participants began Year 1 by examining content explicitly stated in CCSS-M. Participants held grade band discussions to identify prerequisite content implicit in CCSS-M for their own grade, which resulted in the creation of student-friendly learning targets for lesson and assessment design. Through the process of creating these targets, participants identified grade-level content gaps between Kentucky's existing standards and CCSS-M as Kentucky transitioned to CCSS-M across K-12 in one school year. During Year 2,

participants focused on the big ideas of CCSS-M in their particular grade band. They brought examples of tasks and assessments representing these big ideas to gather input about the alignment of these resources to the content from network colleagues. Through identifying learning targets, analyzing content gaps, and examining tasks and assessments, teachers realized they would teach content they had never before taught and acknowledged the challenges accompanying this transition.

The second major focus of the CCSS-M curriculum was the standards for mathematical practice. Participants spent a great deal of time in Year 1 unpacking the practices to understand what they meant for participants' respective grade levels. During Year 2, participants implemented lessons that explicitly engaged students with mathematical practices.

The Kentucky DOE organized their synthesis of research literature on effective teaching into five components of Highly Effective Teaching and Learning (HETL): learning climate, classroom assessment and reflection, instructional rigor and student engagement, instructional relevance, and teachers' knowledge of content (Kentucky DOE, n.d.). Because participants' implementation of CCSS-M occurred during Year 2, attention to HETL was accomplished through modeling and introduction of the constructs in Year 1 and explicit focus during Year 2. Facilitators introduced the Mathematics Tasks Framework (Stein, Smith, Henningsen, & Silver, 2000) as a tool for assessing the cognitive demand of tasks. Participants' maintenance of the cognitive demand of tasks and orchestrations of meaningful classroom discourse were supported through engagement with the five practices of anticipating student responses to tasks, monitoring students' responses during

implementation of the tasks, selecting student work for sharing, sequencing responses in an intentional order, and connecting the various responses to each other and to important mathematics (Smith & Stein, 2011). MLN meetings focused largely on formative assessment and, in particular, ways to provide feedback to students, using Stiggins and colleagues (2006) to provide common statewide assessment literacy language.

With the support of the facilitation team, participants planned and presented MLN breakout sessions featuring some of the ways they were implementing MLN curriculum in their classrooms and schools. A milestone in developing participants' presentation skills was the design and facilitation of a showcase at the end of Year 2, during which participants presented one significant change in their practice to regional and state education leaders. Over the course of three years, inter-district conversations at MLN meetings and intra-district conversations between participants and their local leaders shaped how each network participant would utilize the MLN curriculum to meet their districts' needs. Year 3 focused on supporting sustainable leadership practices, shifting the focus from preparing participants to implement school and district improvements to establishing structures that could continue refining the implementation of these improvements.

Throughout the first two years of the MLN, participants were tasked with synthesizing considerable information about content and practice and incorporating novel strategies into their teaching practices. To help participants visualize and develop cohesive practices that incorporated CCSS-M, characteristics of HETL, and effective assessment, participants engaged in unifying learning activities on the use of Formative Assessment Lessons (FALs) (MARS, 2012).

FALs are focused on rich tasks of high cognitive demand that highlight important mathematics content from CCSS-M. On the day prior to the FAL, teachers formatively assess students' individual FAL responses to identify common issues and to generate task-specific questions and prompts as feedback. On the day of the FAL, students address the teacher's feedback, and work in small groups to compare and contrast solutions and then are provided student work that intentionally offers multiple solution paths. Whole class discussion on the student work follows so that students can make connections between their individual responses and those of others. MLN participants first experienced a FAL as learners before deciding upon a FAL to implement in their classrooms. In a network meeting subsequent to implementing a FAL, participants brought copies of students' work on the pre- and post-assessments, their feedback to students, and any artifacts used to orchestrate the discussion during implementation of the task. Participants formatively assessed their implementation of the FALs and received peer feedback to further refine their teaching practices.

**Impact/Outcomes.** Over the three-year span of the MLN, participants had many opportunities to self-assess and provide feedback to facilitators on the usefulness of the content to classroom teachers and district leaders. The facilitation team used formative assessment data to plan future MLN meetings and shared data analyses with district leadership along with suggested next steps, particularly if participants indicated they valued particular content but did not necessarily feel comfortable with that content. Overall, participants were very positive when describing the impact of participating in the MLN:

*“Participating in the [MLN] has*

*reinforced my understanding that effective teachers are continuously growing in their craft. There is always more we can do to help all students reach their mathematics potential.”*

*“The formative assessment lessons that we have worked on through the network have caused me to look at my instruction in a new way. Instead of just looking for right and wrong answers on students' papers I now take the time to analyze the procedures that were used and focus on what may have caused a wrong answer. Sharing student work and having students analyze one another's problem solving strategies has created higher-level thinking within the classroom.”*

Soon after the beginning of Year 2, ongoing analysis of formative evaluation data indicated that additional methods would be needed to gather valid and reliable data in determining the effectiveness of the MLN. In response, KVEC leadership and the mathematics specialist designed the Leverage Project, which would provide opportunity for the specialist to intensively coach a small cadre of network participants in developing their capacities to implement components of HETL. In the future, this cadre of Leverage Teachers would become the fulcrums by which KVEC educators could lever some of the complex practices comprising the MLN curriculum.

Members of the first Leverage Project were beginning to leverage their capacities throughout their schools by the end of Year 2. Additionally, all Leverage Teachers were given a platform to share their professional growth with KVEC educators during a summer showcase

between Years 2 and 3 in an attempt to increase the chances that these Leverage Teachers would become recognized leaders within the region. With the beginning of Year 3 a new cadre formed, while the original Leverage Teachers worked to scale their expertise throughout their school and district. The new cadre also included principals to enhance their abilities in supporting their mathematics teachers' professional development. When the MLN disbanded there were two cadres of Leverage Teachers and one cadre of Leverage Principals capable of assisting the region in various professional development efforts.

### **The English Language Arts Leadership Network**

The KVEC English Language Arts Leadership Network (ELA LN) consisted of representatives from higher education, K-12 administration, and the state department of education and varied in expertise (see Table 2). Participants represented 15 school districts in the KVEC region and the University of Louisville. Each district selected three participants (teachers, instructional coaches, or district personnel) to represent each grade band (K-5, 6-8, 9-12). Additional representation was allowed for the largest district in the state and districts that wanted to send participants with expertise in special education. At the university level, literacy educators and a professor from the College of Arts and Science's Department of English participated. The ELA LN facilitators designed the ELA LN professional development with the same content and approach as the MLN.

### **Common Core State Standards for English/Language Arts (CCSS-ELA).**

Years 1 and 2 focused on learning and learners (utilizing the HETL Framework)

and supported participants in implementing the CCSS-ELA in their classrooms, scaffolding individual change to lead to organizational change, and developing teacher leaders to build district capacity around the CCSS-ELA. In conjunction, English Language Arts content networks across the state focused on assessment literacy, best teaching practices, and building participants' leadership skills. In Year 3, the ELA LN shifted from preparing participants to implement school and district improvements to establishing sustainable leadership structures that could continue refining implementation of these improvements. The ELA specialist provided support for deep implementation of the CCSS-ELA through ongoing professional development on content knowledge and/or strategy.

Years 2 and 3 of the ELA LN focused on Standards implementation, using the Literacy Design Collaborative framework (funded by the Bill and Melinda Gates Foundation) (LDC, 2012a). To aid fellow educators in preparing students to meet the rigorous expectations of the new Common Core State Standards for Literacy in English Language Art, History/Social Studies, Science, and Technical Subjects, the network teachers and other LDC partners developed LDC tasks, modules, and courses designed to teach students to meet Common Core literacy standards while engaging in demanding content. The modules (units of study) answer four questions: what task should students do, what skills do students need to master the standards, what instruction do I need to provide, and what is the expectation or how will I

assess student work? The modules include teacher- or student-selected engaging texts and are often organized around a question that students explore to write a formal piece that demonstrates their understanding of an issue and their ability to use evidence from the readings as support.

**Impact/Outcomes.** Paralleling the MLN, the ELA LN participants had many opportunities to self-assess and provide feedback to facilitators during the three-year span of the professional development. Three significant themes emerged from the feedback. First, ELA LN meetings were perceived to contribute to the understanding of the CCSS-ELA. Participants noted the gradual, deliberate, and intentional deconstruction of the standards as a helpful way to understand what is expected of the grade levels below and above the grade they were teaching. This deconstruction was also perceived to reduce anxiety around the implementation of new standards. Second, participants reported that LN meetings contributed to their understanding of assessment practices and the link between instruction and assessment. Finally, the work within the LN was perceived by many to have increased their leadership responsibilities within their school/district. Participants had been asked to lead professional development around the CCSS-ELA for their team, department, school, or district. For many, this new role reportedly served as a catalyst for them to engage in sharing, collaborating, and the coaching of colleagues around the new standards, assessment practices, and a deeper understanding of reading and writing. Below are comments by ELA-LN participants:

*“...the work in this Network has truly deepened my understanding in*

*all aspects, especially the 3 writing modes and the role formative assessment plays in boosting student achievement.”*

*“I am seen as more of a teacher leader and have worked more with our administration and other teachers.”*

## Conclusion

Teachers are integral to the success of any educational reform, and they must be empowered to make instructional decisions, to use and infuse new technologies, to use data from formative and summative assessments to make informed decisions, and to lead communications in vertical and horizontal teams related to professional learning and the transfer of learning to practice. They must be engaged in professional learning communities and have the support of highly competent superintendents and principals to support and track implementation of professional learning and student achievement. Furthermore, the Learning Forward (2013) initiative in Kentucky advocates that elements of a comprehensive system of professional learning must be reflected in state legislation and state school board regulation, including: vision; definition; standards of professional learning; evaluation; roles and responsibilities; and resource. Additionally, constituency groups from across agencies, departments, schools, universities, and other appropriate entities must be aligned with a coherent policy framework to adopt and implement more effective and sustainable approaches to professional learning.

In this article, we described the efforts in Kentucky to employ a collaborative model to implement a state legislative mandate and the common core standards. The model included a partnership

among a university, K-12 schools, and a state department of education. The collaboration was born out of necessity and a commitment to meet the requirements of legislated mandates for changes in measurable educational outcomes for K-12 students. This partnership and its various components also enticed collaboration among IHEs to provide professional development to inform teachers, state agency personnel, and university faculty about legislated mandates for K-16 education reform.

The leaders and participants in the collaborative model described in this article stand ready to focus on the individual and collective effectiveness of educators to move from legislation to collaborative implementation of the Common Core Standards in Kentucky's schools. Some key lessons from the collaborative model described in this article include:

- Multiple partners (the state department of education, P-12 administrators, teachers, and university faculty) are essential to statewide efforts to reform K-16 education through adoption and implementation of the Common Core Standards.
- There is a need for systematic forums in which diverse stakeholders who are engaged in state-wide initiatives related to the adoption of the Common Core Standards can share and reflect upon their implementation models, results, outcomes, and recommendations for the future.
- Academic success for all students requires teachers' deep understanding of the Common Core Standards and their outcomes related to student growth and achievement. Professional learning is at the heart

of deep understanding and change in the classroom practices of teachers.

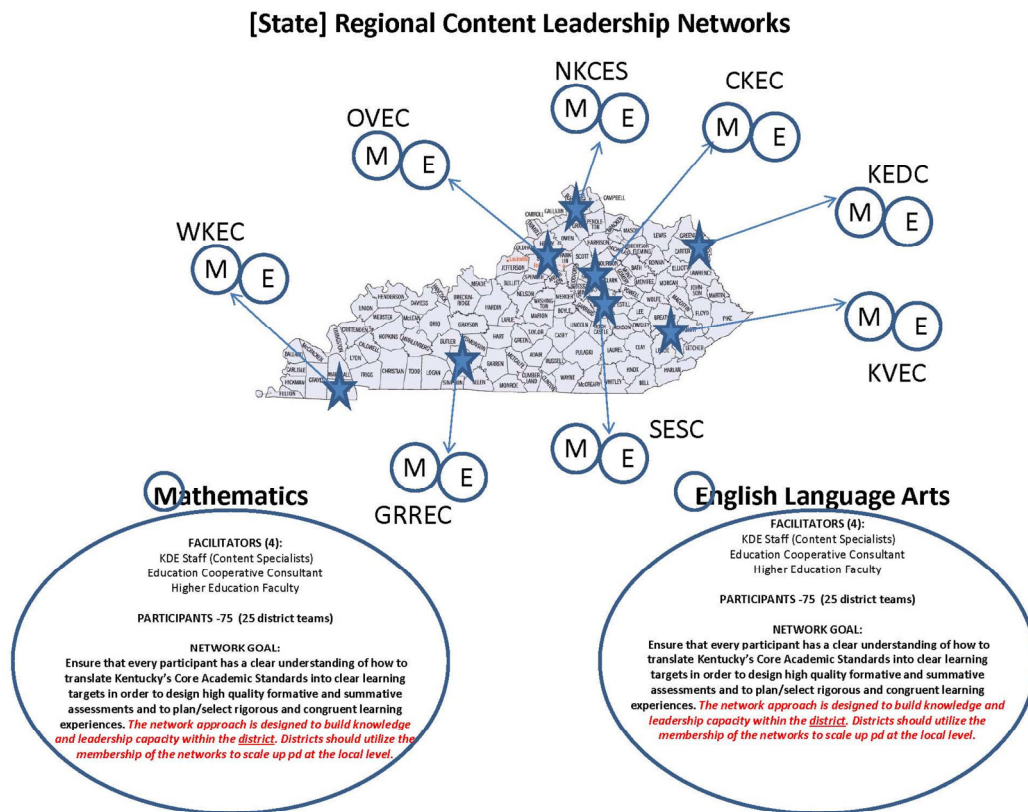
- The reform of the Common Core Standards adoption includes an urgent need for careful attention and responses to changes in accountability, standards implementation, teacher evaluation, assessment, and teachers' professional learning.
- Sustainable models for collaboration, strategies, and activities related to implementation of the Common Core Standards and teachers' learning can only be ensured through authentic, systemic, and policy- and practice-related structures, including adequate resources (e.g., funding, time), administrator support and leadership, and collaborating partners' investment.
- Collaborative models to support implementation of the Common Core Standards across a state and within districts and schools requires "shared vision, collaborative effort, and distributed leadership," as well as the intelligent uses and applications of new technology that "increases efficiency, effectiveness, and equitable access to professional learning and instruction supports for increased educator effectiveness and student learning" (Learning Forward, Gates Foundation, MetLife Foundation, & Sandler Foundation, 2013).

The fortuitous opportunity to design and implement an "experiment shaped in context" regarding collaboration to reform K-16 education suggests that the details and incentives are the crux for leveraging success as a true system of educational collaboration is built (Christensen & Eyring, 2011). We acknowledge the need for data

collection on the success of the collaboration and professional development model in terms of measurable outcomes (e.g., academic achievement of students, teacher efficacy, curriculum reform, etc.). We anticipate future research in this area based

on multiple data sets as these are further organized. We are grateful for the opportunity to receive feedback from knowledgeable and interested parties on our preliminary implementation model of professional development.

**Figure 1. Kentucky Regional Content Leadership Networks**





**Table 1. Mathematics Leadership Network Facilitation Team**

<b>Partner</b>	<b>Position</b>	<b>Relevant Experiences</b>
[State] Department of Education	Mathematics Specialist (field-based)	6-12 mathematics teacher & PD provider; mathematics coaching
[State] Department of Education	Elementary Mathematics Consultant	K-5 mathematics teacher & PD provider
[County name] County Public Schools	Assistant Superintendent	K-12 mathematics teacher & PD provider
[University]	Professor of Mathematics Education	7-12 mathematics teacher; K-12 PD provider; research related to teacher knowledge and assessment
[University]	Associate Professor of Mathematics Education	6-8 mathematics teacher; K-8 mathematics PD provider; research in coaching

**Table 2. English Language Arts Leadership Network Facilitation Team**

<b>Partner</b>	<b>Position</b>	<b>Relevant Experiences</b>
[State] Department of Education	English/Language Arts Content Specialist (field-based)	Elementary school teacher, district instructional coach, [City] Writing Project (LWP) co-director, literacy consultant, PD provider
[State] Department of Education	Literacy Consultant	Middle school language arts teacher, instructional resource teacher, PD provider, LWP facilitator
[County name] County Public Schools	Instructional Coach	K-5 teacher & PD provider
[University]	Liaison for Partnerships	High school English teacher, district and state writing consultant, [City] Writing Project co-director, writing portfolio consultant, associate commissioner in the Office of Teaching and Learning at [state DOE]
[University]	Director of [City] Writing Project, Instructor	Writing Consultant, PD provider, former middle school language arts teacher & high school teacher
[University]	Associate Professor of Literacy Education	Elementary school teacher, national Writing Project state director, researcher, PD provider, Literacy Program Coordinator, University faculty member teaching classes for undergraduate and graduates and mentoring PhD students, Author

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