



COMPETENCY-BASED EDUCATION:



Helping All Kentucky Students Succeed

FINAL REPORT / JANUARY 2013



EXECUTIVE SUMMARY

In May 2012, the Kentucky Department of Education (KDE) was awarded a technical assistance grant on “Awarding Credit to Support Student Learning” by the National Governor’s Association (NGA). The purpose of the grant was to provide support for the exploration of educational policies and practices related to the awarding of credit based on competency or mastery of a subject rather than for “seat time.”

Per the requirements of the grant, a state leadership team gathered information on competency-based education systems; the specially formed team planned and executed a statewide summit to expand the conversation to a broader audience. The summit was held on October 30, 2012 at a competency-based high school in Scott County.

NGA provided the leadership team with a communications consultant to assist in the development of informational materials, including this publication. The consultant also conducted phone interviews with a sample group of teachers, parents, students, school board members and business/industry representatives in an effort to gauge the public level of awareness and knowledge of competency-based education. These interviews similarly contributed to the development of the information contained in this booklet.

Kentucky is a member of the Innovation Lab Network (ILN), a group of states brought together by the Council of Chief State School Officers (CCSSO), to identify, test and implement student-centered approaches to learning that will transform

“It takes a shift in culture and thinking about how to educate kids for today... anywhere, anytime.”

More than 150 participants from K-12 and post-secondary education, the business community and out-of-school programs heard presentations from national experts and local leaders. The overview of competency-based education and the glossary contained in this booklet were provided to all participants at the summit. The frequently asked questions have been developed as a result of the conversations that took place at the summit and within the leadership team.



DURING THE ROUNDTABLE DISCUSSIONS AT THE SUMMIT, PARTICIPANTS OFFERED THE FOLLOWING COMMENTS:

- Student voice is crucial in planning competency-/mastery-based programs.
- There is a need for more effective communication between the education community and business community to determine what students need to know and be able to do to be successful in the workforce.
- Resources need to be restructured to support individual learning.
- Competency-based systems need multiple types of assessments with multiple purposes.
- Seat time requirements and funding formulas need to change so that learning can be experienced anywhere.
- Competency-based learning is more open to interdisciplinary learning and focuses more on problem solving and critical thinking than traditional “sit and get” learning.
- Moving to a competency-based system will require a massive educational process involving parents, teachers, district personnel, community and business leaders, and students.
- Kentucky needs to rethink its standards and course expectations to move away from rote memory and incorporate essential skills.
- Connections need to be made to summer learning camps, internships and apprenticeships, and other extended learning opportunities that can lead to awarding credit for mastery of subject matter.
- Competencies must be defined and assessments will follow.
- The role of teachers needs to be re-defined and teacher credentialing needs to be revised to reflect the new normal.
- Certified and classified staff at the district and school level must be involved in the designing of a competency-based system; this cannot be a top-down process.
- There needs to be a reassessment of the connection between money and learning.
- Teacher preparation programs must train future educators to collaborate and to direct and facilitate project-based learning.
- Students must be provided opportunities to take ownership of their learning.
- The assessment system is providing the wrong incentives for students.

the public education system. The ILN is exploring the issue of personalized learning and mastery education and is facilitating this conversation among states. The Mott Foundation, which funded the NGA technical assistance grant, is focusing on competency-based learning through extended learning provided in after-school and out-of-school programs.

The U.S. Department of Education has also shifted its focus to personalized learning and recently awarded 16 Race to The Top-District Competition Grants to develop or expand personalized learning systems. The Green River Regional Education Cooperative in partnership with the Ohio Valley Education Cooperative and 22 districts was awarded one of the grants and will spend the next four years establishing a sustainable personalized learning environment in those 22 districts. Competency-based learning is a key component of this work and is incorporated in a broad professional learning network of teachers, instructional specialists and administrators.

Kentucky will establish an Education Design Team to continue to explore competency-based education systems in the United States and around the globe and apply their findings to policy recommendations and statute or regulation revisions to assist districts in their efforts to move to a mastery system. The conversation has just begun.



INTRODUCTION

COMPETENCY-BASED EDUCATION: HELPING ALL KENTUCKY STUDENTS SUCCEED

The Commonwealth of Kentucky is exploring competency-based education as a way to better prepare students for success in college and their careers. Some individual schools and districts are moving ahead with this innovative approach where achievement is the constant and time is the variable. Not all students learn at the same rate, or in the same way, so flexible models that adjust to the needs of students can help more students succeed.

Discussions about competency-based education include two key terms, competency-based and personalized learning. Competency-based learning identifies specific and measurable

individual student goals, assess progress and ensure that students receive the academic and developmental supports they need.²

EXAMPLES IN KENTUCKY

Competency-based education often capitalizes on technology to help pace instruction to individual student needs. At East Jessamine High School and in the Taylor County Public Schools, each student is given an iPad that they can take home to learn the content. Teachers video their own lessons that students review at home at their own pace. In the classroom, students do their “homework,” while teachers circulate and help them wherever they

“Simply going through the motions of school, getting by with “C” and “D” grades, moving ahead to the next grade level after nine months of school, is no longer an option for students.”

learning objectives that students must master before moving ahead. Assessment is meaningful and leads to a positive learning experience. Competency means not only learning content, but also the ability to apply that content to solve problems or communicate about it.¹ Personalized learning creates a data-driven framework to set

are in the learning process. Taylor County schools are using this method K-12; more than 200 elementary students are earning middle school credit and more than 750 high school credits are being earned in the middle school.

Another more widely-used type of competency-

WHY TAKE THE CBE APPROACH NOW?

Traditional education does not meet the needs of many Kentucky students. Those who drop out or fall behind may never reach their full potential as adults. Others who graduate from high school are not prepared for college-level courses or careers. Innovative approaches are required to meet the needs of these students. Simply going through the motions of school, getting by with “C” and “D” grades and moving ahead to the next grade level after nine months of school is no longer an option for students.

Graduates today must be able to demonstrate critical thinking and problem solving skills in order to be college and career ready. Students can no longer advance through the education system simply by showing up for class for a specified number of days and earning a minimum grade. Our society and our economy demand more.

The Common Core State Standards provide an opportunity to think in terms of competencies, rather than the time-based Carnegie unit. The Common Core State Standards in English/Language arts and mathematics are internationally benchmarked against the standards of highest performing nations. In fact, Finland already uses a competency-based approach, using data that measures whether students are learning at high levels.³

based education is to assist students with credit recovery. A student who has to retake geometry would only need to master the units that he failed, not the entire course. Students retaking geometry are not bound by time, but by the competencies they must demonstrate.

Jefferson County Public Schools have used personalized learning to address the individual learning styles of students at some of their highest need schools. Grant funds enabled Jefferson County to set up Saturday school and pay for buses that allowed students to receive



³ Cracking the Code.

help before or after school. During the school day, resource teachers provide interventions either in the classroom or as a pullout according to the intensity of need of each student.

These approaches benefit more than struggling students. Bright students can move ahead, completing course work faster than otherwise possible. Many students now take college-level courses in high school, earning dual credits at a cost to parents below college tuition rates.

WHAT ARE SOME OF THE CHALLENGES?

This is a new paradigm that some find difficult to accept. For example, some teachers may balk at the idea of letting students retake a test until they show proficiency. As one administrator points out, in society, people are allowed to retake most exams - such as the driving test - until they pass it.

The role of the teacher will evolve from a stand-and-deliver model to one of coaching, mentoring, facilitating and collaborating with students.

Teacher preparation programs will need to adapt to the new teaching and learning environment. Certifications may need to be revised. Kentucky is one of twenty-five states working with the Council of Chief State School Officers (CCSSO) to take action to update their systems of teacher preparation and licensing. In December 2012, the CCSSO Task Force on Educator Preparation and Entry into the Profession issued a report, *Our Responsibility, Our Promise*, which outlines steps states can take to update their programs and ensure that “teachers are ready on day one of their careers to model and develop in students the knowledge and skills they need to succeed today including the ability to think critically and creatively, to apply content to solving real-world problems, to be literate across the curriculum, to collaborate and work in teams, and to take ownership of their own continuous learning.”⁴

The process of moving to a competency-based system requires developing course competencies, mapping the competencies to the discipline, school and district and designing units using a competency framework. Assessment literacy is critical as a well-designed unit will meet the criteria for learning at deep levels of understanding. “Secondary teacher assessment literacy may be weak,” according to Rose Colby, author of *Off the Clock – Moving Education from Time to Competency*.

Another challenge is developing authentic assessments to measure the skills required.

This is not a skill teachers learn in college, but they can be taught how to develop those assessments to measure milestones along the way to mastery.



Funding becomes another challenge.

Most education funds are allocated on a “seat-time” basis where average daily attendance counts in the computation of dollars. Funding formulas would have to be revised to accommodate a system where “seat-time” is not the determining factor for learning. This becomes an issue for the legislature, the Kentucky Board of Education, local school boards and school-based decision making councils.

Many parents are not familiar with the concept of competency-based grading and are concerned about whether universities will accept these new credits. Parents want letter grades because they are familiar. Changing from a traditional grading practice to a competency-based (also labeled as standards-based)



“Assessment literacy is critical as a well-designed unit will meet the criteria for learning at deep levels of understanding.”

system will provide more reliable information that measures all students fairly on comparable scales. Standards-based reporting more accurately shows parents and students specific areas of proficiency as well as areas needing improvement, which can then be targeted for additional help.

Another challenge is that the ACT exam, which is used to determine mastery of some parts of the core curriculum, measures a subset of the standards - not all those that students need to master. One Kentucky educator pointed out that policymakers are often focused on specific content, such as facts in social studies. The real world requires students to know how to make decisions and solve problems in a context that is different from discrete facts. Addressing this weakness could include broadening and lowering the stakes on assessments so that teachers and students do not focus excessively on high-stakes ACT exams that may not measure the

higher ordered skills that students need to succeed as adults.

In many competency-based systems, an institutionalized advisory process functions as the primary support mechanism for student decision making and overall progress. “Teachers and administrators in these schools feel that the advisory system is a critical ingredient in their success. While advisory systems are demanding and often challenging most teachers wholeheartedly agree that the benefits of the advisory system outweigh the costs.”⁵

The work of the National Governor’s Association, the Council of Chief State School Officers, Nellie Mae Foundation, Charles Stewart Mott Foundation, and the U.S. Department of Education will continue to move education in the direction of personalized learning. Competency-based education is a key component of this work.

⁵ Priest, N., Rudenstine, A., Weisstein, E., and Gerwin, C. (2012) *Making Mastery Work: A Close-Up View of Competency Education*. Quincy, Massachusetts: Nellie Mae Education Foundation

Competency-based education is a method that focuses on mastering specific skills or standards rather than completing course work over a specific period of time.

- It offers opportunities for all students, not just the advanced and those who are struggling.
- It is student-centered.
- Students can work on specific skills or knowledge until they can demonstrate their understanding and ability to apply them.



TALKING POINTS¹

Traditional classrooms are not meeting the needs of all students.

- Some students take more time to master concepts and skills.
- Personalized learning takes different learning styles into account by providing different avenues to learn the same content.
- Students who fail and repeat courses often drop out.
- Students need to have authentic opportunities to lead, make decisions, manage their own learning and facilitate the learning of others.

This approach can motivate passive students who do not learn well in traditional classrooms because they do not see the curriculum as relevant to their needs.

- Bright students can move ahead and not be bored.
- Students can earn college credit while still in high school.
- Students learn how to learn, a skill they need throughout life.
- It helps teachers be successful with more students.
- Focusing on standards and skills sets priorities for instruction.
- Successful students become productive members of society.
- Teachers become skilled at facilitating differentiated learning environments which benefits all students.

Giving students more support requires resources.

- Successful programs have included Saturday school and sessions before and after school.
- Teachers need training to create authentic assessments. Guidance counselors need professional development to help students explore their options.
- Educators must think in innovative ways to design programs that meet student needs.
- This approach works best when teachers, parents and students collaborate for learning.

Standards-based tests can have the unintended consequence of narrowing the focus to memorizing facts, rather than measuring higher order thinking skills.

- Use of lower-stakes formative assessments will more accurately diagnose student progress.
- A variety of assessments can measure problem-solving and other higher ordered skills that are more difficult to evaluate on standardized tests.
- “It is a challenge to find published curricula that fit the specific needs of competency education. Teachers and students in schools that use competency-based approaches explicitly engage in activities designed to clarify and demystify both the learning targets themselves and student progress towards their mastery.”²

Competency-based systems rely on sophisticated and robust data systems.

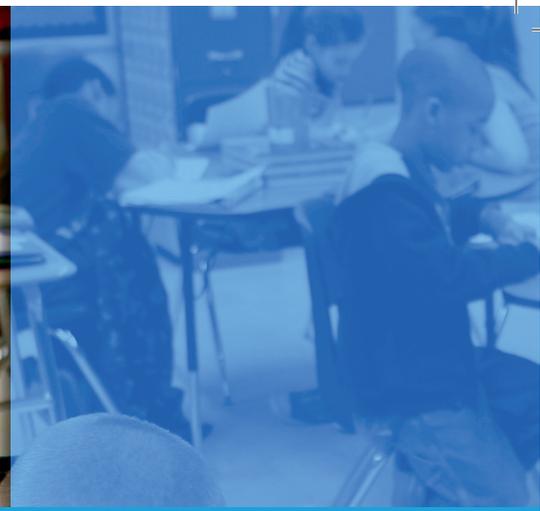
- Data systems need to link the architecture of two information systems: a student information system of data that supports principals, teachers and students and a learning management system that maintains curricula, standards and competencies.³
- The use of technology to manage data around individualized student learning is critical to managing the processes, learning objectives, assessment models, rubrics, and performance data in a competency-based education system.

Competency-based systems will also require more deliberate engagement and reward for organizations or people outside the classroom who contribute to the student’s progress.

- After school programs can be expanded to provide authentic hands-on learning environments where students can practice their skills in real-world settings.
- Businesses can partner with schools to target critical skills sought by employers and then assist in the creation of programs to help students acquire and apply those skills.

² Priest, N., Rudenstine, A., Weisstein, E., and Gerwin, C. (2012) *Making Mastery Work: A Close-Up View of Competency Education*. Quincy, Massachusetts: Nellie Mae Education Foundation

³ Sturgis, C., Patrick, S., (2010) *Why Success Is the Only Option: Designing Competency-based Pathways for next Generation Learning*. Vienna, Virginia: International Association for K-12 Online Learning



FREQUENTLY ASKED QUESTIONS

What is competency-based education (CBE)?

It is a student-centered method of teaching and learning that focuses on mastering specific skills or standards rather than completing course work over a specific period of time. In competency-based education systems, students continue to work on specific skills or knowledge until they can demonstrate their understanding and the ability to apply them. One distinguishing characteristic is that CBE strives to ensure that students can apply the skill and thinking process to other endeavors/subjects. Competency-based education requires a high degree of critical thinking, problem solving and personal responsibility on the part of the student, all key attributes sought after by employers. In a competency-based system, students receive rapid, differentiated support.

Why is the Commonwealth of Kentucky interested in encouraging competency-based education efforts?

Education experts across the country have provided research-based evidence that traditional classrooms are not meeting the needs of all students. Competency-based education provides greater flexibility for teachers to deliver content to address the learning styles of all students and provides ways in which districts can more efficiently maximize resources to meet the needs of individual students. Keeping achievement standards constant while varying the instructional time or learning mode can help teachers to be successful with more students. Students need to be provided high-quality learning experiences from a diverse menu of learning platforms that are flexible and adaptive and offer problem-based learning and the application of essential skills, which will ensure that all students are successfully prepared for college and work.

How does the U.S. Department of Education view competency-based education?

Transitioning away from seat time, in favor of a structure that creates flexibility, allows students to progress as they

demonstrate mastery of academic content, regardless of time, place, or pace of learning. Competency-based strategies provide flexibility in the way that credit can be earned or awarded and provide students with personalized learning opportunities. These strategies include online and blended learning, dual enrollment and early college high schools, project-based and community-based learning, and credit recovery, among others. This type of learning leads to better student engagement because the content is relevant to each student and tailored to their unique needs. It also leads to better student outcomes because the pace of learning is customized to each student.

By enabling students to master skills at their own pace, competency-based learning systems help save both time and money. Depending on the strategy pursued, competency-based systems also create multiple pathways to graduation, make better use of technology, support new staffing patterns that utilize teacher skills and interests differently, take advantage of learning opportunities outside of school hours and walls, and help identify opportunities to target interventions to meet the specific learning needs of students. Each of these presents an opportunity to achieve greater efficiency and increase productivity.¹

Kentucky has adopted the Common Core State Standards. What is the difference between a competency and a standard?

Standards represent the ‘what’ of school — what we need to know and what we need to be able to do. These standards may be identified as essential or important and may be mapped using local, state, or national frameworks. Standards identify specific content and skills students should learn to be successful in college and career. Competency is more than the acquisition of knowledge and skills. Competency implies the ability to analyze and synthesize information and transfer learning from one subject to another. There is not a one-to-one correspondence

WHAT IS THE KENTUCKY DEPARTMENT OF EDUCATION'S (KDE'S) ROLE IN ENCOURAGING OR DIRECTING COMPETENCY-BASED EDUCATION AROUND THE STATE?

KDE is part of the Innovation Lab Network (ILN), established by the Council of Chief State School Officers, that explores and implements innovative strategies in education across the Commonwealth and in the other ILN states. While Kentucky has adopted legislation that makes it possible for districts to implement a competency-based education system, KDE – working with the Education and Workforce Development Cabinet, the Kentucky Out of School Alliance and the Council of Chief State School Officers – is developing a more comprehensive approach to address policy and implementation issues and is crafting a new vision for career and technical education.

In 2012, the Kentucky Department of Education received a grant from the National Governor's Association (NGA) to explore policies and procedures for implementing a competency-based education system. The Governor appointed a state leadership team to review the issue and identify key elements for further study. The team's work culminated in a statewide summit on competency-based education and the publication of an informational booklet which is available upon request from KDE. The NGA grant also called for the establishment of a design team to continue to explore how best to implement competency-based education in Kentucky districts. Several school districts have expressed an interest in moving to this type of system.

between standards and competencies. Multiple related standards may comprise a competency, so a standard may be more granular. Competency requires that students acquire, make meaning of, and also transfer their content and skills.²

What is personalized learning?

In personalized learning, students establish learning goals based on personal, academic and career interests. Adult mentors such as teachers and parents provide support. The five essential elements of personalized learning as defined at the 2010 Symposium on Personalized Learning are:

- flexible, anytime/everywhere learning
- redefined teacher role and expand “teacher”
- project-based/authentic learning opportunities
- student-driven learning path
- mastery/competency-based progression/pace

What are the benefits of CBE?

This approach can motivate passive students who do not learn well in traditional classrooms because they do not see the curriculum as relevant to their needs. Others who benefit are those whose learning style is not compatible with traditional pedagogical methods such as lectures. Some of the benefits include:

- Bright students can move ahead and not be bored.
- Students can earn college credit while still in high school.
- Students learn how to learn; a skill they need throughout life.

What are competency-based credits?

Competency-based credits are awarded when students demonstrate mastery over specific skills that are pre-identified in the course curriculum. Competency-based credits should be equivalent to credits earned in a traditional classroom setting.



² <http://www.competencyworks.org/2012/05/is-a-standard-a-competency-part-1/#more-743>

FREQUENTLY ASKED QUESTIONS CONTINUED

Is competency-based education suitable for learning foundational skills in English, mathematics and science?

Yes, competency education is suitable for learning foundational skills at any age. In Maine (<http://maine.gov/doe/cbp/case-studies/index.html>) and in Adams 50, Colorado (<http://www.cbsadams50.org>), they are using competency education in elementary schools. The competencies and learning targets are on the walls. Students know where they are and what they need to do to get to the next level. There is a culture of supporting each other in learning so students are encouraged to ask their peers for help.

Is participation in competency-based education voluntary or mandatory?

Currently in Kentucky, participation is a voluntary decision for schools and districts. At this point, the Commonwealth is exploring policies to facilitate a consistent approach to CBE and establish appropriate funding and develop competencies based on course standards and other measures to support this innovation. Pilot programs are being established in various districts across the state.

What is the role of parents in the implementation of competency-based education in their children's school?

Parents and students need to be prepared for the implications of having their graduation dependent upon mastery of a set of competencies and not on the amount of time they spend in a given class. Parents need to understand the expectations of their children in order for them to reach a level of competency. Parents also need to understand how a competency-based system can provide them with more information about their children's learning than the traditional seat-time system. Helping parents understand competency-based learning is a critical component of the overall process of moving to a competency-based system. In a competency-based system parents can also be more involved and engaged in their children's learning apart from the school setting.

Are some courses more suitable to competency-based learning than others?

Demonstrating a level of competency or mastery applies to all subjects. The Common Core State Standards offers anchor standards that can help teachers determine what is essential

for all students to know and be able to do in each section of the Common Core. From this base, the essential components of skills and knowledge which students are expected to demonstrate can be developed no matter what the subject. In a competency-based system, subjects can be more fully integrated because of the many possibilities for presenting the material.

Do some middle and high schools in Kentucky allow students to receive modular credits for a portion of a class?

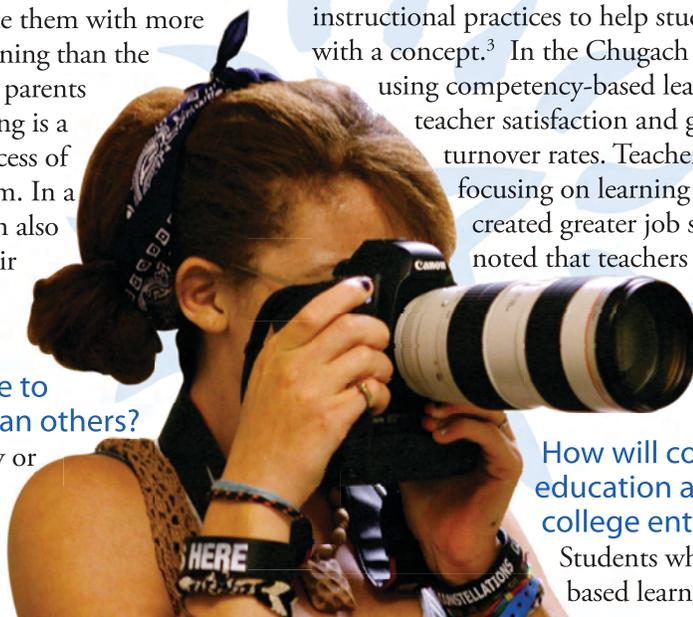
Mastering learning objectives provides a sense of progress and accomplishment when the unit of learning becomes modular. This approach allows students to concentrate on specific areas in which they struggle without having to repeat an entire semester class in a given subject. To date there is no data to indicate that Kentucky schools are formally adopting this approach though there is anecdotal evidence to suggest that it is occurring in some schools. An example of this approach can be seen in the Metro School in Columbus, Ohio, <http://www.themetroschool.org>.

How are teachers affected in a switch to a competency-based education system?

According to a report sponsored by the Nellie Mae Foundation, *When Success is the Only Option*, some by-products of the competency-based approaches are increased teacher engagement and a shift in professional culture. Teachers take on a stronger role as facilitator and coach of learning rather than simply delivering content. The skills required of teaching increasingly focus on formative assessment and access to a broad range of instructional practices to help students that are struggling with a concept.³ In the Chugach Alaska School District, using competency-based learning significantly increased teacher satisfaction and greatly reduced teacher turnover rates. Teachers reported that simply focusing on learning and helping students created greater job satisfaction. It should be noted that teachers were engaged early in the planning process and their support was required before Chugach implemented the new policies.⁴

How will competency-based education affect performance on college entrance exams?

Students who participate in inquiry-based learning experiences tied to



performance assessments will experience success in school and be better prepared for college and/or career experiences. In many cases, in schools where competency-based programs have been implemented more students are taking college entrance exams and more students are being accepted into college.

“By enabling students to master skills at their own pace, competency-based learning systems help save both time and money.”



What will be done to ensure alignment between K-12 and postsecondary educational institutions around competency-based education?

The Kentucky Department of Education and the Council on Postsecondary Education maintain a strong working relationship and will explore alignment between K-12 and postsecondary institutions based on new competency-based models of learning.

How is a system created that connects academic content to community learning opportunities and ensures that academic rigor and consistency are maintained?

To effectively create such a system will require close collaboration between all stakeholders. A strong collaborative effort among the Kentucky Out of School Alliance; K-12, business, and higher-education communities; and parents and the career and technical education community will ensure that rigorous standards are set and that students meet these standards no matter the setting in which the learning takes place. The Common Core State Standards will be the foundation of competency-based learning models.

Should/will school funding be based on something rather than average daily attendance, given that many students in a competency-based system are not in a traditional class setting every day?

There are several funding models in effect in other states that will be explored and possibly adapted to meet the unique needs of students within the Commonwealth. The move from seat time to mastery will likely necessitate a revision of the funding formula for K-12 education.

How will competency-based education affect professional development for educators?

On-going professional development and enhanced professional learning communities will be needed for teachers to successfully shift to teaching competency-based courses,

including learning to implement new instructional and assessment strategies and determining what score or performance constitutes mastery. For students earning competency credits in the community, teachers will need support in serving more of a coaching role as the teacher of record. Teacher preparation programs will need to require meaningful field experiences for their students in schools in which mastery learning is implemented.

Will the adoption of a competency-based education system affect the way schools are organized and governed?

School organization and governance will continue to be determined by districts. The Districts of Innovation legislation will provide for more flexibility in the governance structure of a school.

How does competency-based education fit with the end-of-course assessment that occurs at the end of each school year?

If students have demonstrated that they are competent and have reached a mastery level in a given subject area, they should have no problem being successful on statewide assessments. However, students should be given the opportunity to take the assessments when they are ready and not on a specified time table that provides only one test window per year.

What other states are exploring or encouraging the implementation of competency-based education systems? What progress is being made?

Across the country, 36 states have adopted policies that allow districts and schools to have flexibility in awarding credit to students based on mastery of content. Many of those policies allow for the process to be created and implemented at the local level. However, some state policies are very limited and nearly all states have rigid funding formulas that prevent new competency-based education models from advancing. Links to specific state programs can be found at www.competencyworks.org.

GLOSSARY OF TERMS RELATED TO COMPETENCY-BASED EDUCATION

Alternative Education: Schools and programs that serve students at risk for drop-out, failure, or who have passed the maximum age for high school and need to continue working toward graduation.

Assessment: Methods to determine achievement of educational outcomes or goals. Formative assessments are interim measures that guide teacher and student; they often measure the acquisition of content and skills. Summative assessments measure the student's ability to transfer content and skills. End-of-course exams are an example of a summative assessment.

Authentic Student Voice: The deep engagement of students in directing and owning their individual learning and shaping the nature of the education experience among their peers.¹

Common Core State Standards: The Common Core State Standards provide a consistent, clear understanding of what students are expected to learn, so teachers and parents know what they need to do to help them. The standards are designed to be robust and relevant to the real world, reflecting the knowledge and skills that our young people need for success in college and careers. With American students fully prepared for the future, our communities will be best positioned to compete successfully in the global economy. Kentucky was the first state to sign on to the Common Core State Standards.²

Competency: Competency is more than the acquisition of knowledge and skills. Competency implies the ability to analyze and synthesize information and transfer learning from one subject to another. As described in *Understanding by Design (UbD)*, competency reflects a student's enduring understanding defined by the essential content and skills in the unit of study. The UbD approach starts with the outcome or result desired and "works backwards" to determine the assessment that will measure acceptable evidence of competency. Planning instructional strategies and learning experiences that will bring students to these competency levels is the last step.³

Competency-based Learning: Flexible methods of teaching that enable students to progress as they

demonstrate mastery of academic content, regardless of time, pace or place of learning. Performance-based learning is an alternate term for the same concept. According to the International Association for K-12 Online Learning (INACOL), a competency-based system has several attributes:

- Students advance upon mastery.
- Competencies include explicit, measurable, transferable learning objectives that empower students.
- Assessment is meaningful and a positive learning experience for students.
- Students receive timely, differentiated support based on their individual learning needs.
- Learning outcomes emphasize competencies that include application and creation of knowledge, along with the development of important skills and dispositions.⁴

Credit Recovery: A means by which students can earn credit for a course through additional study, often using technology in a learning laboratory or at home.

Carnegie Unit: The Carnegie Unit was developed in 1906 by the Carnegie Foundation for the Advancement of Teaching as a standardized unit of measurement of the amount of time a student has studied a subject. For example, a total of 120 hours in one subject earns the student one "unit" of high school credit. The Carnegie Unit is also referred to as "seat-time."

Dual Credit: An option for a student to earn both high school and college credit for designated courses. Courses may be taught at the high school or the college campus. Dual credit courses have the same content and rigor as similar classes taught at other colleges.

Evidence of Learning: Materials, assignments, projects and other artifacts that students may use to demonstrate that they have made progress or mastered certain knowledge or skills. Evidence of learning may be compiled in a portfolio that can be in hard copy or a digital file.

Learning Objective: A statement of what students should know or be able to do at the end of a course that supports the goal of the course. Some experts talk about

¹ "It's Not a Matter of Time: Highlights from the 2011 Competency-Based Learning Summit," International Association of K-12 Online Learning, 2011, p. 7.

² Common Core State Standards Initiative, (web site, www.corestandards.org).

³ Jay McTighe and Grant Wiggins, *Understanding by Design*, 2nd. ed. (Alexandria, VA: Association for Supervision and Curriculum Development, 2005).

⁴ Susan Patrick and Chris Sturgis, "Cracking the Code: Synchronizing Policy and Practice for Performance-Based Learning," International Association for K-12 Online Learning, 2011, p. 6.

objectives in terms of SKA – Skills, Knowledge and Attitudes. Skills: what students should be able to do at the end of the course. Knowledge: what students should know and understand. Attitudes: what students’ opinions will be about the subject matter of the course.

Mastery Learning: An instructional strategy whereby teachers organize important concepts and skills into learning units requiring one to two weeks of instruction. The teacher gives a formative assessment to determine what the students have learned and where they need help. The assessment includes explicit, targeted suggestions – termed *correctives* – that address what the students must do to correct their difficulties and to master the learning outcomes. After a class period or two, students complete a second formative assessment that verifies whether the correctives were successful. Enrichment activities are recommended to engage those students who demonstrate proficiency the first time. Developed by Benjamin Bloom in 1971, with its value demonstrated through 40 years of research, mastery learning has provided a foundation for other innovative models, including Response to Intervention. His goal was to include aspects of tutoring and individualized instruction by providing helpful feedback to students.⁵

Next-Generation Learning Models: A broad term that encompasses several emerging or redefined pedagogies and approaches to instruction and education. The Council of Chief State School Officers defines six attributes or essential conditions of Next-Generation Learning:

- Personalized learning calling for a data-driven framework to set goals, assess progress and ensure students receive the academic and developmental supports they need.
- Comprehensive systems of learning supports, which address social, emotional, physical and cognitive development along a continuum of services to ensure the success of all students.
- World-class knowledge and skills, which require achievement goals to sufficiently encompass the content knowledge and skills required for success in a globally oriented world.
- Performance-based learning, which puts students at the center of the learning process by enabling the demonstration of mastery based on high, clear and commonly shared expectations.
- Anytime, everywhere opportunities, which provide constructive learning experiences in all aspects of a

child’s life, through both the geographic and internet-connected community.

- Authentic student voice, which is the deep engagement of students in directing and owning their individual learning and shaping the nature of the education experience among their peers.⁶

Performance-based Funding: A system that provides extra financial incentives for schools under certain conditions. Examples of performance-based funding include paying bonuses when students achieve certain milestones, such as successful completion of online courses; or when schools respond to and intervene with students whose academic performance is beginning to lag; or when students increase their rate of learning. Public policy experts note that performance-based funding has many unresolved issues and potential downsides related to fairness and unintended consequences.

Personalized Learning: Personalized learning is a student centered, customized learning model that addresses the diversity of a student’s background and needs and sets high expectations for all students. In some states, this entails a formalized plan and process that requires students to set learning goals based on personal, academic and career interests, beginning in the middle school grades and continuing throughout high school with the close support of adult mentors that include teachers, parents and other members of the community. Essential elements of personalized learning are:

- flexible, anytime/everywhere learning
- redefined teacher role and expand “teacher”
- project-based/authentic learning opportunities
- student-driven learning path
- Mastery/competency-based progression/pace⁷

Standard: Standards identify specific content and skills students should learn to be successful. The Common Core State Standards are evidence-based and are clear, understandable and consistent. There is not a one-to-one correspondence between standards and competencies. Multiple related standards may comprise a competency. Thus, a standard may be more granular.

Standards-based Learning: An educational approach that calls for students to demonstrate mastery or knowledge of clear, concrete standards, rather than achieving a norm-referenced ranking. All curricula and assessments are aligned with the standards being taught.

⁵ Thomas R. Guskey, “Lessons of Mastery Learning: Interventions That Work,” *Educational Leadership*, October 2010, Vol. 68, No. 2, pages 52-57.

⁶ “It’s Not a Matter of Time: Highlights from the 2011 Competency-Based Learning Summit,” International Association of K-12 Online Learning, 2011, p. 7.

⁷ Mary Ann Wolf, “Innovate to Educate: System [Re]Design for Personalized Learning; A Report from the 2010 Symposium,” Software and Information Industry Association in collaboration with ASCD and the Council of Chief State School Officers.



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