Developing Competencies
while Personalizing Learning
The Center on Innovations in Learning

Our Priorities: The Culture of Innovation and Personalized Learning

- Change Leadership
- Change Process
- Learning Technologies
- CBE
- Relational Suasion
- Personal Competencies
The goal of CBE initiative is designed to better prepare Ohio's students to thrive in the 21st century.
ODE’s CBE Pilot strives to:

- Promote innovative learning that has meaning to students, cuts across multiple curriculum areas and extends outside of the classroom
ODE’s CBE Pilot strives to:

- Advance students to higher-level work once they demonstrate mastery of competencies, rather than advancing based upon seat time in the classroom.
ODE’s CBE Pilot strives to:

- Give supports to struggling students before they advance, and prevent further failure down the road
ODE’s CBE Pilot strives to:

- Keep all students on pace to graduate, and ensure those below level make rapid progress
ODE’s CBE Pilot strives to:

- Graduate students with 21st Century, deeper college and career ready skills
What are the knowledge, attributes, traits, skills, and abilities you want students to have upon graduating?

Think - Write (30 sec): "21st Century" Abilities
Now that we are oriented...

Our Topics for Today:

a. Competencies and Personalized Learning
b. Standards, Competencies, and Demonstrating Mastery
c. Designing Competency Statements
a. Competencies and **Personalized Learning**

How are they related?
Personalization:
Understanding the Learner
Personalization:
Relationships Matter

Redding, 2016 (CIL)
Personalization: Student Engagement is Key

Redding, 2016 (CIL)
Strategies to implement CBE in personalized learning

- Flexible credit schemes (Credit Flex)
- Service learning, internships and job shadowing
- Acceleration & enrichment; College credit alignment (College Credit Plus)
- Student learning plans (SLPs or Student Success Plans)
- Recognition of mastery
- Improved "learning habits"
b. Standards, Competencies, and Demonstrating Mastery
Standards indicate...

- a high level of quality or attainment
- a published specification with precise criteria
- a specified level of ability, intervention, or outcome
Learning standards are concise, written descriptions of what students are expected to know and be able to do at a specific stage of their education.

Ohio Competency-Based Education Pilot - RFP
Competencies are...

- a combination of knowledge, skills, and attitude
- the ability to do something successfully or efficiently
- measurable/observable knowledge, skills, abilities, & behaviors critical to successful performance
- applied knowledge that a person uses to excel at a certain task
- the combination of observable and measurable knowledge, skills, abilities and personal attributes that contribute to enhanced performance
Competencies are the knowledge, skills and/or behaviors students must master in a specific content or performance area. They are both observable and measurable.
Other terms involving "competencies:"

**Competency** - something a student demonstrates

**Competency-based pathways** - flexible learning needs and opportunities

**Competency-based education** - interlocking systems of instruction, assessment, grading, & reporting that supports competency development
Demonstrating Mastery involves determining...

- a student's level of knowledge, skill attainment, and/or understanding
- whether the educational goals and standards of the lessons are being met
- what students know, understand, and can do something (based on information from diverse sources)
- how well, how often, and under what conditions students' abilities are seen
"Mastery is a demonstration of a specific competency. Mastery of specified competencies is the mechanism by which a student progresses through the educational process to the desired end state."

Ohio Competency-Based Education Pilot - RFP
Standards, Competencies, and Mastery...

- Which is "bigger?"
- Do they overlap?
- Which is more important?
Example:
HISTORY Competency #1 (of 4)
"Change, Continuity, and Context"

Competency statement

Learning Standards

I can evaluate how historical events and developments were shaped by unique circumstances of time and place as well as broader historical contexts (C3.D2.His.1.9-12), HIS.1.HS.1

I can analyze change and continuity in historical eras (C3.D2.His.2.9-12), HIS.1.HS.2

I can use questions generated about individuals and groups to assess how the significance of their actions changes over time and is shaped by the historical context (C3.D2.His.3.9-12), HIS.1.HS.1

Standard Source Code  Competency Code
<table>
<thead>
<tr>
<th>STATE STANDARD</th>
<th>COMPETENCY</th>
<th>BENCHMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DEFINITION:</strong></td>
<td><strong>DEFINITION:</strong></td>
<td><strong>DEFINITION:</strong></td>
</tr>
<tr>
<td>The competency as expressed in the state standards for learning</td>
<td>The competency as expressed in the state standards for learning</td>
<td>The building block skills students need to acquire and demonstrate to master the competency. Numbered in the order in which a student would most likely develop the skills.</td>
</tr>
<tr>
<td><strong>EXAMPLE:</strong></td>
<td><strong>EXAMPLE:</strong></td>
<td><strong>EXAMPLES:</strong></td>
</tr>
<tr>
<td>Analyze the meaning of literary texts by drawing on knowledge of literary concepts and genres.</td>
<td>Identify and analyze different literary elements and genres.</td>
<td>1a. Identifies at least three different literary forms.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1b. Identifies and understands the basic literary elements of a text (plot, setting, character, conflict, mood, tone).</td>
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<tr>
<td></td>
<td></td>
<td>2a. Identifies the characteristics of at least three genres.</td>
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<tr>
<td></td>
<td></td>
<td>2b. Identifies themes and analyzes their development over the course of a text.</td>
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<tr>
<td></td>
<td></td>
<td>2c. Uses textual evidence to identify and analyze figurative language and/or other higher-level literary devices.</td>
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<tr>
<td></td>
<td></td>
<td>3a. Identifies and analyzes the connection of the text’s theme(s) to an essential question.</td>
</tr>
</tbody>
</table>
Which is it?
(let's see some examples)
Standard, Competency, or Mastery statement?

Identify common characteristics of contemporary and historical regions on the basis of climate, landforms, ecosystems, and culture.

**STANDARD**
Arizona’s K-12 Social Studies Standards
Standard, Competency, or Mastery statement?

Students will demonstrate the ability to use and extend properties of complex number systems (includes both real and imaginary numbers).

**COMPETENCY**
New Hampshire Mathematics Competencies
Standard, Competency, or Mastery statement?

Energy from the Sun drives our weather system and climate, while energy from Earth’s interior drives the rock cycle and crustal plates.

**STANDARD**
Washington State K-12 Science Learning Standards
Standard, Competency, or Mastery statement?

Students will demonstrate ... through quantitative and/or qualitative measurements

Evidence of MASTERY
Glenwood Community School District, Iowa
Standard, Competency, or Mastery statement?

Understand and apply art materials, techniques, and processes in the creation of works of art and understand how the visual arts communicate a variety of ideas, feelings, and experiences

STANDARD
Hawaii Fine Arts Standards
Standard, Competency, or Mastery statement?

Formulate hypothesis: I can frame my question as a hypothesis based on a model or theory, with an accurate and specific explanation of the relationship between variables

COMPETENCY
Science Competencies and Objectives; School District of Philadelphia in collaboration with Building 21
c. Designing Competency Statements
Considerations for Competencies:

- "Big Ideas" for the subject area or discipline
- "Real World" needs and challenges
- Organization and levels of knowledge (ala Bloom, Webb)
- Cumulative, interdependent learning
- Lifelong learning skills (including personal competencies)

Adapted from Sturgis, 2012 p. 6-7
Education relates to 3 areas of competency:
Personal, Academic, and Career/Occupational
(1) Personal Competencies
(1) Personal Competencies

Cognitive

Metacognitive

Motivational

Social-Emotional
Cognitive Competency

- Cognitive content: Knowledge held in memory
- Stored knowledge and understanding
- Cultural knowledge
- Cognitive structures (associational webs)
- Curiosity: Cognition plus motivation
- Vocabulary
Metacognitive Competency

- Thinking about thinking
- Self-regulation of learning; Self-appraisal and self-management:
  • Goal-setting and planning
  • Progress monitoring
  • Adaptation based on feedback
- Problem-solving and analytical thinking
- Learning strategies, such as mnemonics, distributed practice, practice testing
- Logic, synthesis, evaluation
- Divergent (creative) thinking
Motivational Competency

- Agency (locus of control; attribution)
- Extrinsic and intrinsic Incentives
- Motivation to learn (mastery)
- Self-efficacy perception
- Expectancy value theory
- Mindset (especially a growth mindset)
- Flow
- Aspiration
Social-Emotional Competency

- Character Traits, such as grit, resilience, generosity, independence, courage, optimism
- Behaviors, such as attentiveness, impulse control, context-appropriate language
- Learned skills, especially related to:
  - understanding and managing emotions
  - setting and achieving positive goals
  - feeling and showing empathy for others
  - establishing and maintaining positive relationships
  - making responsible decisions
(2) Academic Competencies
(3) Career/Occupational Competencies
How are competencies developed? (2 potential approaches)
What makes a well-designed competency?

- A competency describes knowledge and skills that are applied to meaningful, novel, and complex situations.
- Learning objectives are accompanied by clear performance criteria that help students identify their performance level(s) and what they need to do to improve.
- Opportunities for personalization and deeper learning.
THE ANATOMY OF A COMPETENCY

Competency based education is focused on teaching students skills. A competency is the focus of the instruction and evaluation.

Select and apply sterilization methods for reagents, buffers, media and solutions.

**Action**
What is the action to be performed using the expected knowledge & skill?

**Knowledge & Skill**
The knowledge and skill is the technical content that is expected. This is the main subject of the competency and also guides how much of a particular subject is expected.

- Extended and Strategic Thinking
- Tangible & Meets Employer Expectations
- Post-secondary Validated

**Qualifier**
In what specific situation is this action performed?

- Career Field Specific
- Industry Identified
- Meets Employer Expectations

Competency development is a step process...

**Knowledge & Skill**
What is the industry-identified knowledge and skill?

**Qualifier**
In what situation(s) should this knowledge and skill utilized?

- Context of competency

**Action**
How should this knowledge and skill utilized?

- Implementation of competency

*Each component adds to the Depth of Knowledge level.*
MY ENGLISH COMPETENCIES

ELA.1 READING LITERATURE
- Cite evidence to support my interpretation 1.1
- Identify the central theme or idea 1.2
- Analyze the developments of the text 1.3
- Interpret words and phrases 1.4
- Analyze the structure of texts 1.5
- Assess point of view 1.6
- Compare and contrast different texts and media 1.7
- Acquire and use academic vocabulary 1.8

ELA.2 READING INFORMATIONAL TEXTS
- Cite evidence to support my interpretation 2.1
- Identify the central idea 2.2
- Analyze the developments of the text 2.3
- Interpret words and phrases 2.4
- Analyze the structure of texts 2.5
- Assess the point of view 2.6
- Compare and contrast different texts and media 2.7
- Evaluate arguments and claims 2.8
- Acquire and use academic vocabulary 2.9

ELA.3 WRITING ARGUMENTS
- Introduce my claim 3.1
- Develop the claim and counterclaims 3.2
- Use words and transitions to create cohesion 3.3
- Maintain a formal style and objective tone 3.4
- Provide a compelling conclusion 3.5
- Strengthen writing through revision 3.6

ELA.4 WRITING INFORMATIONAL TEXTS
- Introduce the topic 4.1
- Develop the subtopics with facts 4.2
- Use words and transitions to create cohesion 4.3
- Use precise language, vocabulary & techniques 4.4
- Maintain a formal style and objective tone 4.5
# Global Leadership

## I CAN STATEMENTS

### Investigate the World

*What is the evidence that a student can initiate investigations of the world by framing questions, analyzing and synthesizing relevant evidence, and drawing reasonable conclusions about global issues?*

<table>
<thead>
<tr>
<th>PERFORMANCE OUTCOME</th>
<th>I CAN STATEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poses a question on a local, regional, or global issue and identifies its significance to the global community.</td>
<td>I can pose a question on an issue. This means the issue needs to be important to many different people. This also means that research will help me answer my question.</td>
</tr>
<tr>
<td>Selects and uses a few domestic sources to identify evidence that addresses a global question.</td>
<td>I can select and use sources. This means my sources need to be from my own country and other countries.</td>
</tr>
</tbody>
</table>
Iowa Competency Validation Rubric
(Draft Rubric developed by the Iowa CBE Collaborative)
The competency statement...

<table>
<thead>
<tr>
<th></th>
<th>4 (Strong)</th>
<th>3</th>
<th>2</th>
<th>1 (Weak)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Enduring Concepts</strong></td>
<td>...includes skills that are transferable across content areas and</td>
<td>...includes skills that are transferable across content areas with</td>
<td>...is a statement specific to program/resource used. ...is based on</td>
<td>...is limited to scope and sequence of textbook/program/resource. ...is specific to facts in content</td>
</tr>
<tr>
<td>To what extent</td>
<td>applicable to real-life situations. ...requires an understanding of</td>
<td>real-life connections. ...is based on concepts supported by</td>
<td>topics applicable to the course.</td>
<td>content</td>
</tr>
<tr>
<td>does this competency</td>
<td>relationships between/among theories, principles, and/or concepts.</td>
<td>topics and/or facts.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>statement reflect</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>enduring concepts?</strong></td>
<td></td>
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</tr>
</tbody>
</table>

Competencies are scored for Relevance to Content Area, Enduring Concepts, Cognitive Demand, Universal Constructs, and Learner Centric
Recognizing "Competency" as Student Progression

- Competent, Emergent, Early, NA
- Competent, In Progress, Initial Stages, Not Started
- Expert, Advanced, Acquiring
- etc.
Ohio's Competencies

- pilot-wide
- high quality; meaningful translation to real world
- developed by working groups
- domain or discipline
- relationship to standards and demonstrating mastery
- development guidelines and rubrics
Competency-based Education is a Progression

- Universal vision for Ohio's kids
- Designing & developing competencies
- Linking competencies to curriculum, instruction, assessment, and graduation
- Enabling technology to assist
- Parent, community, business & industry, and higher education participation

Continuous improvement, in all facets of the system, is key.
Thank You.

Center on Innovations in Learning  Great Lakes Comprehensive Center  Ohio Dept. of Education