


**Mastery Learning for the
CCSS/Differentiated
Instruction Focused
Classroom (Grades 6-12)**



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What We'll Do in this Session

Look at the standards and determine why mastery learning is a great fit.

Explore what makes a great question. It's the foundation for a great project.

Samples and ideas for projects in different content areas.

**SOME GUIDING QUESTIONS
(ESSENTIAL QUESTIONS)**

What are the expectations of CCSS?

What are not the expectations of CCSS?

How do we build a synergetic context between CCSS, curriculum, and assessment?

What do we already know about Common Core State Standards?

THINK-PAIR-SHARE ACTIVITY
Directions: Turn to a neighbor (or 2) and discuss what you already know about CCSS for about 2 minutes.

Common Core State Standards Development

The Common Core State Standards Initiative is a state-led effort coordinated by the National Governors Association Center for Best Practices (NGA Center) and the Council of Chief State School Officers (CCSSO).

The standards were developed in collaboration with teachers, school administrators, and experts to provide a clear and consistent framework to prepare our children for college and the workforce.

What do we know about CCSS? The 21st Century 3 Rs

Designed to be **robust, relevant, and rigorous.**

Robust: higher level thinking

Relevant: engagement, student involvement, brain-based research

Rigorous: high expectations, critical thinking, challenging thinking

WHAT IS NOT INCLUDED

Prescribe specific instructional strategies and/or curriculum.

Interventions for students who are performing below grade level or who have special needs.

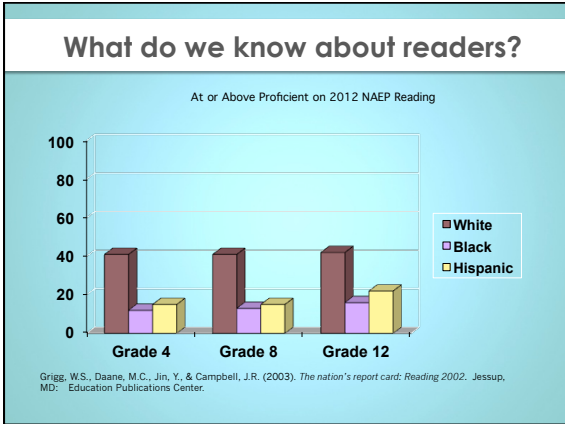
Support for English Language Learners (ELL)

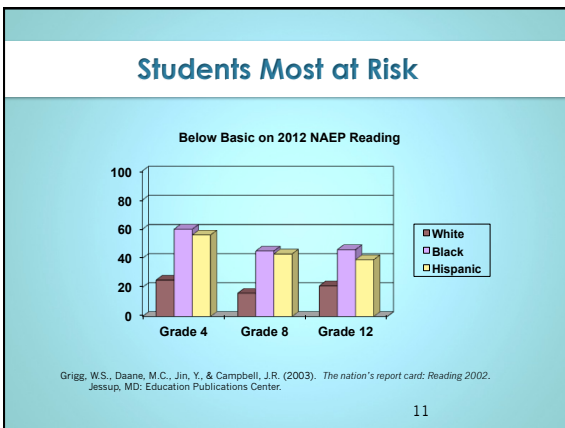
**Why were
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Intended to create greater consistency for student performance and expectations among states.

NAEP data indicates that the majority of students are not college and career ready.



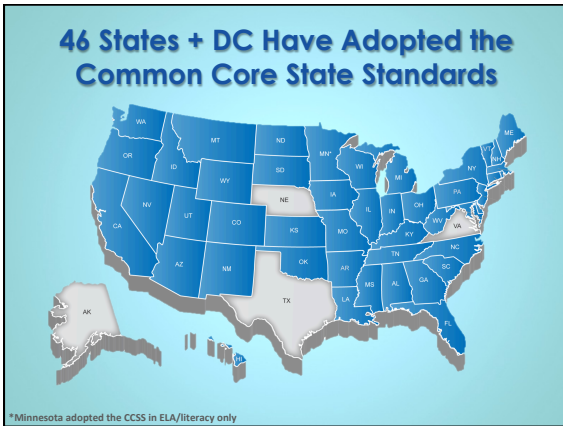


Why New Standards?

Students are not **reading** at levels sufficient for college and career readiness in content areas.

Only slightly more than half (53%) of the members of the 2009 high school graduating class were ready for college-level and workplace training-level reading.

47% Not Ready



Assessment Consortia

PARCC Ohio
Partnership for Assessment of Readiness for College and Careers

and


Smarter Balanced Assessment Consortium

21st Century Skills

Problem Solving
Team Work
Entrepreneurship
Research
Critical Thinking

CCSS Framework

Your curriculum and assessment are the “guts” and CCSS is the overall design.



FIGURING OUT THE FRAMEWORK

Close Reading of the document is essential.
Read the Standards and all goals.
Discussion, interpretation, close reading and analysis is necessary.

Standards	K-5	6-12
	English Language Arts	English Language Arts Literacy in History/Social Studies, Science, & Technical Subjects
Standards College, Career, & Civic Life	Anchor Standard: Reading Key Ideas and Details: Grades 6-12, Standard 2, Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.	
	Grade-Specific Standards	
	Reading, Standard 2	
	Literature	Informational Text
Grade	6	6
	Determine a theme or central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments.	Determine a central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments.
	7	7
	Determine a theme or central idea of a text and analyze its development over the course of the text; provide an objective summary of the text.	Determine two or more central ideas in a text and analyze their development over the course of the text; provide an objective summary of the text.
	8	8
	Determine a theme or central idea of a text and analyze its development over the course of the text, including its relationship to the characters, setting, and plot; provide an objective summary of the text.	Determine a central idea of a text and analyze its development over the course of the text, including its relationship to supporting ideas; provide an objective summary of the text.

FIGURE 5.1: Reading the CCSS with an example.
From Supporting Students in a Time of Core Standards: English Language Arts, Grades 6-12 by Tonya Perry, with Rebecca Manley. ©2011 National Council of Teachers of English.

Mathematics Example

Strand 1: Symbolic Expression

The statement of enduring understanding across all grades states WHY the learning is important.

Different learning targets show a progression from one grade span to the next grade span.

(E-4) Elementary School Learning Targets	(E-8) Middle School Learning Targets	(H-11) High School Learning Targets
Symbolic Expression (SE): The use and manipulation of symbols and expressions provide a variety of representations for solving problems and expressing mathematical concepts, relationships, and reasoning.	8-EE-1 Represent relationships and interpret expressions and equations in terms of a given context for determining an unknown value.	HS-EE-1 Represent relationships and interpret expressions and equations in terms of a given context (including complex and families of functions) for determining unknown values (including two or more variables).
<ul style="list-style-type: none"> • Use equations and expressions involving basic operations to represent a given context. • Represent numerical relationships using combinations of symbols ($+$, $-$, \times, \div) and numbers to form expressions and equations. • Solve for unknowns in simple number binary number sentences (e.g., $3 + \square = 4 + 7$). • Write equations showing inverse operations and related operations (e.g., addition/multiplication). 	<ul style="list-style-type: none"> • Represent mathematical relationships symbolically and solve for any variable for 1st degree equations and for common formulas (linear equations). • Explain how to manipulate an algebraic expression to create equivalent expressions and provide step-by-step explanations and justifications. 	<ul style="list-style-type: none"> • Represent and interpret multi-step problems. • Represent complex numbers and vectors. • Demonstrate the relationship between systems of equations and matrix representations. • Represent the relationship between functions and modeling.

Activity

We are going to move into groups...

Activity: As You Read the Standards

Why is it structured in this way?
 What does the language suggest?
 What do you learn about the Standards in the introduction?
 What information and why is the information included in the appendices?
 Record your responses on the back channel:
<http://www.corestandards.org/>

Looking at the Structure and Hierarchy of CCSS

Do the competencies have to be taught in the order presented in the document?

Answer: No! The competencies are a guideline for ongoing instruction and are NOT intended to be units, activities or skills. The competencies are NOT intended to be a grocery list of content skills that are taught and then checked off.

CCSS, Differentiaion, and Mastery Learning

Activity: As You Read the Standards

Where are there opportunities for differentiated instruction?

<http://www.corestandards.org/>

Let's look at an ELA standard and how it is broken down. Where would we differentiate in developing these skills?

W.1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.

W.SECOND GRADE: 1. Write opinion pieces in which they introduce the topic or book they are writing about, state an opinion, supply reasons that support the opinion, use linking words (e.g., because, and, also) to connect opinion and reasons, and provide a concluding statement or section.

Let's Try Another....

Third Grade
Mathematics

Operations and Algebraic Thinking 3.OA

Represent and solve problems involving multiplication and division.

- Interpret products of whole numbers, e.g., interpret 5×7 as the total number of objects in 5 groups of 7 objects each. *For example, describe a context in which a total number of objects can be expressed as 5×7 .*

Tenets of Differentiated Instruction

- Students differ in their learning profiles.
- Classrooms in which students are active learners, decision makers, and problem solvers are more natural and effective than those in which students are served a "one-size-fits-all" curriculum and treated as passive recipients of information.
- "Covering information" takes a backseat to making meaning out of important ideas.

Differentiated Instruction Strategies

- Anchor Activities
- Choice Boards
- Curriculum Compressing
- Exit Cards
- Flexible Grouping
- Learning Centers
- Learning Contracts
- Learning Stations

Anchor Activities

PURPOSE:

- To provide meaningful work for students when they enter the classroom, finish an assignment or project, or are confused.
- To provide ongoing tasks that connect to content and instruction.
- To provide the teacher time to work with other groups or individuals.

Choice Board

- Directions: Choose one activity from each line to make a Think-Tac-Toe. Circle your choices.

Choice Boards

- Multiple Options to target student's individual needs.

Write about the main character. Be prepared to provide a 2 minutes report to the class.	In your journal, create a graphic organizer and use it to compare yourself to the main character.	Think of someone you know who is like the main character. Write about how they are similar.
Draw a picture of the setting of the story.	Write a song about the story.	Build a model of the story.
Make a timeline to show the major events of the story.	Create a group of three students and create a new ending for the story.	With a group of three students, create a dramatic skit of the story.

Curriculum Compaction

- Compress content to be learned in response to student readiness and prior knowledge.

Exit Cards

- Students respond to questions as a short assessment. Index cards work well for this strategy.

Flexible Grouping

- Place students in temporary groups based on readiness, learning profiles, and interest in specific topics and learning activities.

Learning Centers

- Places in the classroom created by the teacher to teach or reinforce student skills. These centers can also build or extend on an idea.

Learning Contracts

- Written assignments between the teacher and the students that articulate requirements, timelines and evaluation criteria.

Learning Stations

- Different from learning centers. A classroom location or space where students can work on the same task that relates to a single topic, concept, or skill.

Tiered Activities

- Varied levels of content designed to engage students at their appropriate level of challenge---without frustration.

Top Differentiation Strategies

<ul style="list-style-type: none">• Pre-assessment• Curriculum Compacting• 5 Most Difficult First• Flexible Grouping• Questioning	<ul style="list-style-type: none">• Open-Ended Tasks• Tiering• Learning Contracts• Choice Boards• Independent Projects
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STRATEGIES THAT SUPPORT THE DEVELOPMENT OF LITERACY SKILLS IN ALL CONTENT AREAS

- Pre Reading
- During Reading
- After Reading
- Vocabulary
- Posing Questions and Answers

Project-Based/Mastery Learning to Meet Common Core State Standards

Handouts for this session are here:
<http://tinyurl.com/covo5ut>

or scan




Sample Inquiry Projects

Some states, like West Virginia have strong Project Based Learning initiatives. See their website for some great materials.
<http://tinyurl.com/ckfjm4y>



Sample Inquiry Projects are here: <http://tinyurl.com/2d7ykva>





Project Idea: Investigation, scenario, problem, challenge, iss

Entry Event: to launch inquiry and spark curiosity.

Power Standard:

Content Standards & Objectives: Identify the objectives explicitly taught or learned through discovery within this project design; identify the learning targets and the evidence of student mastery for each learning target within each objective. Be sure the project meets the criteria for standards-focused PBL.

Objectives Directly Taught or Learned Through Discovery	Identified Learning Targets	Evidence of Success in Achieving Identified Learning Target

<http://wvde.state.wv.us/teach21/PBLTools.html>

21st Century Skills: Identify the Learning Skills and Technology Tools Standards that students will practice in this project.

21 st Century Skills	Learning Skills & Technology Tools	Teaching Strategies	Evidence of Success
Information and Communication			
Thinking and Reasoning Skills			
Personal and Workplace Skills			

Performance Objectives: What must all students know and be able to do as a result of this PBL experience?

Know

Do

<http://wvde.state.wv.us/teach21/PBLTools.html>

Driving Question: State the driving question or problem statement for the project. The statement should encompass all product content and outcomes, and provide a central focus for student inquiry. Be sure you pose an authentic problem or significant question that engages students and requires core subject knowledge to solve or answer.

<http://wvde.state.wv.us/teach21/PBLTools.html>

Assessment Plan: Define the products and artifacts for the project. Be sure to include a variety of assessments for learning that are closely tied to the content, learning skills and technology tools outcomes. The products and criteria must align with the objectives and outcomes for the project. State the criteria for exemplary performance for each product. Plan for assessments that provide student feedback as the project progresses and provide for a culminating appraisal of performance or product with an accompanying rubric that clearly assesses the learning targets. When building the culminating assessment, remember the acronym GRASPS.

Major Group Products	
Major Individual Projects	

<http://wvde.state.wv.us/teach21/PBLTools.html>

Assessment and Reflection:

Rubric(s) I will use: (Check all that apply.)	Collaboration	Written Communication
	Critical Thinking & Problem Solving	Content Knowledge
Other classroom assessments for learning: (Check all that apply)	Oral Communication	Other
	Quizzes tests	Practice presentations
	Self-evaluation	Notes
	Peer evaluation	Checklists/observations
Reflections: (Check all that apply)	Online tests and exams	Concept maps
	Survey	Focus Group
	Discussion	Task Management Chart
	Journal Writing/ Learning Log	Other

<http://wvde.state.wv.us/teach21/PBLTools.html>

Map the Product: Examine one major product for the project and analyze the tasks necessary to develop a high-quality product. What do students need to know and be able to do to complete the tasks successfully? How and when will they learn the necessary knowledge and skills? Do the products and tasks give all students the opportunity to demonstrate what they have learned?

Product:

Knowledge and Skills Needed	Already Have Learned	Taught Before the Project	Taught During the Project
1.			
2.			
3.			
4.			
5.			
6.			

Resources:

School-based Individuals:

Technology:

Community:

Materials:

<http://wvde.state.wv.us/teach21/PBLTools.html>

Manage the Process: Describe everything necessary to *ensure targeted learning* does occur. This may include, but is not limited to, plans related to grouping, classroom management, and the types of knowledge and skills students should have mastered prior to beginning the project. List the preparations necessary to differentiate instruction for the diverse learners in your classroom.

Project Evaluation: How will you and your students reflect on and evaluate the project?

<http://wvde.state.wv.us/teach21/PBLTools.html>

Mastery Learning/
Differentiated Assessment

What do you see?



Differentiated Instruction and Standardized Tests

The only way students will do well on tests is if they learn the material.

DI maximizes what students learn over what could otherwise have been learned with one-size-fits-all approaches.

DI and standardized testing are mutually beneficial.

---Rick Wormell

The Facets of True Understanding

- Explanation
- Interpretation
- Application
- Perspective
- Empathy
- Self-Knowledge

Wiggins & McTighe (2005). *Understanding By Design*.

Formative and Summative Assessment

- Formative Assessment:

With formative assessments, students are evaluated during the work process and the focus is on improving the process.

Summative Assessment:

With summative assessments, students are evaluated upon completion of the work and the focus is on the final product.

We mark or grade against outcomes, not routes students take or techniques teachers use to achieve those outcomes.

How would this affect class participation, discussion or group projects?

What do grades mean?

- A
- B
- C
- D
- F

Assessment *without* Grades

- No letter or number grades
- Comments or progress symbols (checks)
- Learning goals are stated and shared with the students.
- Teaching and learning activities are adjusted.
- Opportunities for peer and self assessment

Unit: Applying Geometric Concepts involving points, lines, planes and space.

	No Evidence	Developing	Grasps and applies with prompt/support	Grasps and applies independently
Recognize and apply relationships within and among geometric figures.				
Construct a model of a three-dimensional figure from a two-dimensional pattern.				
Make perspective drawings, tessellations and scale drawings, with and without the use of technology.				

Final Thoughts

What did you learn today?

How will this impact your teaching?

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-  For more materials and updated powerpoint, see my blog at www.KatherineMcKnight.com
