Are You Ready for Curriculum Mapping 3.0?
A Curriculum and Assessment System for 21st Century Learning

Research Finding...
A “guaranteed and viable curriculum is the #1 school-level factor impacting on student achievement.”
-- Marzano, What Works in Schools

Curriculum...
“the course to be run”
Curriculum = a plan to achieve designated goals
Curriculum ≠ not a list of topics and related activities

#1 Standards are not curriculum.
“These Standards do not dictate curriculum or teaching methods.”
-- The Common Core Standards

Standards are not curriculum.
“Consider an analogy with home building and renovation: The standards are like the building code. Architects and builders must attend to them but they are not the purpose of their design..."
...The house to be built or renovated is designed to meet the needs of the client in a functional and pleasing manner – while also meeting the building code along the way.”

– Wiggins and McTighe

Mission-Related Learning Goals

• Academic preparation for higher education and the world of work.
• The development of key habits of mind.
• Character development – social, civic, and ethical conduct.
• Capacity for life-long learning.
• A healthy lifestyle (wellness).

Thoughts on Mission

“The true Mission of a school is revealed by what people do, not what they say. Therefore, educators committed to bringing their Missions statements to life are relentless in examining every practice, procedure and decision in asking, ‘Is this consistent with our Mission?’”

– On Common Ground: The Power of Professional Learning Communities

Example:

Life-long Learning

Curriculum:
To what extent are the skills and habits for life-long learning being developed throughout our curriculum – by design?

Assessment and Reporting:
To what extent are we appropriately assessing and reporting on these skills and habits?

Example:

Critical & Creative Thinking

Curriculum:
To what extent is critical and creative thinking evident throughout our curriculum?

Instruction:
To what extent does our teaching emphasize critical and creative thinking?

Assessment:
What % of our assessment items require critical or creative thinking?

The Four Cs are Long-Term Transfer Goals!

➢ Critical Thinking
➢ Creativity
➢ Communication
➢ Collaboration
Long-Term Transfer Goal

Students will be able to independently use their learning to...

An effective curriculum equips learners for autonomous performance ... by design!

Transfer Goal – E/LA

Students who are College and Career ready:

Demonstrate independence.
“Students can, without scaffolding, comprehend and evaluate complex texts across a range of types and disciplines, and they can construct effective arguments and convey intricate or multifaceted information.”

Transfer Goal – Writing

• Effectively write in various genres for various audiences and purposes (e.g., to inform, explain, entertain, persuade, guide, or challenge/change things).

Transfer Goals – Mathematics

Mathematically proficient students:
• Make sense of problems and persevere in solving them.
• Use appropriate tools strategically.
• Construct viable arguments and critique the reasoning of others.
Transfer Goal – History/SS

• Use knowledge of patterns of history to better understand the present and prepare for the future.
• Critically appraise historical claims and analyze contemporary issues.
• Participate as an active and civil citizen in a democratic society.

Transfer Goals – Science

• Use knowledge and reasoning to evaluate scientific claims and analyze current issues involving science or technology.
• Conduct an investigation following established scientific protocols.

Transfer Goal – World Languages

Effectively communicate with varied audiences and for varied purposes while displaying appropriate understanding of culture and context.

Practice vs. The Game

Learning and practicing • knowledge • skills • strategies
Requires transfer • autonomous application

T-Chart Process

A coherent curriculum spirals around a set of “big ideas” and recurring Essential Questions.
Mathematical modeling

‘Big Idea’ Understandings:

• Mathematicians create models to interpret and predict the behavior of real world phenomena.
• Mathematical models have limits and sometimes they distort or misrepresent.

Mathematical modeling

Essential Questions:

• How can we best model this (real world phenomena)?
• What are the limits of this model?
• How reliable are its predictions?

Argumentation

“Big Idea” Understandings

• A convincing argument requires a clear position, logical reasoning and support with evidence.
• An effective argument contains rebuttals to possible objections.

Argumentation

Essential Questions

• What makes an argument persuasive?
• What are possible objections to my argument? How might these be countered?

Next Generation Science Standards

6. Structure and Function. The way in which an object or living thing is shaped and its substructure determine many of its properties and functions.

How are structure and function related:

... in living things?
... in nonliving things?

Next Generation Science Standards

Includes eight Practices for K–12 Classrooms. Example:

7. Engaging in argument from evidence

What makes a credible argument?
What constitutes effective evidence?
Curriculum Mapping 3.0

Transfer Goal: PERSISTENCE

**Overarching Understandings**
- People have a better chance of completing a task if they are focused on what they want, what they have to do, the time they have to get it done, and a plan for how they will achieve it.
- Instead of giving up, people who persist apply strategies to help them stick with it.
- People need to decide whether persisting is worth pursuing since not all tasks are worth extended effort.

**Overarching Essential Questions**
- Why should I keep trying? What should I do if I get stuck?
- Why is it so important that I work to complete this task?
- What are the consequences if I do or do not complete this task?
- Would my time and efforts be better applied elsewhere? Is this worth my persistence?

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**Essential Question**

**Physical Education/Health**

To what extent do we have a coherent curriculum... from the learner’s perspective?

- Why do I perform at my best?
- Why is it important to improve?
- How can I use space?
- How can I influence the outcome of a game/activity?
- Why do we have rules?
- How can physical activity influence health?
- Why lead a healthy lifestyle?
- What makes a good team player?
- How can decisions impact my well-being?
- Why is active participation beneficial?

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**Cornerstone Tasks**

- Anchor the curriculum around important, recurring tasks.
- Require understanding and transfer of learning.
- Integrate 21st Century outcomes.
- Provide evidence of authentic accomplishments.

(“doing the subject” and “playing the game”)

cor·ner·stone (n):
1. the first stone laid at a corner where two walls begin and form the first part of a new building
2. something that is fundamentally important to something
Since you are an accomplished ________, you have been asked to develop a step-by-step directions to help other kids learn how to do it. Your directions should include words and pictures to help others learn how to ________ like you.

Example: How To Perform a Task

Example: What’s Your Position?

After reading ________ (literature or informational texts), write ________ (essay or substitute) that compares ________ (content) and argues ________ (content). Be sure to support your position with evidence from the texts.

Example: What’s Your Position?

What makes something funny? After reading selections from Mark Twain and Dave Barry, write a review that compares their humor and argues which type of humor works for a contemporary audience and why. Be sure to support your position with evidence from the texts.

Example: Drone On...

Should drones be regulated? After researching possible commercial uses of drones and examining various opinions on the issue, develop your own position and develop a (policy brief, editorial, blog) that argues for your position. Support your position with evidence from your research, while acknowledging competing views.

Example: What’s Your Position?

Moving from scaffolded to autonomous performance – by design!
example: What’s the Trend?

Interpret the data on ______ for the past ______ (time period). Prepare a report (oral, written) for ______ (audience) to help them understand:

• what the data shows
• what patterns or trends are evident
• what might happen in the future

example: What’s the Trend?

Interpret the data on our changing heights in 2nd grade for the past school year. Prepare a chart for the 1st graders to help them understand:

• how our class grew this year
• how they are likely to grow next year

example: What’s the Trend?

Interpret the data on H1N1 infection spread on each continent for the past 12 months. Prepare a website, Podcast, or newspaper article to help them understand:

• spread rates and seasonal variation
• spread rates and intl. travel patterns
• spread rates and govt. policies

something to think about...

“We cannot have rigor without relevance.”

Dr. Willard Daggett

http://markwise8.wix.com/globalchallenge

WW-P MIDDLE SCHOOL GLOBAL CHALLENGE

Make a difference
Your group will develop strategies to reduce global poverty and share your findings with experts who can implement your ideas.

GOAL 2
END HUNGER, ACHIEVE FOOD SECURITY AND IMPROVED NUTRITION AND PROMOTE SUSTAINABLE AGRICULTURE

Common Rubric for Mathematical Problem Solving

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<tbody>
<tr>
<td>Analysis of the problem</td>
<td>Partially correct strategy is evident. Evidence of drawing on some previous knowledge is present with trial and error, or justification for reasoning is present.</td>
<td>Correct strategy is chosen based on mathematical situation in the task. Planning or monitoring of progress towards a solution is evident.</td>
<td>A correct strategy is chosen based on mathematical terms, and extending prior knowledge is solidifying prior knowledge and strategy is evident. Evidence of applying it to the problem.</td>
<td>A correct answer is achieved.</td>
</tr>
<tr>
<td>Reasoning and Proof</td>
<td>No correct reasoning nor justification for reasoning is evident. Arguments are made with little or no mathematical basis.</td>
<td>Arguments are constructed with some relevant and may lead to generalizing the solution to new cases.</td>
<td>Arguments are constructed with adequate mathematical evidence to justify decisions and support decisions made. Evidence is used to justify decisions and may result in formal proofs.</td>
<td>Deductive arguments are used to justify decisions and support decisions made.</td>
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<td>Appropriate and accurate mathematical representations to record solutions.</td>
<td>Mathematical representations are considered. Evidence of drawing on some previous knowledge is present with trial and error, or justification for reasoning is present.</td>
<td>Precise math language and symbolic notation are used to analyze relationships, and/or alternative strategies are made along the way, and/or alternative strategies are made along the way, and/or alternative strategies are made along the way.</td>
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It’s Time for Curriculum Mapping 3.0

First generation = Diary mapping
Second generation = Consensus mapping against standards
Third generation = Mapping performance backward from long-term transfer goals

Common Analytic Speaking Rubric for World Languages

<table>
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<th>Comprehensibility</th>
<th>Fluency</th>
<th>Pronunciation</th>
<th>Vocabulary</th>
<th>Language Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
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Note: This format encourages self-assessment and goal setting by the student.

Rubric for Cooperation and Teamwork

How does this Curriculum Blueprint work relate to curriculum mapping?

First generation = Diary Mapping

Year-Long Course Map
Sixth Grade – Social Studies

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Second generation = Consensus Mapping from Standards

Curriculum Mapping:
Three Generations

First generation = Diary mapping
Second generation = Consensus mapping against standards
Third generation = Mapping performance backward from desired performances based on long-term transfer goals.

Cornerstone Assessments in Writing (6-12)
GREECE CENTRAL SCHOOL DISTRICT, NY

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<th>Literary Analysis</th>
<th>Creative/Expressive</th>
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<td>Position paper</td>
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<td>Original myth</td>
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**An efficient and effective strategy is used and progress towards a solution is evaluated. Adjustments in strategy, if needed, are made, and/or alternative strategies are considered. There is sound mathematical reasoning throughout. All computations are performed accurately and completely. There is evidence that computations are checked. A correct answer is obtained. Abstract or symbolic mathematical representations are constructed and refined to analyze relationships, clarify or interpret the problem elements, and guide solutions. Communication is clear, complete and appropriate to the audience and purpose. Precise mathematical terminology and symbolic notation are used to communicate ideas and mathematical reasoning.**

A common rubric promotes greater evaluative consistency among teachers.

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**Anticipating Concerns**

"Yes, but…"

We have too much content to cover for the tests. But we have to improve our test scores.

**Beware: Confusing the Measures w/ the Goals**

“Practicing for a standardized test is like practicing for your physical exam!”

**Most Difficult Item on New York State Tenth-Grade Math Test!**

34. A straw is placed into a rectangular box that is 3 inches by 4 inches by 8 inches, as shown in the accompanying diagram. If the straw fits exactly into the box diagonally from the bottom left front corner to the top right back corner, how long is the straw, to the nearest tenth of an inch?

Fewer than 30% of all tenth graders answered this correctly, even though the Pythagorean theorem is routinely taught.

**Why?**
- Lack of cues
- Failure to transfer
- Do they really understand?

**Ideas for Action**

- Think **big** but start **small**.
- **Work smarter, not harder.**
- Go for an “**early win**” in Iowa.