Instructional Complexity: The Challenges of Advanced Curriculum for Teachers

Catherine Little
University of Connecticut
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William & Mary School of Education, Center for Gifted Education
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Curriculum is the ANSWER!

Curriculum is PART OF the answer!

Analogical Thinking

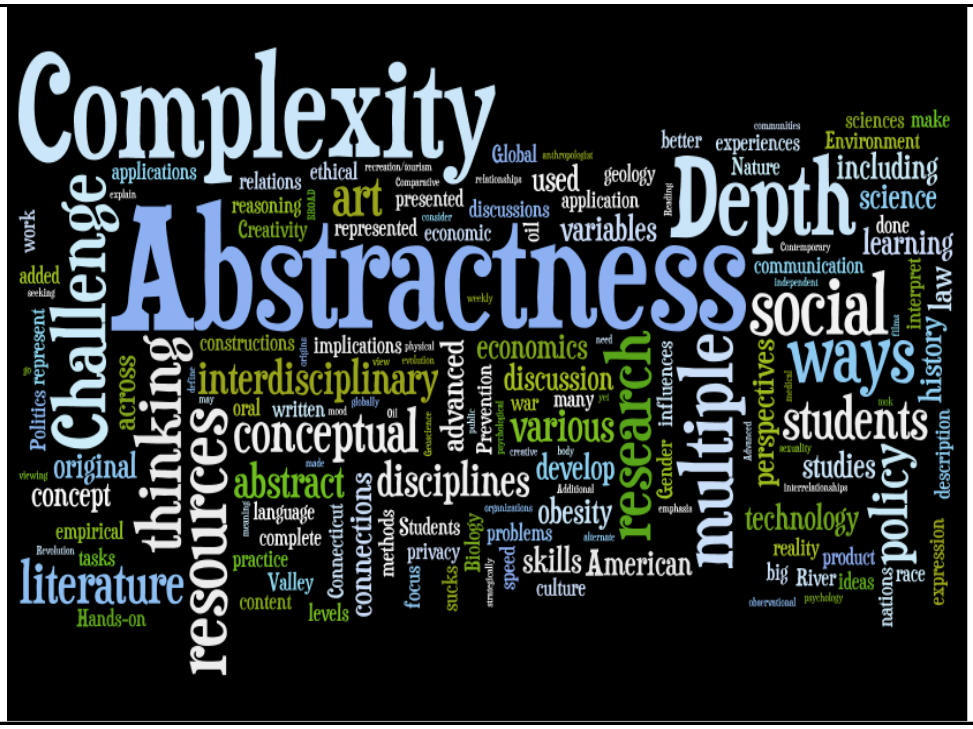
- How is instruction with advanced curriculum like…
  - Baseball?
  - Pictionary?
  - Chess?

What makes curriculum advanced?

- Level of the content
- Level of expertise required in applying skills
- Requirements for prerequisite knowledge and skills
- Depth of expected learning
- Complexity of problems and solutions
- Expectations for constructing products

Sample Expectation for Rigorous Curriculum (K-12)

- Advanced, sophisticated curriculum consistently builds upon and extends beyond a standard course of study through **universal concepts**, **complex levels of generalizations** and **essential questions from multiple perspectives** within the topic. Students consistently engage in **multiple, complex, thought-provoking and ambiguous texts/materials** that challenge their thinking and feelings.
  - (http://www.ncpublicschools.org/academicservices/gifted/resources/reports/nonnegotiables; https://aagc.ssri.duke.edu/sites/aagc.ssri.duke.edu/files/pdfs/II.A.RigorOverview-Rubrics.pdf; Matusevich, O'Connor, & Hargett, 2009)



Need for advanced curriculum

- "Beginning in early childhood, their optimal development requires differentiated educational experiences, both of a general nature and, increasingly over time, targeting those domains in which they demonstrate the capacity for high levels of performance. **Such differentiated educational experiences consist of adjustments in the level, depth, and pacing of curriculum** and outside-of-school programs to match their current levels of achievement and learning rates." (NAGC, 2010)

"Appropriately differentiated curriculum and instruction"

- …means curriculum and instruction adapted or modified to accommodate the accelerated learning aptitudes of identified students in their areas of strength. Such curriculum and instructional strategies provide accelerated and enrichment opportunities that recognize gifted students' needs for
  - (i) advanced content and pacing of instruction;
  - (ii) original research or production;
  - (iii) problem finding and solving;
  - (iv) higher level thinking that leads to the generation of products; and
  - (v) a focus on issues, themes, and ideas within and across areas of study….
    - http://www.doe.virginia.gov/instruction/gifted_ed/faq.shtml

What are the benefits to students?

- Opportunities for growth
- Degree of engagement
- Multiple entry points
- Opportunities to pursue interests and hone desired skills
- Development of motivation and dispositions for pursuing challenge
- And…..achievement

What demands does advanced curriculum present to teachers?

- Background content knowledge
- Access to the skills of the discipline
- Relevant pedagogical knowledge
- Facility with multiple forms of ongoing assessment
- Skills in facilitating discussion and knowledge-building
- Expertise in multiple aspects of management
- Willingness to take risks

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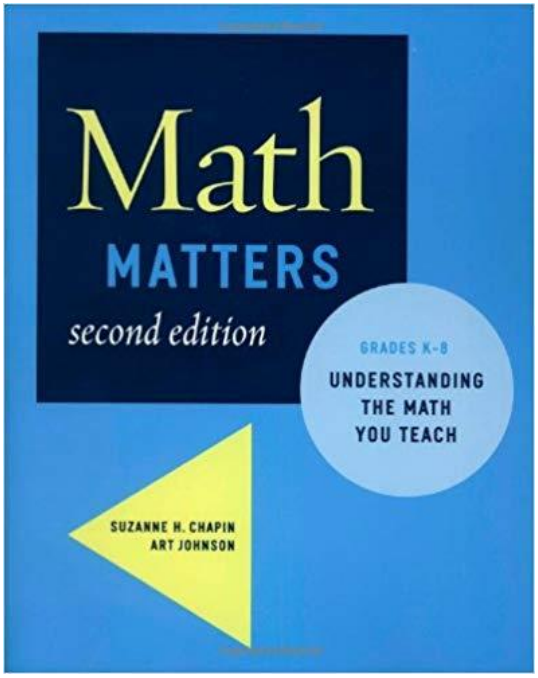
- The Teaching Professor - https://www.teachingprofessor.com -

Knowing vs. Understanding: A Short Exercise to Highlight the Difference

Posted By *Pete Burkholder, PhD* On March 1, 2019 @ 5:30 am In Active Learning,Self-regulated Learning | No Comments

Call me crazy, but undergraduate courses should be qualitatively different from their high school antecedents. One key change? At the college level, students should be moving toward *understanding* things instead of just *knowing* them. How can we introduce and reinforce the difference?

Brief Description
In this lesson, students will solve two problems related to a Bake Sale theme. Students will engage in the Questioning Thinking Skill by generating questions about a situation that is presented to them. Information such as the problem question and necessary information will only be presented to students as they identify the need for such information. This represents a more authentic approach to the problem solving process than the ways in which problems are generally presented to students in the mathematics classroom. Additionally, third grade students may be calculating their solutions using different computational procedures, or algorithms. For more information about and rationale for letting students explore alternative algorithms see the *Math Matters* book (p. 43-48).



Teacher knowledge *matters* in…

- Appropriate and rich use of discipline-specific language
- Capacity to highlight ideas and weave them throughout instruction
- Recognition and response to error
- Quality of feedback

- Hill & Charalambous, 2012

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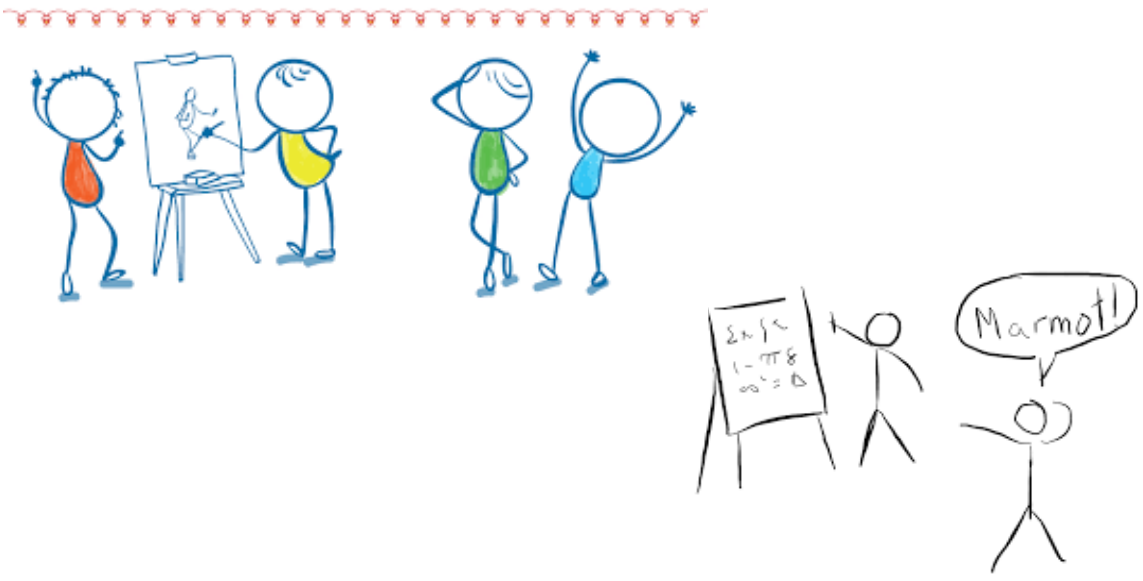
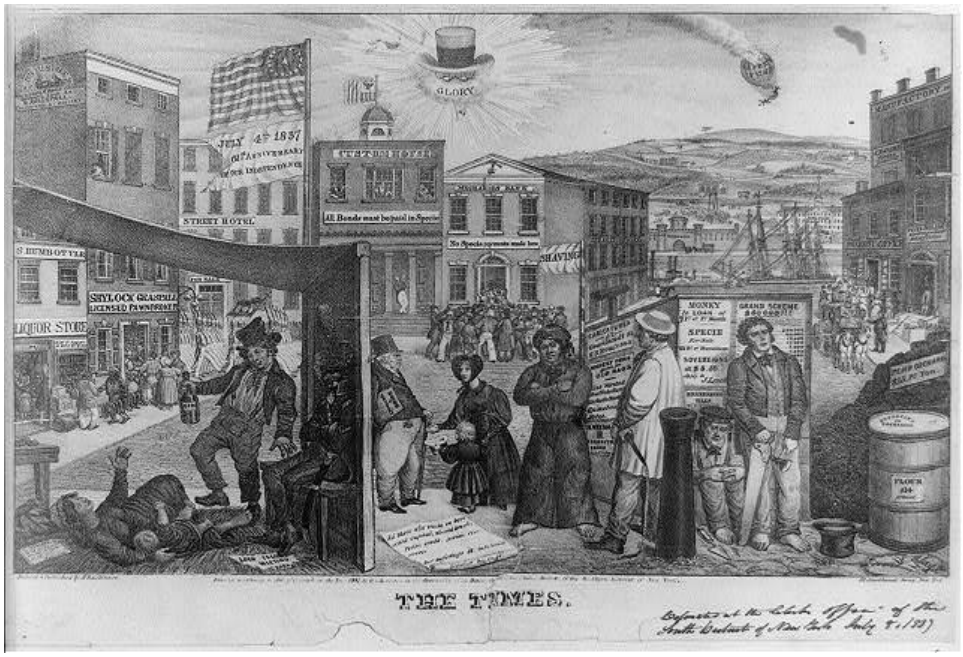

Marmot!


GLORY
JEFF 4th 1837
STREET HOTEL
All Bonds must be paid in Specie
No Specie currency made here
SHAVING
SHYLOCK
LIQUOR STORE
MONEY
SPECIE
THE TIMES.

Mo Willems' How To Write In 4 Easy Steps, 4 Kinda Harder

5. Your story is like a car; no one cares who made it or how it was made until it stops working.
6. Are questions more compelling than answers?
7. Find what doesn't work and leave the rest.
8. You may own the story's copyright, but your audience owns the story's meaning.
9. Be *superlative.*

www.mowillems.com

www.mowillems.com

"…even when using standards-based curricula, some teachers still craft minimal opportunities for students to engage in high-level thinking and reasoning…"

Charalambous & Hill, 2012, p. 448; Arbaugh et al., 2006; Tarr et al., 2008

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"Simply injecting ambitious curricula into the instructional system does not guarantee high-quality instruction…"

Charalambous & Hill, 2012, p. 444; Tarr et al., 2008

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- Expertise in multiple aspects of management
- Willingness to take risks
- And also….**TIME**

The tension of fidelity and context

What are the implications for writing curriculum?

- Envisioning the flow of instruction
- Anticipating need for background knowledge and support
- Embedding higher-level thinking models
- Considering how teachers will read the curriculum
- Suggesting "next steps"
- Clarifying what and how to modify
    - (Drake et al., 2014; Moon & Park, 2016; Rubenstein et al., 2015; VanTassel-Baska & Brown, 2007)

What are the implications for planning professional learning?

- Engaging teachers in the learning activities of the curriculum
- Opportunities for teachers to explore multiple ways of addressing similar objectives
- Multiple entry points and sustained learning experiences
- Opportunities for teachers to be challenged about their beliefs about student learning
- TIME
  - (Arbaugh et al., 2006; Drake, Land, & Tyminski, 2014; Garet et al., 2001; Gavin et al., 2013; Grossman & Thompson, 2008; VanTassel-Baska et al., 2008)

Reflection and analysis

- "It is likely that the long range instructional goals of curriculum innovators will not be finally reached until they explicitly train teachers in techniques for analyzing their own instructional strategies as well as training them in their subject area fields." (Gallagher, 1967, reprinted 2015)

What are the implications for leadership?

- Advocacy and flexibility
- Addressing planning and collaboration time
- Ensuring resource availability
- Support for balancing multiple demands
- Support for risk-taking

- Swanson, 2016; VanTassel-Baska, 2017

The potential transformative value

"A curriculum is more for teachers than it is for pupils. If it cannot change, move, perturb, inform teachers, it will have no effect on those whom they teach. It must be first and foremost a curriculum for teachers. If it has any effect on pupils, it will have it by virtue of having had an effect on teachers (Bruner, 1977)." (Grossman & Thompson, 2008, p. 2014)

"The transformative nature of powerful curriculum"

- "Classrooms were transformed, teachers' perspectives were opened, and teachers' personal and professional aspirations were realized…
- …tied to the level of supports found in the school/district in terms of coaching, demonstration, development opportunities, access to materials, and consistency of leadership involvement." (Swanson, 2016)

How to Win

- Need for making the curriculum itself more educative without being narrowly scripted
- Need for recognition of complexity of the possible pathways
- Need for time to plan, debrief, and discuss
- Need for growth mindset with regard to how lessons go

Except it's not about winning…

Thank you very much!

catherine.little@uconn.edu