4 Myths About Rigor in the Classroom

By Ronald Williamson and Barbara R. Blackburn
Authors of *Rigorous Schools & Classrooms: Leading the Way* and *The Principalship from A-Z*, Published by Eye On Education.

For over 20 years, we've worked with teachers and principals on ways to improve their schools. Our efforts have centered on promoting the core concepts of rigor: creating schools where every student is known by adults, where students have a positive relationship with adults and other students, and where they are challenged to achieve at high levels. We've met thousands of committed teachers and principals who work incredibly hard to positively impact the learning of every student.

Concurrently and on a national level, the 3 R's—Rigor, Relevance, and Relationships—have become accepted as necessary characteristics of quality schools, with many states adopting the 3 R's Model as a requirement for school improvement efforts. And yet, there remain many misconceptions and myths regarding rigor itself. Here, we cite others' research as well as our own work to dispel those myths and to demonstrate how academic rigor can ultimately benefit every one of your students and staff members.

It's time to set the record straight on what rigor is and what it isn't.

Myth #1: Lots of Homework Is a Sign of Rigor

For many people, there is probably no more prevalent indicator of rigor than the amount of homework required of students (Jackson, 2009)[1]. Many teachers pride themselves on the amount of homework they assign.

The dilemma is that all homework is not equally useful. Some of it is just busy work, assigned by teachers because principals or parents expect it. Too often, "difficulty is equated to the amount of work done by students, rather than the complexity and challenge" (Williamson & Johnston, 1999, p. 10)[2].

One study (Wasserstein, 1995)[3] found that students described busy work as unimportant, and therefore, not satisfying. Contrary to what many adults believe, the study found that students viewed hard work as important. They enjoyed the challenge and enjoyment that came with accomplishing a difficult task.

Vatterott (2009)[4] found that homework is often built on the misconceived idea that doing more of something must mean more learning. The "more is better" idea permeates the discussion of rigor.

Dick Flanary of the National Association of Secondary School Principals described the impact by saying, "Too often, rigor becomes, 'Let's give more homework. Lessons must be 'rigorous' if they make kids suffer.' " (Hechinger, 2009, p. 3)[5].

"Doing more" often means doing more low-level activities, frequent repetitions of things already learned. Such narrow and rigid approaches to learning do not define a rigorous classroom.

Students learn in many different ways. Just as instruction must vary to meet the individual needs of students, so must homework. Rigorous and challenging learning experiences will vary with the student. The design of each experience will vary, as will the duration.

Myth #2: Rigor Means Doing More

Many parents and educators believe that a rigorous classroom is characterized by requiring students to do more than they currently do, that rigor is defined by the content of a lesson, the amount of reading, or the number of assignments.

Rigor is more than just content and cannot be measured by the amount of things students must do. Tony Wagner (2008a)[6] studied classrooms across America and found that many of them were characterized by low-level, rote activity. The focus was too often on covering material or preparation for the next test.

A few years ago, Ron Williamson and Howard Johnston conducted a study to find out how teachers and parents defined rigor. What they found was that the two groups held startlingly different definitions. Teachers said that rigor meant doing more work in general, while parents said that rigor meant doing less but more in-depth work.

The challenge for school leaders is how to reconcile these differences and work with teachers, parents, and the greater community to develop a shared vision for a rigorous school and to mobilize resources in support of improved rigor.

True rigor is expecting every student to learn and perform at high levels. This requires instruction that allows students to delve deeply into their learning, to engage in critical thinking and problem-solving activities, to be curious and imaginative, and to demonstrate agility and adaptability (Wagner, 2008a)[6].

Myth #3: Rigor is Not for Everyone

There is a belief that the only way to assure success for everyone is to lower standards and lessen rigor. Such beliefs often mask an underlying sense that some students are less capable and that their success will hold back those who are more capable.

There is growing recognition that all students must be provided an opportunity for a rigorous educational experience. The state of Michigan recently revised its requirements for a high school diploma. All students must now complete three and a half years of mathematics, including Algebra II and Geometry, as well as Biology and either Chemistry or Physics. The expectation is that schools will design networks of support to ensure that every student is successful.

Rigor, however, is more than a set of courses. It is anchored in the belief that every student can be successful given adequate time and sufficient support. Tony Wagner (2008b)[7] suggests that our society's success rests on a commitment to providing students with a set of skills that will allow them to become "productive citizens who contribute to solving some of the most pressing issues we face" (p. 21) and who thrive in a collaborative environment.

The National High School Alliance suggests that a "rigor agenda" must assure that every student, not just the traditionally college-bound student, is well prepared for post-secondary education, a career, and participation in civic life. Ultimately, the Alliance suggests, it is about improving achievement — for every student.

There is no evidence that says supporting the success of every student means lessening rigor or the quality of schools. Just the opposite; research demonstrates the benefits of a shared commitment to a more equitable and just society, one in which every student has the skills for life-long success.

Myth #4: Providing Support Means Lessening Rigor

A belief central to the American psyche is that of rugged individualism — do things on your own. Working in teams or with support is often seen as a sign of weakness.

But we've found that supporting students so that they can learn at high levels (Blackburn, 2008)[8] is central to the definition of rigor. As teachers design lessons moving students toward more challenging work, they must provide scaffolding to support them as they learn.

When Ron Williamson and Howard Johnston conducted their study, they asked teachers and parents about their experiences with rigor. Both groups repeatedly told stories of how successful they were on rigorous tasks when they were given a high level of support, a safety net. Often, people described tasks that were initially unsuccessful. Only after additional time or effort did they experience success. In fact, many people said that they would not have been successful without strong support.

The same is true for students. They are motivated to do well when they value what they are doing and when they believe that they have a chance of success. The most successful schools are those that build a culture of success, celebrate success, and build a success mentality.

What Rigor Is and Where to Go From Here

Rigor is creating an environment in which each student is expected to learn at high levels, each student is supported so he or she can learn at high levels, and each student demonstrates learning at high levels.

We believe that real change – change that impacts every student – occurs at the classroom level. The power of every teacher, working alongside committed colleagues, can make a difference for students.

Our intent is not to offer another program or suggest another policy. It is to provide practical tools that every leader can use to positively impact his or her school. There is no silver bullet, no single program or directive that can increase rigor in your school.

But we *have* found that in classrooms where all students learn, regardless of gender, ethnicity, poverty level, or background, teachers and leaders care deeply about their students. They care enough to work with each and every one of them to assure that they rise to higher levels.

We have come to recognize that rigor is not just about what is taught or the classes that students take. It is all about expectations, instructional effectiveness, and assessment practices.

We suspect you find that you are already using some of the ideas, and we know that every school community is unique. We purposely included many different examples in our books, *Rigorous Schools and Classrooms: Leading the Way* and *Rigor is Not a Four-Letter Word*, and we encourage you to read and adapt the strategies you find to fit your own setting.

Rigor does not necessarily mean throwing away everything you are doing. Rigor in many cases means adjusting what you do to increase your expectations and the learning of your students. Rigor is ensuring that each student is provided the opportunity to grow in ways they cannot imagine. By taking the necessary steps, you as a principal can make a lasting and positive impact on students and on the teachers who work with them.

References

[1]Jackson, R. R. (2009). Never work harder than your students and other principles of great teaching. Alexandria, VA: Association for Supervision and Curriculum Development.

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[5]Hechinger Institute (2009). Understanding and reporting on academic rigor. New York: Teachers' College Press.

[6]Wagner, T. (2008a). The global achievement gap: Why even our best schools don't teach the new survival skills our children need—and what we can do about it. New York: Basic Books.

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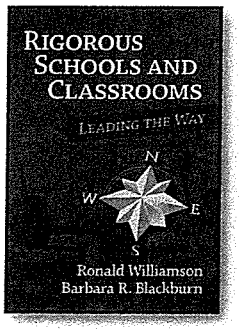
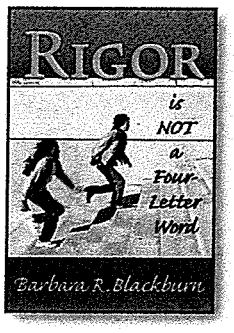
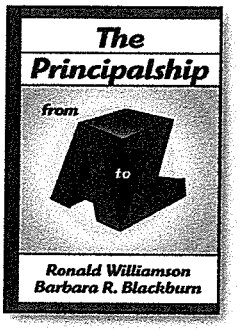
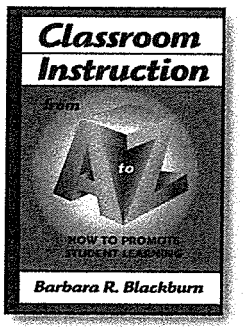
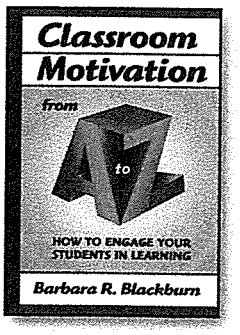
Books By Barbara Blackburn and Ronald Williamson











About Ronald Williamson

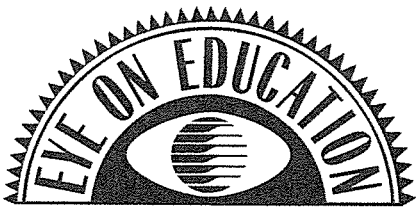
Ronald Williamson is a professor of leadership and counseling at Eastern Michigan University. Previously, he taught at the University of North Carolina. He was also a teacher, principal, and executive director of instruction in the Ann Arbor, Michigan Public Schools.

The author of more than 100 books, chapters, papers, and articles in every major professional journal serving middle and high school teachers and administrators, Ron works with schools throughout the country on issues concerning school improvement.

About Barbara Blackburn

Dr. Barbara Blackburn has taught early childhood, elementary, middle, and high school students and has served as an educational consultant for three publishing companies. She holds a master's degree in school administration and is certified as a school principal in North Carolina. She received her Ph.D. from the University of North Carolina at Greensboro. In 2006, she received the award for Outstanding Junior Professor at Winthrop University. She recently left her position at the University of North Carolina at Charlotte to write and speak full time.

In addition to speaking at state and national conferences, she also regularly presents workshops for teachers and administrators in elementary, middle, and high schools.



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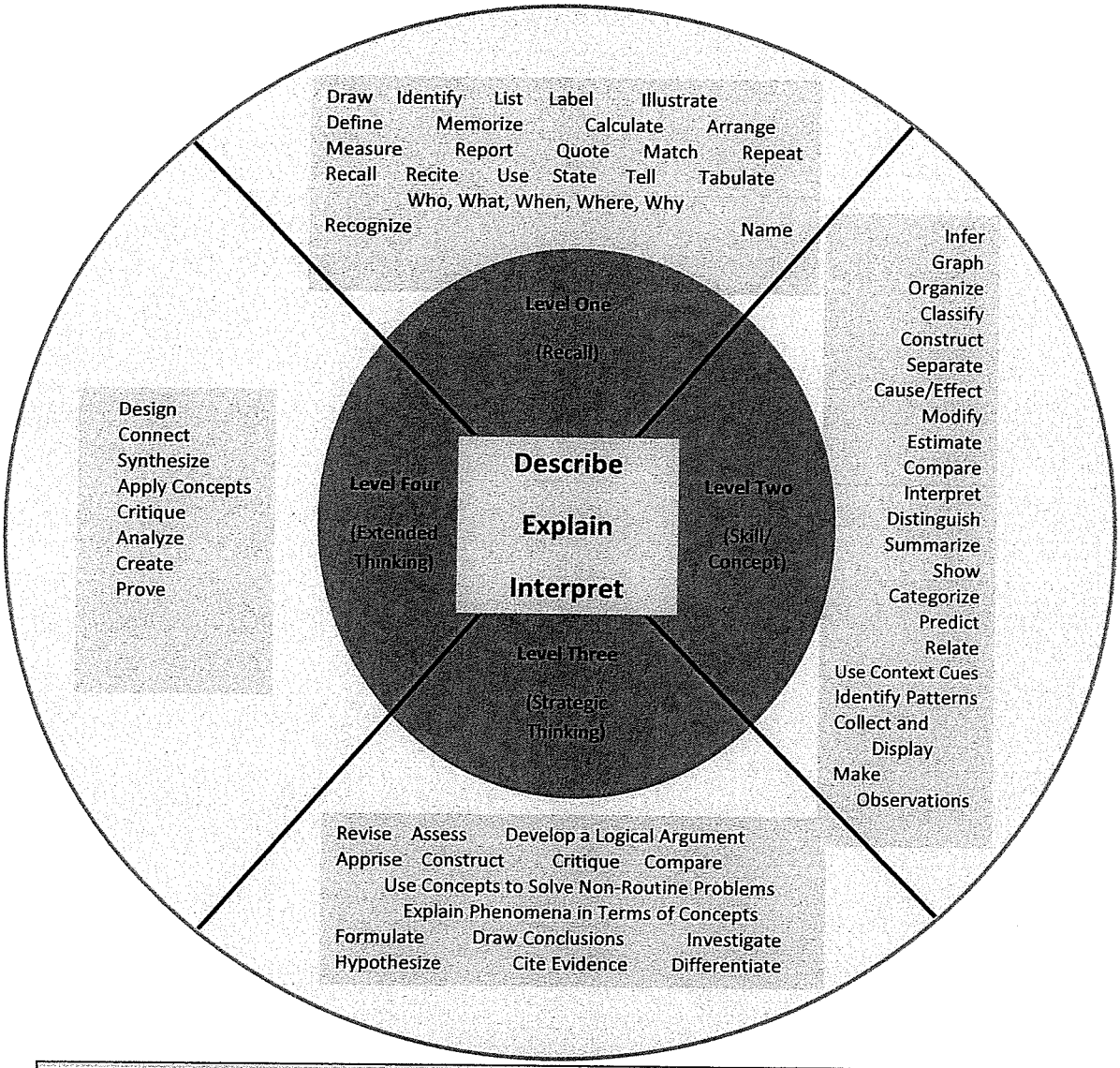
Depth of Knowledge (DOK) Levels



Level One Activities	Level Two Activities	Level Three Activities	Level Four Activities
Recall elements and details of story structure, such as sequence of events, character, plot and setting.	Identify and summarize the major events in a narrative.	Support ideas with details and examples.	Conduct a project that requires specifying a problem, designing and conducting an experiment, analyzing its data, and reporting results/solutions.
Conduct basic mathematical calculations.	Use context cues to identify the meaning of unfamiliar words.	Use voice appropriate to the purpose and audience.	Apply mathematical model to illuminate a problem or situation.
Label locations on a map.	Solve routine multiple-step problems.	Identify research questions and design investigations for a scientific problem.	Analyze and synthesize information from multiple sources.
Represent in words or diagrams a scientific concept or relationship.	Describe the cause/effect of a particular event.	Develop a scientific model for a complex situation.	Describe and illustrate how common themes are found across texts from different cultures.
Perform routine procedures like measuring length or using punctuation marks correctly.	Identify patterns in events or behavior.	Determine the author's purpose and describe how it affects the interpretation of a reading selection.	
	Formulate a routine problem given data and conditions.		
Describe the features of a place or people.	Organize, represent and interpret data.	Apply a concept in other contexts.	Design a mathematical model to inform and solve a practical or abstract situation.

COGNITIVE LEVEL COMPARISON MATRIX: BLOOM AND WEBB

CATEGORIES

BLOOM			WEBB	
1.0	Knowledge	Remembering	**1.0**	Recall
2.0	Comprehension	Understanding	**2.0**	Basic Application of Skill/Concept
3.0	Application	Applying		
4.0	Analysis	Analyzing	**3.0**	Strategic Thinking
5.0	Synthesis	Evaluating	**4.0**	Extended Thinking
6.0	Evaluation	Creating		

DEFINITIONS

BLOOM		WEBB	
1.0	Student remembers or recalls appropriate previously learned information.	**1.0**	Student recalls facts, information, procedures, or definitions.
2.0	Student translates, comprehends, or interprets information based on prior learning.	**2.0**	Student uses information, conceptual knowledge, and procedures.
3.0	Student selects, transfers, and uses data and principles to complete a task or problem with a minimum of direction		
4.0	Student distinguishes, classifies, and relates the assumptions, hypotheses, evidence, or structure of a statement or question.	**3.0**	Student uses reasoning and develops a plan or sequence of steps; process has some complexity.
5.0	Student originates, integrates, and combines ideas into a product, plan, or proposal that is new.	**4.0**	Student conducts an investigation, needs time to think and process multiple conditions of problem or task. PROJECT OVER TIME IN-DEPTH SYNTHESIS ANALYSIS
6.0	Student appraises, assesses, or critiques on a basis of specific standards and criteria.		

COGNITIVE LEVEL COMPARISON MATRIX: BLOOM AND WEBB			
Action Words			
BLOOM		WEBB	
1.0	define, identify, name, select, state, order (involves a one-step process)	**1.0**	define, identify, name, select, state, order (involves a one-step process)
2.0	convert, estimate, explain, express, factor, generalize, give example, identify, indicate, locate, picture graphically (involves a two-step process)	**2.0**	apply, choose, compute, employ, interpret, graph, modify, operate, plot, practice, solve, use (involves a two-step process)
3.0	apply, choose, compute, employ, interpret, graph, modify, operate, plot, practice, solve, use, (involves a three-or-more step process)		
4.0	compare, contrast, correlate, differentiate, discriminate, examine, infer, maximize, minimize, prioritize, subdivide, test	**3.0**	compare, contrast, correlate, differentiate, discriminate, examine, infer, maximize, minimize, prioritize, subdivide, test
5.0	arrange, collect, construct, design, develop, formulate, organize, set up, prepare, plan, propose, create, experiment and record data	**4.0**	arrange, collect, construct, design, develop, formulate, organize, set up, prepare, plan, propose, create, experiment and record data
6.0	appraise, assess, defend, estimate, evaluate, judge, predict, rate, validate, verify		

Hess' Cognitive Rigor Matrix & Curricular Examples: Applying Webb's Depth-of-Knowledge Levels to Bloom's Cognitive Process Dimensions - *ELA*

Revised Bloom's Taxonomy	Webb's DOK Level 1 Recall & Reproduction	Webb's DOK Level 2 Skills & Concepts	Webb's DOK Level 3 Strategic Thinking/ Reasoning	Webb's DOK Level 4 Extended Thinking
Remember Retrieve knowledge from long-term memory, recognize, recall, locate, identify	○ Recall, recognize, or locate basic facts, details, events, or ideas explicit in texts ○ Read words orally in connected text with fluency & accuracy			
Understand Construct meaning, clarify, paraphrase, represent, translate, illustrate, give examples, classify, categorize, summarize, generalize, infer a logical conclusion), predict, compare/contrast, match like ideas, explain, construct models	○ Identify or describe literary elements (characters, setting, sequence, etc.) ○ Select appropriate words when intended meaning/definition is clearly evident ○ Describe/explain who, what, where, when, or how ○ Define/describe facts, details, terms, principles ○ Write simple sentences	○ Specify, explain, show relationships; explain why, cause-effect ○ Give non-examples/examples ○ Summarize results, concepts, ideas ○ Make basic inferences or logical predictions from data or texts ○ Identify main ideas or accurate generalizations of texts ○ Locate information to support explicit-implicit central ideas	○ Explain, generalize, or connect ideas using supporting evidence (quote, example, text reference) ○ Identify/ make inferences about explicit or implicit themes ○ Describe how word choice, point of view, or bias may affect the readers' interpretation of a text ○ Write multi-paragraph composition for specific purpose, focus, voice, tone, & audience	○ Explain how concepts or ideas specifically relate to *other* content domains or concepts ○ Develop generalizations of the results obtained or strategies used and apply them to new problem situations
Apply Carry out or use a procedure in a given situation; carry out (apply to a familiar task), or use (apply) to an unfamiliar task	○ Use language structure (pre/suffix) or word relationships (synonym/antonym) to determine meaning of words ○ Apply rules or resources to edit spelling, grammar, punctuation, conventions, word use ○ Apply basic formats for documenting sources	○ Use context to identify the meaning of words/phrases ○ Obtain and interpret information using text features ○ Develop a text that may be limited to one paragraph ○ Apply simple organizational structures (paragraph, sentence types) in writing	○ Apply a concept in a new context ○ Revise final draft for meaning or progression of ideas ○ Apply internal consistency of text organization and structure to composing a full composition ○ Apply word choice, point of view, style to impact readers' /viewers' interpretation of a text	○ Illustrate how multiple themes (historical, geographic, social) may be interrelated ○ Select or devise an approach among many alternatives to research a novel problem
Analyze Break into constituent parts, determine how parts relate, differentiate between relevant-irrelevant, distinguish, focus, select, organize, outline, find coherence, deconstruct (e.g., for bias or point of view)	○ Identify whether specific information is contained in graphic representations (e.g., map, chart, table, graph, T-chart, diagram) or text features (e.g., headings, subheadings, captions) ○ Decide which text structure is appropriate to audience and purpose	○ Categorize/compare literary elements, terms, facts/details, events ○ Identify use of literary devices ○ Analyze format, organization, & internal text structure (signal words, transitions, semantic cues) of different texts ○ Distinguish: relevant-irrelevant information; fact/opinion ○ Identify characteristic text features; distinguish between texts, genres	○ Analyze information within data sets or texts ○ Analyze interrelationships among concepts, issues, problems ○ Analyze or interpret author's craft (literary devices, viewpoint, or potential bias) to create or critique a text ○ Use reasoning, planning, and evidence to support inferences	○ Analyze multiple sources of evidence, or multiple works by the same author, or across genres, time periods, themes ○ Analyze complex/abstract themes, perspectives, concepts ○ Gather, analyze, and organize multiple information sources ○ Analyze discourse styles
Evaluate Make judgments based on criteria, check, detect inconsistencies or fallacies, judge, critique			○ Cite evidence and develop a logical argument for conjectures ○ Describe, compare, and contrast solution methods ○ Verify reasonableness of results ○ Justify or critique conclusions drawn	○ Evaluate relevancy, accuracy, & completeness of information from multiple sources ○ Apply understanding in a novel way, provide argument or justification for the application
Create Reorganize elements into new patterns/structures, generate, hypothesize, design, plan, produce	Brainstorm ideas, concepts, problems, or perspectives related to a topic or concept	○ Generate conjectures or hypotheses based on observations or prior knowledge and experience	○ Synthesize information within one source or text ○ Develop a complex model for a given situation ○ Develop an alternative solution	○ Synthesize information across multiple sources or texts ○ Articulate a new voice, alternate theme, new knowledge or perspective

DEPTH OF KNOWLEDGE (DOK) LEVEL	DOK DEFINITION	DOK EXAMPLES
DOK-1 – Recall &Reproduction	Recall of a fact, term, principle, concept, or perform a routine procedure.	Recall elements and details of story; structure, such as sequence of events, character, plot and setting; Conduct basic mathematical calculations; Label locations on a map; Represent in words or diagrams a scientific concept or relationship. Perform routine procedures like measuring length or using punctuation marks correctly; Describe the features of a place or people.
DOK-2 - Basic Application of Skills/Concepts	Use of information, conceptual knowledge, select appropriate procedures for a task, two or more steps with decision points along the way, routine problems, organize/display data, interpret/use simple graphs.	Identify and summarize the major events in a narrative; Use context cues to identify the meaning of unfamiliar words; Solve routine multiple-step problems; Describe the cause/effect of a particular event; Identify patterns in events or behavior;Formulate a routine problem given data and conditions; Organize, represent and interpret data.
DOK-3 - Strategic Thinking	Requires reasoning, developing a plan or sequence of steps to approach problem; requires some decision making and justification; abstract, complex, or non-routine; often more than one possible answer.	Support ideas with details and examples; Use voice appropriate to the purpose and audience; Identify research questions and design investigations for a scientific problem; Develop a scientific model for a complex situation; Determine the author's purpose and describe how it affects the interpretation of a reading selection; Apply a concept in other contexts.
DOK-4 - Extended Thinking	An investigation or application to real world; requires time to research, problem solve, and process multiple conditions of the problem or task; non-routine manipulations, across	Conduct a project that requires specifying a problem, designing and conducting an experiment, analyzing its data, and reporting results/solutions; Apply mathematical model to illuminate a problem or situation; Analyze and synthesize information from multiple sources; Describe and illustrate how common themes

disciplines/content areas/multiple sources.

are found across texts from different cultures; Design a mathematical model to inform and solve a practical or abstract situation.