Teaching for Relevance

THOUGHTS ON RIGOR & RELEVANCE

When instruction is academically rigorous and relevant, students actively explore, research, and solve complex problems to develop a deep understanding of core academic concepts.

Increasing rigor and relevance does not mean more and longer homework assignments, rather, it means time and opportunity for students to develop and apply habits of mind as they navigate sophisticated and reflective learning experiences.

Students should be weighing evidence, considering varying points of view, seeing connections, identifying patterns, evaluating outcomes, speculating on possibilities, assessing value, and applying their learning to their own lives, histories, and experiences.
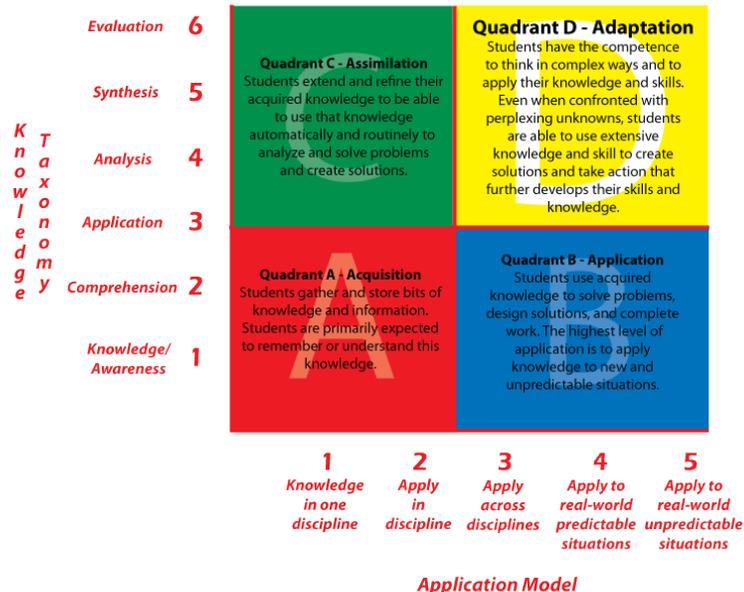
What is Relevance?

Relevance Defined According to the Rigor & Relevance Framework

Relevance refers to learning in which students apply core knowledge, concepts, or skills to solve real-world problems. Relevant learning is interdisciplinary and contextual. Student work can range from routine to complex at any school grade and in any subject. Relevant learning is created, for example, through authentic problems or tasks, simulation, service learning, connecting concepts to current issues, and teaching others. The Rigor and Relevance Framework uses the Application Model (Daggett) to describe the different levels of relevance (See supplemental information from last month's module for more information on the Rigor and Relevance Framework).

The five levels of the Application Model action continuum are:

1. Knowledge in one discipline
2. Apply in one discipline
3. Apply across disciplines
4. Apply to real-world predictable situations
5. Apply to real-world unpredictable situations

Identifying the level of relevance of curriculum objectives and instructional activities is a little more diffi-

Knowledge Taxonomy
6 Evaluation
5 Synthesis
4 Analysis
3 Application
2 Comprehension
1 Knowledge/Awareness

Quadrant C - Assimilation
Students extend and refine their acquired knowledge to be able to use that knowledge automatically and routinely to analyze and solve problems and create solutions.

Quadrant D - Adaptation
Students have the competence to think in complex ways and to apply their knowledge and skills. Even when confronted with perplexing unknowns, students are able to use extensive knowledge and skill to create solutions and take action that further develops their skills and knowledge.

Quadrant A - Acquisition
Students gather and store bits of knowledge and information. Students are primarily expected to remember or understand this knowledge.

Quadrant B - Application
Students use acquired knowledge to solve problems, design solutions, and complete work. The highest level of application is to apply knowledge to new and unpredictable situations.

Application Model
1 Knowledge in one discipline
2 Apply in discipline
3 Apply across disciplines
4 Apply to real-world predictable situations
5 Apply to real-world unpredictable situations

cult than determining the Knowledge Taxonomy level because there is no verb list. However, just as the Knowledge Taxonomy categorizes increasing levels of thinking, the Application Model describes increasingly complex applications of knowledge. Any student performance can be expressed as one of the five levels of the Application Model. The Application Model Decision Tree (see pages 2-3) can assist in setting the desired level of expected student performance in application by asking the questions: Is it application? Is it real world? Is it unpredictable? Each level requires students to apply knowledge differently. The expected level of achievement can vary depending on the purpose of the instruction. If a teacher wants students only to acquire basic knowledge, then a student performance set at level one is adequate. If the instruction is intended to have a

significant impact on learning, skills, or practice, then some of the objectives need to be at levels four and five.

Use of the Application Model Decision Tree can help to describe desired performance. Start by writing draft statements of student objectives and then use the Decision Tree to reflect on and revise these statements. The Decision Tree focuses on the three key characteristics that distinguish levels of the Application Model: application, real world, and unpredictability. The second page of the Decision Tree offers additional criteria to determine whether an objective meets the test of application, real world, and unpredictability.

The Application Model Decision Tree can also be used to evaluate existing lesson plans, assessments, and instructional experiences. Answer the questions to identify at which level of student performance that instruction or assessment is.

Material in this article was reproduced and adapted from *Rigor/Relevance Framework* by The International Center for Leadership in Education.

Use with the Rigor & Relevance Framework

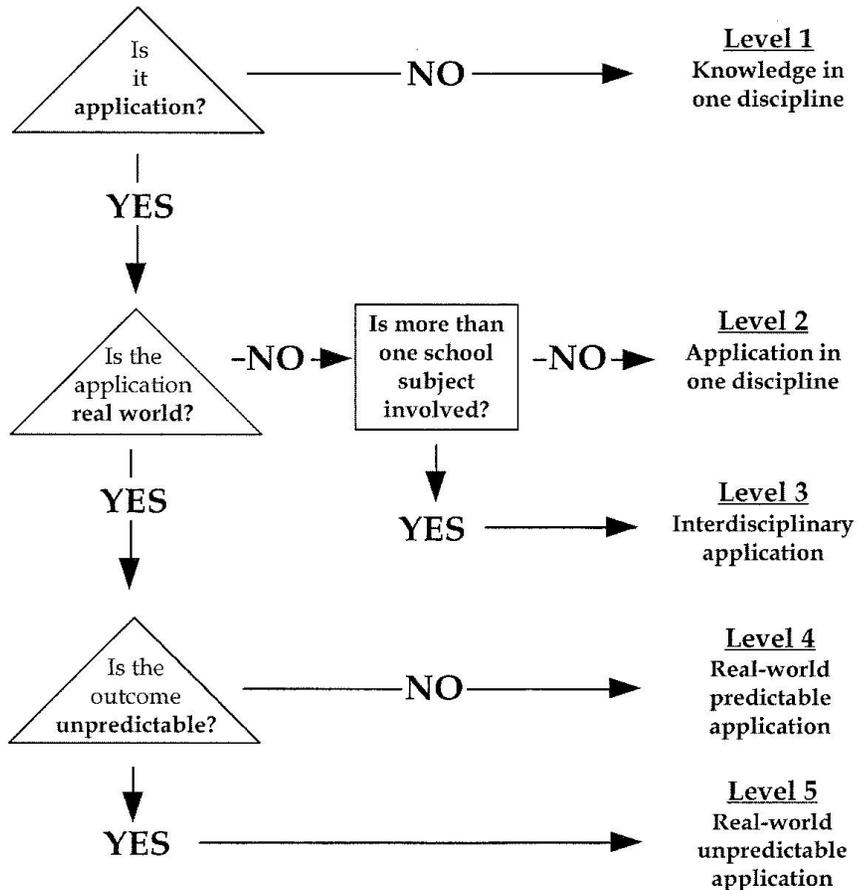### Add Relevance to Any Lesson or Unit by Associating Learning with:

- Student's life
- Family's life
- Student's friends
- Student's hobbies and past-times
- The latest technology
- Social media
- Television media and film industry
- Our community
- Our world, nation, state
- The world of work
- The world of service
- The world of business and commerce with which we interact

Connect to the Real World: by Using or Addressing:

- Moral, ethical, political, and cultural points of view and dilemmas
- Real world materials
- Internet resources
- Video and other media
- Scenarios and real-life stories
- Periodicals and local and national news

Application Model Decision Tree

Directions: Select a task, application, or activity and then answer the following questions. See next page for clarification of the questions.
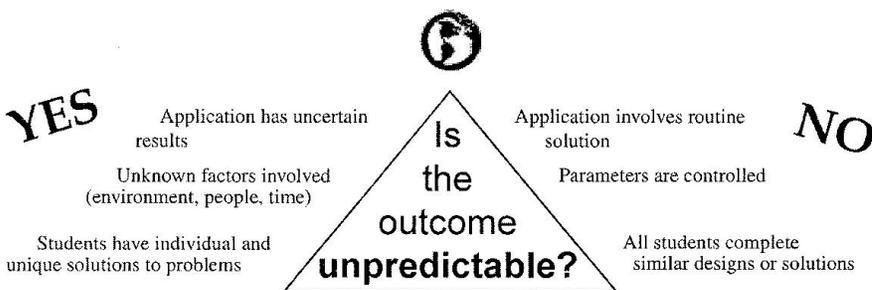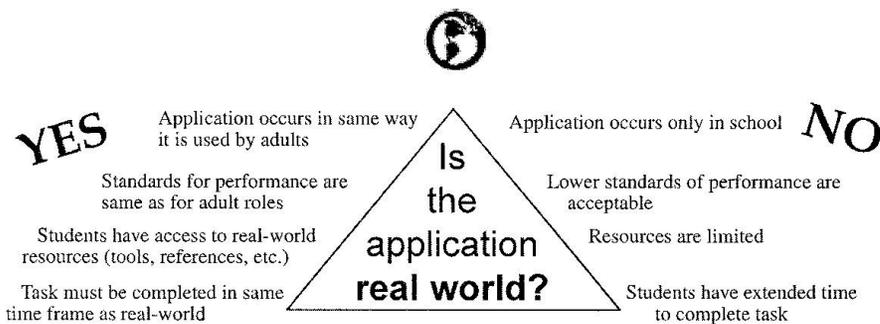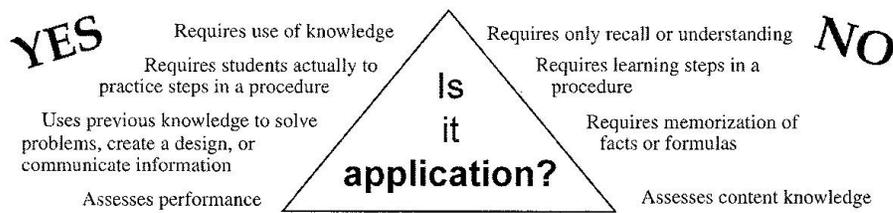
Is it application? — NO → **Level 1** Knowledge in one discipline

YES ↓

Is the application real world? — NO → Is more than one school subject involved? — NO → **Level 2** Application in one discipline

YES ↓ (Is more than one school subject involved?) → YES → **Level 3** Interdisciplinary application

YES ↓

Is the outcome unpredictable? — NO → **Level 4** Real-world predictable application

YES → **Level 5** Real-world unpredictable application

Use with the Rigor & Relevance Framework

Application Model Decision Tree

Directions: Use the following statements to clarify where a task, application, or assessment belongs on the Application Model.

YES — Is it **application**? — **NO**

YES	NO
Requires use of knowledge	Requires only recall or understanding
Requires students actually to practice steps in a procedure	Requires learning steps in a procedure
Uses previous knowledge to solve problems, create a design, or communicate information	Requires memorization of facts or formulas
Assesses performance	Assesses content knowledge

YES — Is the application **real world**? — **NO**

YES	NO
Application occurs in same way it is used by adults	Application occurs only in school
Standards for performance are same as for adult roles	Lower standards of performance are acceptable
Students have access to real-world resources (tools, references, etc.)	Resources are limited
Task must be completed in same time frame as real-world	Students have extended time to complete task

YES — Is the outcome **unpredictable**? — **NO**

YES	NO
Application has uncertain results	Application involves routine solution
Unknown factors involved (environment, people, time)	Parameters are controlled
Students have individual and unique solutions to problems	All students complete similar designs or solutions

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Basic Tenets of a Relevant Curriculum

- A global perspective is developed and presented in the content area.
- A personal and local perspective is cultivated so that each student can create relevant links to the content.
- The whole child's academic, emotional, physical, and mental development is thoughtfully considered.
- The possibilities for future career and work options are developed.
- The disciplines are viewed dynamically and rigorously as growing and integrating in real-world practice.
- Technology and media are used to expand possible sources of content so that active as well as static materials are included.
- The complexity of the content is developmentally matched to the age and stage of the learner.

Key Elements of Engaged Learning

Conrad & Donaldson (2004)

- Students establishing their own learning goals
- Students working together in groups
- Exploring appropriate resources to answer meaningful questions
- Tasks that are multidisciplinary and authentic, with connections to the real world
- Assessment that is ongoing and performance-based
- Products that are shared with an audience beyond the classroom so students are able to add value outside of the learning environment
- Teacher provides demonstrations and/or rich descriptions
- Teacher provides numerous opportunities for communication and feedback
- A safe student-centered learning environment is provided
- Opportunities for self-assessment are provided

Culturally Relevant Teaching

From *"How to Teach Students Who Don't Look Like You,"* by Bonnie Davis (2007)

- Call on all students equitably.
- Ensure that your lessons include role models from the cultural groups represented in your classroom.
- Use student names in your examples.
- Impress upon students the necessity of book knowledge so they can't be cheated in their lives (Payne, 2001).
- Use cooperative learning.
- Emphasize cooperation and deemphasize competition.
- Use a "We're all in this together" classroom approach.
- Build a classroom community that expects excellence from each student and allows a flexible time frame for achieving excellence.
- Talk explicitly about the negative effects of peer pressure and how students can counteract them.
- Sponsor clubs that support academic excellence and offer a support group to students willing to fight negative peer pressure.
- Ask students to bring in a family item and share it with the class.
- Invite parents into the school to interact with staff and students.
- Begin your year by having students write personal narratives about themselves. If you are teaching a subject other than English, you can tie this assignment to your subject matter and classroom goals. Ask students to write their "math history" or their "science history" (or whatever subject you teach) and tell you how that subject has been a part of their lives. Have them end their history with their goals for your class.

Guiding PLC Discussion Questions

1. What "hooks" can you use to make learning more relevant for students?
2. How can you improve your body language, tone of voice, and expressions to engage learners?
3. Look at the Rigor and Relevance Framework. On what levels of the Application Model do you spend most of your time? What specific lessons could you create to move students to levels 4 and 5?
4. How can you use the latest brain research (Jensen) to increase relevance in your classroom?
5. How can you address culturally relevant teaching in your classroom to engage and motivate learners?
6. What can you do with the students who lack motivation? Be creative.
7. How can you make use of PLD's and other district tools to ensure ALL students are being appropriately challenged and to facilitate students moving into higher achievement level categories.

"Hooking" Students into Learning

According to Jensen (1997), there are three ways that we hook students into the learning:

1. *Building Connections*—The brain seeks connections. The first thing that the brain seems to do when introduced to new information is to seek out prior experiences or information on which to hook the new information. As teachers we can facilitate that by directly including the connection in our introduction. When there is no natural connection, we can create a connection to help make the learning personally meaningful.

2. *Emotion*—Emotion is one of the strongest forces in the brain. It has the power to shut down everything in the face of danger. One of the reasons we have survived as a species is because our brain has a wonderful capacity for fight or flight. Jensen (1997) says, "When the learner's emotions are engaged, the brain codes the content by triggering the release of chemicals that single out and mark the experience as important and meaningful." We want to promote positive emotions with our students, and we do that by adding music to the learning environment, using suspense, adding costumes, incorporating media into the learning, and a myriad of other strategies. Strong emotion helps us to remember. Therefore, the more we can incorporate strong positive emotion into the learning, the more likely it is that our students will remember the very difficult-to-remember information. Have you ever been so interested in something that you lost track of time, and when you had to stop working you were disappointed? If so, you probably had a strong positive emotional attachment to what you were doing. You liked it; the learning was probably interesting, intriguing, suspenseful, of personal value, or unique in some way.

3. *Relevance*—Relevance relates not just to making learning meaningful but also to giving it personal meaning to the learner. How will the information help me to achieve my personal goals, whether they are simply to keep from being cheated on the street to getting into the school of my choice? Jensen (1997) says, "In order for information to be considered relevant, it must relate to something the learner already knows. It must activate a learner's existing neural networks. The more relevance, the greater the meaning." We help give relevance to the learning by asking students to write their own goals or objectives for the learning. For example, a classroom teacher should always provide the state goal and the teacher's objectives for a unit of study to the students and to the parents where appropriate. Students should be made aware that these are the objectives and should refer back to the objectives during the unit of study to evaluate their own learning. In addition, by guiding students to create their own objectives for learning we are tapping into the need for personal relevance and the monitoring that is taken on by the metacognitive system.

Our species has not survived by taking in a lot of information that is meaningless! The brain is a pattern-seeking device. It is always trying to make sense out of its world, continuously trying to determine what is meaningful in what it experiences. Every encounter with something new requires the brain to fit it into an existing memory category (network of neurons). If we want to make information meaningful to the people we teach, we have two options:

1. Find a way to connect the new information to information that the students already have in long-term memory. The brain likes patterns, and the first thing that it searches for, when there is new information, is a pattern of previous experience to which to connect the new information. This may be as simple as discussing a previous lesson or as complex as associating pizza with fractions. Activating prior knowledge has an effect size of +45. **This means that when applied appropriately, using this strategy can raise a student's score from the 50th percentile to the 95th percentile on the knowledge presented.**

2. Help students see how the new learning will help them personally in some way. This may be as simple as helping them prepare for an exam or as complex as keeping them from being cheated on the street. For example, knowing the fractional parts of a pizza can keep an urban child from being cheated by paying the same price for a slice of pizza that is 1/16 of the pie as others pay for 1/8. Ask yourself, "How is this learning used in the real world?"

From "*What Every Teacher Should Know About Effective Teaching Strategies*" by Donna Walker Tileston (2004)

Use the Power of the Group—Strategies for Grouping for Relevance

- Knowledge-Based Groups
- Skills– or Needs-Based Groups
- Cooperative Groups
- Project Teams
- Interest-Based Groups
- Peer-to-Peer (Think-Pair-Share)
- Sharing Groups
- Multi-Age Groups

Strategies for Relevant Teaching

1. Prior to the learning, introduce the information in ways that are interesting and that have meaning to the students. Whenever possible, relate the information to student interests. For example, statistics is more interesting when presented as a way to keep pertinent information on sports teams. Learning physics can be exciting when applied to creating amusement park rides. Studying animals can be more interesting to young students when we begin with their own pets or with animals common to the area in which they live. Ask yourself, "What does this have to do with my students' lives?" One math teacher has a sign in her classroom that reads, "I promise I will never teach you anything in this classroom unless I can tell you how it is used in the real world."
2. Provide a means for students to hook new information onto what they already know. The brain seeks patterns, so the more we can help create those patterns, the more likely students will hook onto the new learning.
3. Explicitly teach students how to compare and contrast new information with old information. Again, by doing this, the teacher is helping students create patterns and relevance. Both patterns and relevance are critical to learning. Many of the benchmarks for the state standards require students to know how things are alike and different. Since high stakes tests are written based on the benchmark information, teaching students to effectively use compare and contrast has the potential for raising test scores significantly.
4. Provide students with nonlinguistic as well as linguistic models. By teaching students how to create nonlinguistic representations, we help them to find meaning in the information and in the processes involved.
5. Engage students in tasks that provide challenge through experimental inquiry, problem solving, decision making, and investigation (Marzano, 1998).
6. "Provide students with explicit instructional goals and give them explicit and precise feedback relative to how well those goals were met" (Marzano, 1998). Remember that feedback that is general or undeserved has little value on student achievement. Feedback should be given every thirty minutes—it does not always have to be from the teacher. Feedback might be from the student him/herself (teach students how to use self-talk and other forms of self-evaluation), from peers, or from a combination of sources.
7. Provide praise when students have met the instructional goals. Have celebrations in the classroom when benchmarks are reached.
8. "Have students identify their own instructional goals, develop strategies to obtain their goals, monitor their own progress and thinking relative to those goals" (Marzano, 1998). We know from the study of the brain's metacognitive system that in order for students to be motivated to complete a project, they must have personal goals and they must be able to modify those goals as needed. Otherwise, impulsivity will take over and the student may either quit the project or finish it in a sloppy manner.
9. Guide students to be aware of their own beliefs and interests so that they will be more likely to learn new processes or knowledge.

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The Four Components of the "Self-System" for Student Motivation

The first component of the Self-System is **Importance.** In order for learners to pay attention, they must believe that the knowledge or task is relevant to them and that it is important to know and/or be able to do. To help students determine importance of the learning:

1. Tell students why they are learning the information. If it follows a state goal, tell the students what the state is and how they will show mastery.
2. Ask students to compare and contrast what they already know about a subject with what they are about to learn. This will help them to see how the skills build on one another and will help them to realize that they are moving to a new layer of complexity.
3. Build empathy and interest. When introducing a short story, add suspense by reading only the first paragraph and asking your students to predict the ending based on what they know so far. Later, after the story is read, ask students to compare what they thought might happen to what actually happened. Ask them to look for clues to the ending.
4. Give the information a real-world context. Tell students how they will use the information in the real world.
5. Create mental confusion. Tap into students' curiosity to know by showing them what they don't know or what they may be confused about. By doing this, we help to give relevance by clearing up the confusion.
6. The best way to show relevance to students is through our own attitudes, emotions, and body language. When we believe that learning is exciting and interesting, students are more likely to believe so too. According to Jensen (1997), when we are teaching, our students' brains prioritize the incoming data using our body language as the highest priority; the tone, volume, and tempo of our voices as the second priority; and the content and selection of our words as the last. So, what we say may not be as important as how we say it.

The second component is **Efficacy**. Efficacy is the learners' belief that they can do the task or learn the information. Ways to foster self efficacy include:

1. Provide opportunities for students to be successful—even in incremental steps. Begin with simple tasks and questions and build in complexity.
2. Provide frequent and specific feedback. General, sweeping statements such as "good job: have little effect on student learning. Students need to know how they are doing; they need to know what they are doing right, what needs work, and how they can make the adjustment.
3. Provide ample wait time after questions. There is a tendency in all of us to move on to quickly when we think the student doesn't know the answer.
4. Give credit for partial answers and when part of the answer is correct. Also, give clues when students are stumped.
5. Create a climate where students believe that you are all learners together and that it is okay if you do not know the answer.

The third component is **Emotional Response**. Many researchers believe that emotion is the strongest force in the brain. Strategies include:

1. Music—Bring in the sounds of the times for history, sounds of the city for other languages, motivational music, quiet music, and fun music.
2. Costumes—Embed images of learning through dressing in costume from time to time.
3. Use symbols for the learning. Because symbols serve as a connector to factual information, they help students retain information.
4. Use drama, simulations, Socratic questioning, and student interaction.

The fourth component of the self-system is **Overall Motivation**. Overall motivation occurs when learners believe the learning is important, when they believe they can accomplish the task, and when there is a strong positive emotion toward the learning.