Engaging Students through Rigorous and Relevant Instruction
AGENDA

♦ Rigor/Relevance Framework
♦ Planning Instruction
  ♦ Quadrant D Lessons
  ♦ Instructional Strategies
    ♦ Questioning Strategies
  ♦ Quadrant D Moments
♦ Assessment
We are preparing students for

- Jobs that don’t yet exist, using . . .
- Technology that has not yet been invented in order to . . .
- Solve problems that we don’t even know are problems.
IN THE UNITED STATES

Creative Work

- Research
- Development
- Design
- Marketing and Sales
- Global Supply Chain Management

IN LESS DEVELOPED COUNTRIES

Routine Work
Done by People

Routine Work
Done by Machines

Source: Tough Choices Tough Times, National Center on Education and the Economy
21st Century Skills for Success

♦ Strong Academics
  ♦ Reading, Writing, Math, Science

♦ Career Skills
  ♦ Workplace Attitudes & Ethics
  ♦ Technology Skills

♦ Character Virtues
  ♦ Honesty, Responsibility, Integrity
NEW BUILDINGS DESIGNS IN KOREA
Think – Pair – Share

What makes a lesson rigorous and relevant for a student?
ICLE Philosophy

- Rigor
- Relevance
- Relationships
- All Students
ICLE Philosophy

♦ Relationships
♦ Relevance
♦ Rigor
♦ EACH Student
Relationships + Relevance
Make Rigor Possible
Thinking Continuum

Level of challenge of the learning for the student

Assimilation of knowledge

Acquisition of knowledge
Increasing Rigor and Relevance
Using the Rigor/Relevance Framework

Think about a lesson, concept, or activity that you have taught recently with your students. Describe the learning experience.

Using the Rigor/Relevance Framework chart below, plot your lesson, concept, or activity as you currently teach or use it in your classroom on the Knowledge Taxonomy scale and on the Application Model scale.

<table>
<thead>
<tr>
<th>Knowledge Taxonomy</th>
<th>Application Model</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Knowledge</td>
</tr>
<tr>
<td>Awareness 1</td>
<td>Apply in Discipline</td>
</tr>
<tr>
<td>Comprehension 2</td>
<td>Apply Across Disciplines</td>
</tr>
<tr>
<td>Application 3</td>
<td>Apply to Predicable Situations</td>
</tr>
<tr>
<td>Analysis 4</td>
<td>Apply to Unpredictable Situations</td>
</tr>
<tr>
<td>Synthesis 5</td>
<td>Evaluate</td>
</tr>
<tr>
<td>Evaluation 6</td>
<td></td>
</tr>
</tbody>
</table>

PAGE 16
Students will read a story and identify the main characters in the story.
Knowledge Taxonomy

Awareness Level (Remember)

- Recall specific information
- **list, arrange, underline, identify, locate**
- List the seven functions of marketing; list the four basic math operations; label the parts of a cell; identify the parts of a sentence; list all 20th Century Wars that engaged the United States
Knowledge Taxonomy

Comprehension Level (Understand)
Understanding/interpretation of information

♦ define, explain, calculate, reword

♦ Explain how to take a patient’s blood pressure; define each of the basic math operations; explain the function of each cell part; use an adjective correctly in a sentence; explain the 1st Amendment
Knowledge Taxonomy

Application level (Apply)

- Applying knowledge and understanding to a new situation
- **solve, operate, use, handle, apply**
- Use Internet resources for a research paper on our trade deficit; apply math operations to solve a word problem; use a Vernier Light Sensor to determine the amount of reflected light of an object; make a scale drawing of a cell; change the oil in a car
Knowledge Taxonomy

Analysis Level (Analyze)

- Separate a complex idea into its components
- **categorize**, **simplify**, **examine**, **survey**
- Compare the similarities and differences between Excel and Access applications; compare the costs and benefits of two cell phone plans; compare the similarities and differences between two characters in the short story; compare similar words to describe objects
Knowledge Taxonomy

Synthesis Level (Create)

♦ Combining knowledge to form a new idea
♦ **create, build, generate, reorganize**
♦ Design a technology system that meets your needs and budget; rewrite the ending of Macbeth to bring it into the 21st century; design objects related to famous mathematician discoveries; brainstorm words to describe an object
Knowledge Taxonomy

Evaluation Level (Evaluate)

- Choosing an alternative in making a decision
- decide, classify, judge, prioritize
- Given two cell phone plans justify which plan best meets your needs and budget, why?; create a rubric for evaluating writing; recommend software purchase; recommend policies for your school to prevent disease from spreading
At what level on the Knowledge Taxonomy would the student be working when they…

1. Make use of nutritional guidelines in planning meals
2. Label foods by nutritional groups
3. Develop personal nutritional goals
4. Examine success in achieving nutritional goals
5. Explain nutritional value of individual foods
# Knowledge Taxonomy

## Verb List

### Knowledge
- arrange
- check
- choose
- find
- group
- identify
- label
- list
- locate

### Comprehension
- advance
- calculate
- change
- contemplate
- convert
- define
- explain
- extrapolate
- infer

### Application
- adopt
- capitalize on
- consume
- devote
- employ
- exercise
- handle
- maintain
- make use of

### Analysis
- assay
- audit
- break down
- canvass
- check out
- deduce
- dissect
- divide
- examine

### Synthesis
- blend
- build
- cause
- combine
- compile
- compose
- conceive
- construct
- create

### Evaluation
- accept
- appraise
- arbitrate
- assess
- award
- classify
- criticize
- decide
- determine

### Knowledge
- match
- name
- point to
- recall
- recite
- repeat
- say
- select
- write

### Comprehension
- interpret
- outline
- project
- propose
- reword
- submit
- transform
- translate
- vary

### Application
- manipulate
- mobilize
- operate
- put to use
- relate
- solve
- start
- take up
- utilize

### Analysis
- include
- inspect
- look at
- scrutinize
- sift
- study
- survey
- test for
- uncover

### Synthesis
- develop
- evolve
- form
- generate
- make up
- originate
- produce
- reorder
- structure

### Evaluation
- grade
- judge
- prioritize
- rank
- rate
- reject
- rule on
- settle
- weigh
Rigor is...  
- Scaffolding thinking
- Planning for thinking
- Assessing thinking about content
- Recognizing the level of thinking students demonstrate
- Managing the teaching/learning level for the desired thinking level

Rigor is not...  
- More or harder worksheets
- AP or honors courses
- The higher level book in reading
- More work
- More homework
Acquisition of knowledge

Application of knowledge

Relevance of learning to life and work
Application Model

Knowledge
	♦ Learning Knowledge, Attitude, or Skills
	♦ Learning how to use a calculator or Vernier probe

Apply in Discipline
	♦ Using the knowledge, attitude, or skills within the course curriculum
	♦ Using the calculator to determine the material costs of a storage shed
	♦ Using a Vernier Light Sensor to determine the amount of reflected light of an object.
Application Model

Apply Across Disciplines
- Using the knowledge, attitude, or skills in all discipline curriculums
- Use word processing skills; conduct an Internet search; use library reference materials; collect temperature data and present in graph format

Apply to Predictable Situations
- Using information to analyze and solve real problems with predictable solutions
- Calculate ingredients to triple a recipe; assemble a product following written directions; write a letter to request specific data
Application Model

Apply to Unpredictable Situations

♦ Using information to **analyze and solve real problems with unknown solutions**

♦ Prepare a budget for your family’s vacation to Disney World

♦ Plan a large school event and calculate the cost

♦ Design a brochure to educate children on the benefits of healthy eating

♦ Create a Bill of Rights for your school
Application Model Decision Tree

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

- **YES** Requires use of knowledge
- **YES** Requires students actually to practice steps in a procedure
- **YES** Uses previous knowledge to solve problems, create a design, or communicate information
- **YES** Assesses performance

- **NO** Requires only recall or understanding
- **NO** Requires learning steps in a procedure
- **NO** Requires memorization of facts or formulas
- **NO** Assesses content knowledge

- **YES** Application occurs in same way it is used by adults
- **YES** Standards for performance are same as for adult roles
- **YES** Students have access to real-world resources (tools, references, etc.)
- **YES** Task must be completed in same time frame as real-world

- **NO** Application occurs only in school
- **NO** Lower standards of performance are acceptable
- **NO** Resources are limited
- **NO** Students have extended time to complete task

- **YES** Application has uncertain results
- **YES** Unknown factors involved (environment, people, time)
- **YES** Students have individual and unique solutions to problems

- **NO** Application involves routine solution
- **NO** Parameters are controlled
- **NO** All students complete similar designs or solutions
A relevant lesson answers

◆ What am I Learning?
◆ Why am I learning it?
◆ How will I use it?
Adding Relevancy to Any Learning

Compare Learning to …

- Student’s life
- Family’s life
- Student’s community and friends
- Our world, nation, state
- World of work
- World of service
- World of business and commerce that we interact with

Use Real World Examples

- Moral, ethical, political, cultural points of view and dilemmas
- Real world materials
- Internet resources
- Video and other media
- Scenarios, real life stories
- News - periodicals, media
Rigor/Relevance Framework
Teacher/Student Roles

Teacher/Student Roles

Rigor/Relevance Framework

High
Low

High
Low

Teacher Works
Student Thinks

Student Thinks and Works

Student Works

Teacher Works

C

D

A

B

Low

High

Low

Relevance

Rigor
In which quadrant of the R/R Framework would the student be working?

1. Fill out a job application and prepare a résumé.
2. Name the planets in the solar system.
3. Use a manual to understand and operate an appliance.
4. Be able to make voting decisions.
5. Simplify numerical expressions.
6. Understand nutritional requirements and make appropriate decisions while grocery shopping.
7. Analyze the mechanics of a bicycle in terms of how several machines act together to make it work.
8. Research a topic and give an oral report to the class.
Students will read a story and identify the main characters in the story.
Students will read a story and identify the main characters in the story.
Students will compare the similarities and differences between the two main characters in the story.
Students will compare the similarities and differences in the story between the two main characters.
Describe how you can increase the relevancy of your lesson or activity by challenging students to apply the new learning to a real world situation.

Students will select one character in the story and compare his/her similarities with either a well recognized living person or a person in their life.

Using the Rigor/Relevance Framework chart below, plot your revised lesson or activity on the Knowledge Taxonomy scale and on the Application Model scale.
Students will select one character in the story and compare his/her similarities with either a well recognized living person or a person in their life.
Rigor/Relevance Framework

Teacher gives students a real-world question to answer or problem to solve.
Students seek information to answer question or solve problem.
Rigor/Relevance Framework

<table>
<thead>
<tr>
<th>Rigor</th>
<th>Relevance</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Low</td>
<td>Low</td>
</tr>
</tbody>
</table>

- **A**: Rigor is High, Relevance is Low. Students test the relevancy of the information as it relates to the question or problem.
Students reflect on the potential use of the new information as a solution.
Students apply the information learned to answer the question or to solve the problem.
Rigor/Relevance Framework

- **A** High Rigor, Low Relevance: Students seek information to answer question or solve problem.
- **B** Low Rigor, High Relevance: Students test the relevancy of the information as it relates to the question or problem.
- **C** High Rigor, High Relevance: Students reflect on the potential use of the new information as a solution.
- **D** Low Rigor, Low Relevance: Students apply the information learned to answer the question or to solve the problem.
Rigor/Relevance Framework

**Rigor**
- High
  - Critical Thinking
- Low

**Relevance**
- Low
  - Acquisition of knowledge / skills
- High
  - Motivation
    - Creativity – Innovation
    - Problem Solving
  - Relevancy
    - Validation
R&R Framework ...
A Useful Tool to evaluate

- Curriculum
- Instruction
- Assessment
- Activities
Resource Kit
• Planning tools and professional development activities to increase rigor and relevance across all subjects/grades

Teacher Handbook
• Key understandings to help teachers apply the Rigor/Relevance Framework in their classrooms

Visit at the Resource Center or http://Store.LeaderEd.com
Instructional Strategies

Tools for Teachers
Instructional Strategies

- Brainstorming
- Cooperative Learning
- Demonstration
- Guided Practice
- Inquiry
- Instructional Technology
- Lecture
- Note-taking/Graphic Organizers
- Memorization
- Presentations/Exhibitions
- Research
- Problem-based learning
- Project Design
- Simulation/Role-playing
- Socratic Seminar
- Teacher Questions
- Work-based Learning
Definitions of Instructional Strategies

**Brainstorming** stimulates thinking and allows students to generate vast amounts of information and then sort that information in an engaging learning process.

**Community service** involves learning opportunities in which students perform unpaid work that adds value to the community.

**Compare and contrast** learning activities require analysis to identify similarities and differences.

**Cooperative learning** places students in structured groups to solve problems by working cooperatively.

**Creative arts** are artistic products or performances that can also be used to develop skills in other curriculum areas.

**Demonstration** involves direct observation of physical tasks, such as the manipulation of materials and objects.

**Games** are exciting, structured activities that engage students in individual or group competition to demonstrate knowledge or complete an academic task.

**Group discussion** is any type of verbal dialogue among students used to explore ideas related to an instructional topic.

**Guided practice** refers to homework, worksheets, and computer practice wherein students solve routine problems to reinforce concepts or skills.

**Inquiry** engages students in posing questions around an intriguing investigation, making observations, and discussing them.

**Instructional technology** means a multimedia computer application that provides a choice of learning paths and enables tailoring of programs to student questions or interests.

**Internship** is a formal placement in an employment situation for additional learning while the student is still in school.

**Lecture** is a verbal presentation of knowledge by the teacher to the students, often supplemented by visuals and handouts.

**Literature** is reading to discover use of language; acquire information about people, history, cultures, and society; and develop skills of analysis, inquiry, logic, and recall.

**Memorization** is rehearsal for the recall of facts using techniques for remembering information, including mnemonic devices.

**Note-taking/graphic organizer** involves organizing logical notes for reference and using graphics, diagrams, and symbols to represent information.
Definitions of Instructional Strategies

Presentations/exhibitions are oral presentations by students requiring them to organize ideas and express them in their own words.

Problem-based learning introduces concepts through use of problem-solving skills on a real problem or investigation.

Project design requires students to integrate their skills and knowledge to create their own literary, technological, or artistic work as individuals or in a group.

Recognition and rewards are motivational techniques used by teachers to provide positive feedback to students on their successful efforts and achievement.

Research means students locate and retrieve information from several sources, such as library references, textbooks, other individuals, and electronic databases via the Internet.

Review and reteaching refers to teachers’ planned efforts to review previously learned content and assist students who may not have fully acquired the knowledge.

Setting objectives and advance organizers are initiating techniques teachers use to engage students in learning, including emphasizing what will be learned and presenting engaging questions or activities.

Simulation/role playing replicates the way skills or knowledge are used outside school, ranging from role playing to computer-generated virtual reality.

Socratic seminar combines the elements of teacher questions, inquiry, and discussion around key topics, with the teacher asking probing questions as needed.

Teacher questions stimulate significant student thinking in response to thoughtful queries about connections with new information.

Total physical response requires students to engage in a physical activity, as well as mental processes.

Video provides new information to students through visual presentation ranging from full-length commercial movies to short information or news segments.

Work-based learning presents opportunities for students to learn through on-the-job experiences ranging from job shadowing to full employment.

Writing makes students organize their knowledge and reinforces concepts in any form from a one-paragraph test-question response to a multipage research report.
Worksheet

What Works Best?

Certain instructional strategies work better than others depending on the quadrant of the Rigor/Relevance Framework in which the learning objective falls. List two or three instructional strategies that you think would be effective in each of the four quadrants.

Rigor/Relevance Framework

<table>
<thead>
<tr>
<th>Evaluation</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Assimilation</td>
<td>Adaptation</td>
</tr>
<tr>
<td>Synthesis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analysis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Application</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understanding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Awareness</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

KNOWLEDGE

APPLICATION MODEL

Knowledge | Apply within discipline | Apply across disciplines | Apply to real-world predictable situations | Apply to real-world unpredictable situations

International Center for Leadership in Education
Selecting Strategies on Rigor/Relevance

Best Strategies for Quadrant A - Acquisition

♦ Guided Practice
♦ Lecture
♦ Memorization
♦ Demonstration – Teacher
♦ Video
♦ Literature
♦ Graphic Organizer – Notes
♦ Instructional Technology - Games
Selecting Strategies on Rigor/Relevance

Best Strategies for Quadrant B - Application

♦ Cooperative Learning – Group Discussion
♦ Demonstration - Student
♦ Instructional Technology - Games
♦ Problem-based Learning
♦ Project Design
♦ Simulation/Role Playing
♦ Work-based Learning
Instructional Technology

- Virtual Reality
- 3-Dimensional
- Multimedia
- Student Directed
- Interactive
- No Limits
Cooperative Learning

Individual → Independence

Group → Interaction

Interpersonal
Selecting Strategies on Rigor/Relevance

Best Strategies for Quadrant C - Assimilation

♦ Brainstorming
♦ Group Discussions
♦ Inquiry
♦ Instructional Technology
♦ Research – Literature – Writing
♦ Socratic Seminar
♦ Teacher Questions
Brainstorming
Research
Selecting Strategies on Rigor/Relevance

Best Strategies for Quadrant D - Adaptation

- Brainstorming
- Cooperative Learning
- Inquiry - Research
- Instructional Technology
- Presentations/Exhibitions
- Problem-based Learning
- Recognition – Rewards
- Project Design
- Group Discussions
- Simulation/Role-playing
- Socratic Seminar
- Teacher Questions
- Work-based Learning
- Internships
Work-Based Learning
Note-Taking / Graphic Organizers
Problem-Based Learning

- Observations
- Hypotheses
- Learn by Doing
- Authentic
- Solutions
- Case Studies
- Group Work
- Engaging
Project Design
Teacher Questions

1. Open-Ended Questions
2. Wait Time
3. Positive Feedback

Information
Imaginative
Analytical
Opinion
Follow-up
Conversational
Quadrant A

Ask questions to recall facts, make observations or demonstrate understanding

- What is/are__?  
- What did you observe__ ?  
- What else can you tell me__?  
- What does it mean__?  
- Where did you find that__?  
- Who is/was__?  
- In what ways_?  
- How would you define that in your own terms?  
- What did/do you notice about this ___?  
- What did/do you feel/see/hear/smell ___?  
- What do you remember about _?
Quadrant B

Ask questions to apply or relate

- How would you do that?
- Where will you use that knowledge?
- How does that relate to your experience?
- How can you demonstrate that?
- What observations relate to __?
- Where would you locate that information?
- Calculate that for ___?
- How would you illustrate that?
- Who could you interview?
- How would you collect that data?
- How do you know it works?
- Can you apply what you know to this real world problem?
- How do you make sure it is done correctly?
Quadrant C

Ask questions to summarize, analyze, organize, or evaluate

- How are these similar/different?
- How is this like___?
- What's another way we could say/explain/express that?
- What do you think are some reasons/causes that _____?
- Why did ___ changes occur?
- How can you distinguish between__?
- What is a better solution to___?
- How would you defend your position about___?
- What changes to ___ would you recommend?
- What evidence can you offer?
- How do you know?
- Which ones do you think belong together?
- What is the author’s purpose?
Quadrant D

Ask questions to predict, design, create

- How would you design a ___ to ___?
- How would you compose a song about___?
- How would you rewrite the ending of the story?
- What would be different today, if that event occurred?
- Can you see a possible solution to___?
- How could you teach that to others?
- Which resources would you use to deal with___?
- How would you devise your own way to deal with___?
- What new and unusual uses would you create for___?
- Can you develop a proposal which would___?
- How would you do it differently?
Moments of Quadrant D Instruction

- Quadrant D experiences integrated into daily practice through short, quick activities.
- Instructional activities that raise the level of rigor (thinking) and relevance (application) and are aligned with the Rigor/Relevance Framework.
<table>
<thead>
<tr>
<th>Teaching Others</th>
<th>Storytelling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Event</td>
<td>Quiz Show</td>
</tr>
<tr>
<td>Inquiry</td>
<td>Future Think</td>
</tr>
<tr>
<td>Did You Know?</td>
<td>Summarizing</td>
</tr>
<tr>
<td>Google It!</td>
<td>Why Questions</td>
</tr>
<tr>
<td>How Did That Happen?</td>
<td>Analyze It!</td>
</tr>
<tr>
<td>Original Ideas</td>
<td>Remind Me</td>
</tr>
<tr>
<td>Can You See it Now?</td>
<td>Write to Learn</td>
</tr>
<tr>
<td>Justify Your Position</td>
<td>What If?</td>
</tr>
</tbody>
</table>
Moments of Quadrant D Instruction

1. Teaching Others – Work in pairs or small groups for re-teaching or reinforcing ideas.

Better still, teach the class!
Selection of Strategies Based on Rigor/Relevance Framework

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Acquisition Quadrant A</th>
<th>Assimilation Quadrant C</th>
<th>Application Quadrant B</th>
<th>Adaptation Quadrant D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brainstorming</td>
<td>** ★ ★ ★</td>
<td>★ ★ ★</td>
<td></td>
<td>☆ ★ ★ ★</td>
</tr>
<tr>
<td>Cooperative Learning</td>
<td>** ★ ★</td>
<td>★ ★</td>
<td>★ ★ ★ ★</td>
<td>★ ★ ★ ★</td>
</tr>
<tr>
<td>Demonstration</td>
<td>★</td>
<td>★</td>
<td>★ ★ ★ ★</td>
<td>★ ★ ★ ★</td>
</tr>
<tr>
<td>Guided Practice</td>
<td>★ ★ ★ ★</td>
<td>★ ★</td>
<td>★ ★</td>
<td>★ ★ ★ ★</td>
</tr>
<tr>
<td>Inquiry</td>
<td>★</td>
<td>★ ★ ★ ★</td>
<td>★ ★ ★ ★</td>
<td>★ ★ ★ ★</td>
</tr>
<tr>
<td>Instructional Technology</td>
<td>★ ★ ★ ★</td>
<td>★ ★ ★ ★</td>
<td>★ ★ ★ ★</td>
<td>★ ★ ★ ★</td>
</tr>
<tr>
<td>Lecture</td>
<td>★ ★ ★ ★</td>
<td>★ ★ ★ ★</td>
<td>★ ★ ★ ★</td>
<td>★ ★ ★ ★</td>
</tr>
<tr>
<td>Memorization</td>
<td>★ ★ ★ ★</td>
<td>★ ★ ★ ★</td>
<td>★ ★ ★ ★</td>
<td>★ ★ ★ ★</td>
</tr>
<tr>
<td>Note-taking/Graphic Organizers</td>
<td>★ ★ ★ ★</td>
<td>★ ★ ★ ★</td>
<td>★ ★ ★ ★</td>
<td>★ ★ ★ ★</td>
</tr>
<tr>
<td>Presentations/Exhibitions</td>
<td>★</td>
<td>★ ★ ★ ★</td>
<td>★ ★ ★ ★</td>
<td>★ ★ ★ ★</td>
</tr>
<tr>
<td>Problem-based Learning</td>
<td>★ ★ ★ ★</td>
<td>★ ★ ★ ★</td>
<td>★ ★ ★ ★</td>
<td>★ ★ ★ ★</td>
</tr>
<tr>
<td>Project Design</td>
<td>★</td>
<td>★</td>
<td>★ ★ ★ ★</td>
<td>★ ★ ★ ★</td>
</tr>
<tr>
<td>Research</td>
<td>★ ★ ★ ★</td>
<td>★ ★ ★ ★</td>
<td>★ ★ ★ ★</td>
<td>★ ★ ★ ★</td>
</tr>
<tr>
<td>Simulation/Role-playing</td>
<td>★ ★ ★ ★</td>
<td>★ ★ ★ ★</td>
<td>★ ★ ★ ★</td>
<td>★ ★ ★ ★</td>
</tr>
<tr>
<td>Socratic Seminar</td>
<td>★</td>
<td>★ ★ ★ ★</td>
<td>★ ★ ★ ★</td>
<td>★ ★ ★ ★</td>
</tr>
<tr>
<td>Teacher Questions</td>
<td>★ ★ ★ ★</td>
<td>★ ★ ★ ★</td>
<td>★ ★ ★ ★</td>
<td>★ ★ ★ ★</td>
</tr>
<tr>
<td>Work-based Learning</td>
<td>★ ★ ★ ★</td>
<td>★ ★ ★ ★</td>
<td>★ ★ ★ ★</td>
<td>★ ★ ★ ★</td>
</tr>
</tbody>
</table>
Instructional Strategies: How to Teach for Rigor and Relevance
Rigorous and Relevant Instruction

Expected Student Performance  ➔  Rigor/Relevance

Ohio Standards Curriculum Outlines Student Learning Best Practices

Student Learning

Instruction

Assessment

Formative/Summative Assessments

Actual Student Performance ➔  Rigor/Relevance

Feedback Reflection

Real-World Standards Resources Learning Tasks
Assessment and the Rigor/Relevance Framework
Rigorous and Relevant Instruction

Types of Assessment

- Multiple Choice
- Constructed Response
- Extended Response
- Process Performance
- Product Performance
- Portfolio
- Interview
- Self-Reflection
Primary Assessments

Knowledge

- Extended Response
- Product Performance

Application

- Portfolio
- Product Performance
- Interview
- Self Reflection

- Multiple Choice
- Constructed Response

- Process
- Performance
- Product Performance
Rigor/Relevance Framework

Did Students Get it Right?

A
Right Answer

B
Right Procedure

C
Rational Answer

D
Right Questions

Low

High

RIGOR

LOW

High

Low

RELEVANCE
ASSESSMENT
ACTIVITY

Test Question – Which Quadrant?

Page 27
R/R and Assessment

- Determine the level of Rigor and Relevance on state tests.
- Develop your tests to parallel state tests when preparing for them.
- Use performance assessment when you want Quadrant D achievement.
- Keep level of assessment consistent with expectation for performance.
- Let students know assessment in advance.
The New Learning Formula

3Rs X 7Cs = 21st Century Learning
21st Century Skills

7 C’s
1. Critical Thinking and Problem Solving
2. Creativity and Innovation
3. Collaboration, Teamwork and Leadership

Component Skills
1. Research, Analysis, Synthesis, Project Management, etc.
2. New Knowledge Creation, Design Solutions, Storytelling
3. Cooperation, Compromise, Consensus, Community Building

Student Learning Skills Assessed
<table>
<thead>
<tr>
<th>7 C’s</th>
<th>Component Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Cross Cultural Understandings</td>
<td>4. Diverse ethnic, knowledge &amp; organizational cultures</td>
</tr>
<tr>
<td>5. Communication and Media Literacy</td>
<td>5. Crafting and analyzing messages, using technology effectively</td>
</tr>
<tr>
<td>6. Computing and ITC Technology</td>
<td>6. Effective use of electronic information and knowledge tools</td>
</tr>
</tbody>
</table>

Student Learning: Skills Assessed
21st Century Skills

7 C’s
7. Career and Learning Self Reliance

Component Skills
7. Managing change, lifelong learning, and career redefinition

Student Learning Skills Assessed
Creating a Learning Environment for 21st Century Skills

Students working in teams to experience and explore relevant, real-world problems, questions, issues, and challenges; then creating presentations and products to share what they have learned.
21st Century Skills are Skill-Based

To learn collaboration – work in teams
To learn critical thinking – take on complex problems
To learn oral communications – Present
To learn written communications – Write
21st Century Skills are Skill-Based

To learn technology – Use technology

To develop citizenship – Take on civic and global issues

To learn about careers – do internships

To learn content – Research and do all of the above
Today’s Students are Digital Natives

Conventional Speed ➔ Twitch Speed
Step-by-Step ➔ Random Access
Linear Processing ➔ Parallel Processing
Text First ➔ Graphics First
Work-Oriented ➔ Play Oriented
Stand-alone ➔ Connected
New Digital Native Learners

♦ Multitasking
♦ Multimedia learning
♦ Online social networking
♦ Online information searching
♦ Games, simulations & creative expressions
Traditional Learning was

Teacher-directed
Direct Instruction
Knowledge
Content
Basic Skills
Theory
Curriculum
Individual
Classroom
Summative Assessed
Learning for School
A Project Learning Classroom is

Teacher-directed
Direct Instruction
Knowledge
Content
Basic Skills
Theory
Curriculum
Individual
Classroom
Summative Assessed
Learning for School

Student-directed
Collaborative Construction
Skills
Process
Higher-order Thinking
Practice
Life Skills
Group
Community
Formative Evaluation
Learning for Life

A Better Balance
Teacher

20th Century

♦ Content Provider
♦ 180 Days
♦ Carnegie Units; A, B, C, D, F
♦ All Students
♦ Individualized/ Differentiated
♦ 4 Years: F, S, Jr., Sr.
♦ Boring
♦ Dropouts

21st Century

♦ Learning Facilitator
♦ Anytime
♦ Competency
♦ Each Student
♦ Personalized
♦ Student’s timetable
♦ Engaging
♦ Dropouts are taught about in History
Which Quadrant is labeled as High Rigor and High Relevance?

A

B

C

D

© International Center for Leadership in Education
Rigor/Relevance Framework Quiz

Which Quadrant is most frequently tested?

A
B
C
D
Rigor/Relevance Framework Quiz

Which Quadrant leads to greater student engagement and learning retention?

A
B
C
D

© International Center for Leadership in Education
Rigor/Relevance Framework Quiz

Which defines Rigor?

- More and longer assignments
- High level thinking and reflection
- Rigid deadlines
- Increased difficulty

© International Center for Leadership in Education
Which defines Relevance?

- Learning is fun
- Student choice
- No grades
- Application to the real world
Which Quadrant is most important?
## Leadership for
Rigor, Relevance, and Relationships

# Action Planning

<table>
<thead>
<tr>
<th>Identified Objective: What do you plan to accomplish?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Actions to Be Taken: What do you plan to do?</th>
<th>Who will do this?</th>
<th>By when?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Data to Measure Effectiveness: What will be different and how will you know?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>
Assessment Purposes

OF Learning
- Provide feedback to parents and students
- Evaluate effectiveness of different programs
- Sort and reward students
- Evaluate schools

FOR Learning
- Hold students accountable for learning
- Diagnose, identify, monitor student’s progress
- Provide feedback to teachers to improve instruction

AS Learning
- Raise the level of thinking by posing more complex questions
- Raise the level of relevance by posing new unpredictable problems
I have come to a frightening conclusion. I am the decisive element in the classroom. It is my personal approach that creates the climate. It is my daily mood that makes the weather. As a teacher, I possess tremendous power to make a child's life miserable or joyous. I can be a tool of torture or an instrument of inspiration. I can humiliate or humor, hurt or heal. In all situations, it is my response that decides whether a crisis will be escalated or de-escalated, and a child humanized or de-humanized."

Haim Ginott