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# Instructional Strategies

How to Teach for Rigor and Relevance

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# Instructional Strategies

## How to Teach for Rigor and Relevance

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## Why This Kit?

*This kit is for the teacher who desires to do a better job of facilitating all students' learning.*

# I. Overview

This resource kit is for teachers who care about giving each student an education for the future. Teachers become teachers, for the most part, because they know the personal joy that comes from learning and facilitating learning for others. Teachers want to give students those same feelings and opportunities. However, teaching is not easy; and teaching students with diverse backgrounds, learning styles, and ability levels is particularly difficult and challenging.

Most teachers teach from their own experience, replicating the models of good teachers they have had. Increasingly, teachers are finding that this approach doesn't work for all students. To respond to the public outcry for increased accountability and higher achievement for all students, teachers must seek different solutions. This kit is for the teacher who desires to do a better job of facilitating all students' learning.

This kit provides a comprehensive resource on seventeen instructional strategies. For most teachers, the kit will serve to refresh them on strategies that they were once introduced to and they can now include more variety in their repertoire or strengthen their current use of those teaching strategies. For some teachers, this will introduce new teaching strategies which many teachers have found to be exciting ways to lead students to higher levels of achievement.

This kit provides an overview of each strategy. Additional resources are referenced for those who wish to pursue more extensive study.

This kit will not create better teachers, but it will expose teachers to ideas that can help them become better teachers and their students become better learners. One of the most valuable parts of this kit are the self-evaluation checklists. These tools will be helpful to teachers as they try out and improve the use of these strategies. The com-

panion Teacher Handbook is a reference that teachers can refer to continually for strategy ideas and the evaluation checklists.

In addition to being a useful resource for each teacher, this kit can also be used to set up professional development programs. Professional developers will find excellent resources for designing professional development activities. These might be intensive workshops or ongoing mentoring/coaching programs over a longer period of time. School district staff can use this kit to plan district-wide professional development initiatives.

New teachers are an eager audience as they begin to learn instructional strategies. Thus, teacher preparation programs will benefit greatly from using this resource. New teachers will become familiar with instructional variety in facilitating learning opportunities that are sensitive to the needs of all learners and sustain student interest and motivation.

Most teachers have this experience: They planned a lesson and thought they taught it very well. Each activity was executed flawlessly. In the end, however, the students didn't get it. They didn't understand the concepts, they failed the tests, or they remained confused. What went wrong? Was it the students' fault? Do they need to take more responsibility for their own learning?

These challenging questions face teachers as they reflect on the success of their teaching. Teachers tend to judge the quality of their work on the perfect delivery of a lesson, but the real measure of success is student learning. A lesson may be successful for some students in a particular setting and not for others in a different setting. You might give a powerful presentation that inspires an audience of teachers. If you were to give that same speech to a group of parents who did not understand your language, it would fall flat.

Successful teaching is measured by learning gains. A lesson is only as effective as its reflection in student achievement. In some cases, teaching occurs in a manner which students do not understand. Teachers must search for strategies that work. This kit includes ideas, that when

*This kit will be a useful resource for district-wide professional development initiatives and teacher preparation programs.*

**Teaching is Only  
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coupled with the expertise of teachers, will lead to greater student learning and achievement.

**Changing Roles**

<b>Strategy</b>	<b>Role of the Teacher</b>	<b>Role of the Student</b>
<b>Brainstorming</b>	Cheerleader <ul style="list-style-type: none"> <li>• Encourages participation</li> <li>• Is creative, has fun</li> </ul>	Idea Generator <ul style="list-style-type: none"> <li>• Thinks creatively</li> <li>• Makes new connections</li> </ul>
<b>Cooperative Learning</b>	Parent <ul style="list-style-type: none"> <li>• Prepares students in advance</li> <li>• Give students responsibility</li> <li>• Provides for equal participation</li> </ul>	Peer Participant <ul style="list-style-type: none"> <li>• Collaborates in learning process</li> <li>• Gives supportive feedback</li> </ul>
<b>Demonstration</b>	Salesperson <ul style="list-style-type: none"> <li>• Gives organized presentations</li> <li>• Has students replicate</li> </ul>	Interested Observer <ul style="list-style-type: none"> <li>• Watches carefully</li> <li>• Asks questions</li> <li>• Rehearses in his/her mind</li> </ul>
<b>Guided Practice</b>	Coach <ul style="list-style-type: none"> <li>• Sets practice rules</li> <li>• Ties learning goals to practice</li> </ul>	Athlete at Practice <ul style="list-style-type: none"> <li>• Remembers basic techniques</li> <li>• Repeats, repeats, repeats</li> <li>• Focuses on achievement</li> </ul>
<b>Inquiry</b>	Mystery Writer <ul style="list-style-type: none"> <li>• Leads to "discovery"</li> <li>• Provides clues</li> <li>• Foreshadows events</li> </ul>	Scientist <ul style="list-style-type: none"> <li>• Asks questions</li> <li>• Makes observations</li> <li>• Tests hypotheses</li> </ul>
<b>Instructional Technology</b>	Pilot <ul style="list-style-type: none"> <li>• Integrates technology</li> <li>• Is knowledgeable about systems</li> <li>• Monitors learning systems</li> </ul>	Explorer <ul style="list-style-type: none"> <li>• Follows new paths to learning</li> <li>• Uses technology</li> <li>• Shares with others</li> </ul>
<b>Lecture</b>	Expert <ul style="list-style-type: none"> <li>• Directs thinking</li> <li>• Shares knowledge</li> <li>• Evaluates students</li> </ul>	Listener <ul style="list-style-type: none"> <li>• Pays attention</li> <li>• Relates to previous knowledge</li> <li>• Organizes knowledge</li> </ul>
<b>Memorization</b>	Magician <ul style="list-style-type: none"> <li>• Teaches "tricks of the trade"</li> <li>• Creates new tricks</li> </ul>	Sorcerer's Apprentice <ul style="list-style-type: none"> <li>• Copies traditional techniques</li> <li>• Experiments with new tricks</li> </ul>
<b>Note-taking/ Graphic Organizers</b>	Master Mechanic <ul style="list-style-type: none"> <li>• Knows right tool for the job</li> <li>• Provides important information</li> <li>• Teaches how to use the tools</li> </ul>	Artisan <ul style="list-style-type: none"> <li>• Captures ideas</li> <li>• Uses fundamental tools</li> <li>• Expresses personal creativity</li> </ul>

**Changing Roles, continued**

<b>Strategy</b>	<b>Role of the Teacher</b>	<b>Role of the Student</b>
<b>Presentations/ Exhibitions</b>	Olympic Judge <ul style="list-style-type: none"> <li>• Establishes ideal performance</li> <li>• Evaluates students</li> </ul>	Speaker <ul style="list-style-type: none"> <li>• Shows well researched preparation</li> <li>• Has good platform skills</li> <li>• Informs the audience</li> </ul>
<b>Problem-based Learning</b>	Coach <ul style="list-style-type: none"> <li>• Presents problem situation</li> <li>• Encourages skill development</li> <li>• Supports students in the process</li> </ul>	Detective <ul style="list-style-type: none"> <li>• Analyzes the situation</li> <li>• Makes detailed observations</li> <li>• Seeks solutions</li> </ul>
<b>Project Design</b>	Consultant <ul style="list-style-type: none"> <li>• Provides background on project</li> <li>• Sets design specifications</li> <li>• Advises on process</li> </ul>	Engineer <ul style="list-style-type: none"> <li>• Examines the design specifications</li> <li>• Designs solutions</li> <li>• Tests solutions</li> </ul>
<b>Research</b>	Resource Person <ul style="list-style-type: none"> <li>• Teaches problem-solving</li> <li>• Poses problems</li> <li>• Translates into students' world</li> </ul>	Scientist <ul style="list-style-type: none"> <li>• Poses problems</li> <li>• Collects evidence</li> <li>• Organizes information</li> </ul>
<b>Simulation/ Role-playing</b>	Stager <ul style="list-style-type: none"> <li>• Manages the situation</li> <li>• Sets simulation/game in motion</li> <li>• Watches from the wings</li> </ul>	Player <ul style="list-style-type: none"> <li>• Focuses on the goal</li> <li>• Plays role with enthusiasm</li> <li>• Strives to improve</li> </ul>
<b>Socratic Seminar</b>	Travel Agent <ul style="list-style-type: none"> <li>• Enables learning from group</li> <li>• Guides group's journey</li> </ul>	Journalist <ul style="list-style-type: none"> <li>• Gathers and analyzes information</li> <li>• Organizes thoughts and ideas</li> <li>• Expresses ideas clearly</li> </ul>
<b>Teacher Questions</b>	Conductor <ul style="list-style-type: none"> <li>• Orchestrates learning</li> <li>• Guides performance</li> </ul>	Expert <ul style="list-style-type: none"> <li>• Responds to questions</li> <li>• Seeks new information</li> </ul>
<b>Work-based Learning</b>	Navigator <ul style="list-style-type: none"> <li>• Guides students</li> <li>• Shows students "destination"</li> <li>• Connects school and work</li> </ul>	Apprentice <ul style="list-style-type: none"> <li>• Models the master worker</li> <li>• Develops habits of the jobs</li> <li>• Seeks to improve constantly</li> </ul>

## Instructional Strategies and the Rigor/Relevance Framework

Strategy	Acquisition Quadrant A	Assimilation Quadrant C	Application Quadrant B	Adaptation Quadrant D
Brainstorming	★★	★★★★	★	★★★★
Cooperative Learning	★★	★★	★★★★	★★★★
Demonstration	★	★	★★★★	★★
Guided Practice	★★★★	★★	★★	★
Inquiry	★	★★★★	★★	★★★★
Instructional Technology	★★	★★★★	★★★★	★★★★
Lecture	★★★★	★★	★	★
Memorization	★★★★	★★	★★	★
Note-taking/Graphic Organizers	★★	★★	★★	★★
Presentations/Exhibitions	★	★★	★★	★★★★
Problem-based Learning	★★	★★	★★★★	★★★★
Project Design	★	★	★★★★	★★★★
Research	★★	★★★★	★	★★★★
Simulation/Role-playing	★★	★★	★★★★	★★★★
Socratic Seminar	★	★★★★	★	★★★★
Teacher Questions	★★	★★★★	★	★★★★
Work-based Learning	★★	★★	★★★★	★★★★

Key   ★★★★ Ideal Strategy   ★★ Appropriate Strategy   ★ Least Appropriate Strategy



**A.**  
**Workshops**

Professional development is the key to achieving rigorous and relevant learning in the classroom. This Resource Kit contains everything needed to conduct 20 90-minute staff development sessions. The modular approach allows for flexible creation of professional development workshops.

1. Using the Rigor/Relevance Framework
2. Instructional Planning
3. Selecting Instructional Strategies
4. Brainstorming
5. Cooperative Learning
6. Demonstration
7. Guided Practice
8. Inquiry
9. Instructional Technology
10. Lecture
11. Memorization
12. Note-taking/Graphic Organizers
13. Presentations/Exhibitions
14. Problem-based Learning
15. Project Design
16. Research
17. Simulation/Role-playing
18. Socratic Seminar
19. Teacher Questions

## Activity 18



### Tower of Pasta

Time 90 Minutes

#### Purpose

The best way for teachers to understand the usefulness of design is to engage in a simple project and reflect on the learning activities. This design activity incorporates a construction project using marshmallows and spaghetti. Participants will understand the relationship between shapes and strengths of structures in construction.

#### Materials

Work space for participants to construct their tower, working in groups of three or four.

- 20 pieces of dry spaghetti for each group
- 20 large marshmallows
- Meter stick

#### Procedure

1. The design brief: "Construct the tallest tower possible using only 20 marshmallows and 20 pieces of spaghetti." Groups can cut or break the materials as they wish. They will have a fixed time limit to construct their tower. A prize will be awarded to the group that constructs the tallest tower which remains standing for at least five minutes.
2. The first step is to submit a tower design for approval. Groups should brainstorm alternative designs, agree on a design, and sketch it on paper. Give groups 20 minutes to come up with their design.
3. Check to see that all groups have a design sketch. Allow them to begin construction. Give groups 20 minutes to complete construction. They should follow their sketch but are allowed to make design alternations during construction.

## Activity 18, continued



### Tower of Pasta

#### Procedure

4. Following construction, have each person complete a written summary. This summary should include a description of the planned tower they intended to build, design modifications they made during construction, and suggestions to other builders on techniques to improve designs of towers.
5. Measure the towers and award prizes or recognize the winning groups. For added interest you might give other humorous awards (smallest, fattest, flimsiest, etc.).
6. After designs are completed, discuss what design elements led to the construction of a tall, stable structure.
7. Finally, ask the group to resume the role of teachers and discuss this project design as a learning activity. The following discussion questions will be helpful.
  - What skills and knowledge were developed in this project?
  - How would this project be different if each group were given a sketch and asked to follow the directions for construction?
  - How would this have been different if you were allowed to go back and design and construct a second tower based upon what they had learned?
  - What roles did various people play in the group? Is it necessary to provide additional guidance to the group to ensure that all contribute to the design?
  - Why was it important to require the sketch and how did that contribute to a discussion of design principles?
  - What is the importance of having each student write up an individual summary?

## Activity 18, continued



### Tower of Pasta

#### Procedure

- How could this be modified to challenge students design skills more?

Design projects do not need to be complex, expensive, or sophisticated. Have the groups share ideas on planning design projects.

#### Suggestions

This was a limited design activity. It could be expanded by having more flexibility for students to select and substitute other materials. The goal could also be more demanding, such as a bridge spanning a chasm or a platform to support a weight.