Findings from the 1998 Meta-analysis

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Avg. Effect Size</th>
<th>Percentile Gain</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Identifying Similarities and Differences</td>
<td>1.61</td>
<td>45</td>
</tr>
<tr>
<td>2. Summarizing and Note Taking</td>
<td>1.00</td>
<td>34</td>
</tr>
<tr>
<td>3. Reinforcing Effort and Providing Recognition</td>
<td>.80</td>
<td>29</td>
</tr>
<tr>
<td>4. Homework and Practice</td>
<td>.77</td>
<td>28</td>
</tr>
<tr>
<td>5. Nonlinguistic Representation</td>
<td>.75</td>
<td>27</td>
</tr>
<tr>
<td>6. Cooperative Learning</td>
<td>.73</td>
<td>27</td>
</tr>
<tr>
<td>7. Setting Objectives and Providing Feedback</td>
<td>.61</td>
<td>23</td>
</tr>
<tr>
<td>8. Generating and Testing Hypotheses</td>
<td>.61</td>
<td>23</td>
</tr>
<tr>
<td>9. Cues, Questions, and Advance Organizers</td>
<td>.59</td>
<td>22</td>
</tr>
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</table>

Creating the Environment for Learning

- Setting Objectives and Providing Feedback
- Reinforcing Effort and Providing Recognition
- Cooperative Learning

- Helping Student Develop Understanding
- Cues, Questions, and Advance Organizers
- Nonlinguistic Representations
- Summarizing and Note taking
- Assigning Homework and Providing Practice

- Helping Students Extend and Apply Knowledge
- Identifying Similarities and Differences
- Generating and Testing Hypotheses

McREL Publications based on Classroom Instruction that Works
Influences on student learning

LEADERSHIP

School
1. Guaranteed & Viable Curriculum
2. Challenging Goals & Effective Feedback
3. Parent & Community Involvement
4. Safe & Orderly Environment
5. Collegiality & Professionalism

Teacher
6. Instructional Strategies
7. Classroom Management
8. Classroom Curriculum Design

Student
9. Home Environment
10. Learned Intelligence/Background Knowledge
11. Motivation

Creating the Environment for Learning

Setting Objectives and Providing Feedback

Reinforcing Effort and Providing Recognition

Cooperative Learning

Helping Student Develop Understanding
Cases, Questions, and Advance Organizers
Nonlinguistic Representations
Summarizing and Note taking
Assigning Homework and Providing Practice

Helping Students Extend and Apply Knowledge
Identifying Similarities and Differences
Generating and Testing Hypotheses

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www.diigo.com/user/hpitle
• Setting objectives is the process of establishing a direction for learning.
• It is a skill that successful people have mastered to help them realize both short-term and long-term goals.

Classroom Recommendations
- Set learning objectives that are specific but not restrictive.
- Communicate the learning objectives to students and parents.
- Connect the learning objectives to previous and future learning.
- Engage students in setting personal learning objectives.

Setting Objectives – The Process
- Write Objective on Whiteboard
- Chance for Oral Discussion
- Review During Lesson
- At the Transition
Example:

Geography Standard 14.1.3: Understands the ways in which technology influences the human capacity to modify the physical environment.

Setting Objectives

Personalizing Objectives

"I want to know…"

- how the environment has been affected by pesticides and the fertilizers.
- how new inventions in transportation can help the environment.
- how factories have changed the environment.
- what’s global warming?
K-W-L Template in Kidspiration

Inspiration Example

Online Surveys to Set Objectives

What do I already know about...
Rubrics for Setting Objectives

- [http://rubistar.4teachers.org](http://rubistar.4teachers.org)
- Find a Rubric
- Personalize
- Create a Rubric

Blogs for Setting Objectives

Apps and Site

- Polleverywhere – [www.polleverywhere.com](http://www.polleverywhere.com)
- Socrative - [http://socrative.com/](http://socrative.com/)

- iPad Apps
  - Mindmeister
  - Idea Sketch
  - Infinote
Things to consider:

Is there consistency in my school in posting the learning objective?

Is there consistency in my school in the “grain size” that is posted?

Is there consistency in my school in where the objective is posted?

Is there consistency in my school expecting teachers to reference the objectives during their lessons?

Providing Feedback

Gives students a direction for how well they are performing relative to a particular learning goal so that they can improve their performance.

Providing Feedback

Simply telling students that their answer on a test is right or wrong has a negative effect on achievement.
## Research Results For Corrective Feedback

<table>
<thead>
<tr>
<th>Synthesis Study</th>
<th>Focus</th>
<th>No. Of Effect Sizes (ESs)</th>
<th>Ave. ES</th>
<th>Percentile Gain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Types Of Feedback</td>
<td>Right/wrong answer</td>
<td>6</td>
<td>-.08</td>
<td>-3</td>
</tr>
<tr>
<td></td>
<td>Correct answer</td>
<td>39</td>
<td>.22</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Repeat until correct</td>
<td>4</td>
<td>.53</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Explanation</td>
<td>9</td>
<td>.53</td>
<td>20</td>
</tr>
</tbody>
</table>

## Classroom Recommendations

- Provide feedback that addresses what is correct and elaborates on what students need to do next.
- Provide feedback appropriately in time to meet students’ needs.
- Provide feedback that is criterion referenced.
- Engage students in the feedback process.
Games for Immediate Feedback

Explorelearning
National Library of Virtual Manipulatives

Track Changes for Providing Feedback

When I was very young, I had a little stuffed dog that I called "Little White Puppie." Little White Puppie traveled with me from home to school. He was my best friend. He was always there to keep me company. He was my companion in all my adventures. He was my constant companion. He was my best friend.

My grandmother took me to see a movie when I was very young. She took me to see a movie that I had never seen before. I was very excited. I was very much looking forward to it. The movie was called "The Little Prince." It was a wonderful movie. It was a movie that I will never forget.

Readability Statistics for Providing Feedback

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I have always been fascinated by the beauty and complexity of language. I have always been interested in how language is used to convey meaning. I have always been interested in the role of language in our lives.

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iPad/iPhone App: FreeGrammar

iPod App: Draw Free
iPad/iPhone App: Aji Annotate PDF

Classroom Response Systems

Clickers from eInstruction

http://projects.cbe.ab.ca/it2learn/museum;text/museumconnections/html/evaluationformpowerpoint.htm
**Discussion**

What opportunities do I give my students for self-assessment?

What opportunities do I give my students for peer-assessment?

What improvements could I make in these processes?

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**Reinforcing Effort**

Enhance students’ understanding of the relationship between effort and achievement by addressing students’ attitudes and beliefs about learning.

Some students attribute success in school to luck, ability, or even other people such as their friends or their teacher.

**Classroom Recommendations**

Teach students about the relationship between effort and achievement.

Provide students with explicit guidance about what it means to expend effort.

Ask students to keep track of their effort and achievement.
<table>
<thead>
<tr>
<th>EFFORT</th>
<th>ACHIEVEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 Excellent</td>
<td>I worked on the task until it was completed. I pushed myself to continue working on the task even when difficulties arose or a solution was not immediately evident. I viewed difficulties as opportunities to strengthen my understanding.</td>
</tr>
<tr>
<td>3 Good</td>
<td>I worked on the task until it was completed. I pushed myself to continue working on the task even when difficulties arose or a solution was not immediately evident.</td>
</tr>
<tr>
<td>2 Needs Improvement</td>
<td>I put some effort into the task, but I stopped working when difficulties arose.</td>
</tr>
<tr>
<td>1 Unacceptable</td>
<td>I put very little effort into the task.</td>
</tr>
</tbody>
</table>
Expectations

• In what ways can we support learners who have not traditionally had high expectations for their own performance?
• How can 21st Century tools positively impact how students experience this strategy?

Post your “stickies” by double clicking on the wall at http://wallwisher.com/wall/ASCDwebinar
Providing Recognition

Giving students rewards or praise for their accomplishments related to the attainment of a goal.

Classroom Recommendations

Promote a mastery-goal orientation.

Provide praise that is specific and aligned with expected performance and behaviors.

Use concrete symbols of recognition.

How does technology allow for recognition beyond the four walls of the classroom?
Cooperative Learning

Provides students with opportunities to interact with each other in groups in ways that enhance their learning.

Classroom Recommendations

Include elements of positive interdependence and individual accountability.

Organize groups of three to five students.

Use cooperative learning consistently and systematically.

Cooperative Learning

There are two defining elements of cooperative learning:

1. Positive interdependence
2. Individual and group accountability
Multimedia Projects

<table>
<thead>
<tr>
<th>Role to be filled</th>
<th>Student(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Researchers</td>
<td></td>
</tr>
<tr>
<td>Scriptwriters</td>
<td></td>
</tr>
<tr>
<td>Journalists</td>
<td></td>
</tr>
<tr>
<td>Tech Expert</td>
<td></td>
</tr>
<tr>
<td>Project Coordinator</td>
<td></td>
</tr>
<tr>
<td>Camera Persons</td>
<td></td>
</tr>
<tr>
<td>Actors</td>
<td></td>
</tr>
</tbody>
</table>

Cooperative Learning Rubrics

Rubric from NASA Science files

WebQuests

Students assume different roles in a structured inquiry activity.

The Introduction orients students and captures their interest.

The Task describes the activity’s end product.

The Process explains strategies students should use to complete the task.

The Resources are the Web sites students will use to complete the task.
ISTE NETS for Students

- Communication and Collaboration
- Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.

Creating the Learning Environment

- Setting Objectives
- Providing Feedback
- Reinforcing Effort
- Providing Recognition
- Cooperative Learning