

# Applying the Research on Instruction: An Idea Whose Time Has Come

by Robert Marzano, *Classroom Instruction That Works: Research-Based Strategies for Increasing Student Achievement*, 2001.

It may come as a surprise to some readers that up until about 30 years ago, teaching had not been systematically studied in a scientific manner. At the beginning of the 1970s, however, researchers began to look at the effects of instruction on students learning. In fact, the decade before was marked by the belief that school really made little difference in the achievement of students. The Coleman Report, 1966, concluded that a vast majority of differences could be attributed to factors like the student's natural ability, socioeconomic status, or the student's home environment. Unfortunately, these things that cannot be changed by schools.

The conclusion by Coleman did not paint a very hopeful picture for educators and education. In retrospect, we now see some serious flaws in these conclusions. The research conducted since the 1970s has shown that an individual teacher can have a powerful effect on students. This book presents and exemplifies instructional strategies extracted from recent research. Teachers can use these strategies to guide classroom practice in such a way as to maximize the possibility of enhancing student achievement.

Researchers at McRel (Mid-Continent Research for Education) analyzed studies on instructional strategies that could be used by teachers of any subject and any grade level. Their analysis combines the results from a number of studies to give an average effect of a given technique on student performance. Nine categories have been identified as the strongest strategies to increase student performance and long-term learning.

<i>Categories of Instructional Strategies:</i>	<i>Percentage Student Gain:</i>
1. Identifying Similarities and Differences	45
2. Summarizing and Note-taking	34
3. Reinforcing Effort and Providing Recognition	29
4. Homework and Practice	28
5. Non-linguistic Representations	27
6. Cooperative Learning	27
7. Setting Objectives and Providing Feedback	23
8. Generating and Testing Hypotheses	23
9. Questions, Cues, and Advance Organizers	22

While no instructional strategy works equally well in all situations, these are tools which if used faithfully by teachers, have the best results for improving the depth and breadth of learning.

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**Table 1.**

<i>Type of Praise or Reward:</i>	<i>Percentage Gain for Student Performance</i>
General Verbal Praise	6
Specific Praise Based on Performance Level	13
Free Time	-2
Tangible Privilege	2

**Table 2.**

<i>Grade Level</i>	<i>Recommended Minutes Per Night for Homework</i>
Primary (K-3)	30
Intermediate (4-5)	40
Middle School	60
High School	90

**Table 3.**

<i>Uses of Homework:</i>	<i>Percentage Gain for Student Performance</i>
With Teacher's Comments	30
Graded	28
Not Graded, but Commented on	11

*\* From Classroom Instruction That Works: Research-Based Strategies for Increasing Student Achievement, by Robert Marzano, 2001.*

**Table 4.**

<i>Uses of Cooperative Grouping:</i>	<i>Percentage Gain for Student Performance</i>
Cooperative Learning (general)	28
Cooperative versus Intergroup Competitions	0
Ability Grouping	3
Pairs	6
Groups of 3-4 Members	9
Groups of 5-7 Members	-1

**Table 5.**

<i>Focus of Feedback</i>	<i>Percentage Gain for Student Performance</i>
Right or Wrong Answer	-3
Correct Answer	9
Explanation	20
One Day After a Test	26
One Week After a Test	20
Longer	10

**Table 6.**

<i>Reinforcing Knowledge</i>	<i>Percentage Gain for Student Performance</i>
Verbal Cues and Questions	25
Discussion	17
Argumentation	79