

Marzano's (Nine) High-Yield Instructional Strategies

Adapted from the book, Classroom Instruction That Works: Research-based Strategies for Increasing Student Achievement, by Robert Marzano (2001)

High Yield Instructional Strategies	What the Research says:	How it Looks in the Classroom:
Identifying similarities and differences (Yields a 45 percentile gain)	The ability to break a concept into its similar and dissimilar characteristics allows students to understand (and often solve) complex problems by analyzing them in a more simple way. Students should compare, contrast, classify, and create metaphors, analogies, and non-linguistic or graphic representations.	Thinking maps, T-Charts, Venn diagrams, classifying, analogies, cause and effect links, compare/contrast organizers QAR(Questions/Answers/Relationship), sketch to stretch, affinity diagrams
Summarizing and note-taking (Yields a 34 percentile gain)	These skills promote greater comprehension by asking students to analyze a subject to expose what's essential and then put it in their own words. This requires substituting, deleting, and keeping some things and having an awareness of the basic structure of the information presented. Taking more notes is better than fewer notes, though verbatim note-taking is ineffective because it does not allow time to process the information. Teachers should encourage and give time for review and revision of notes; notes can be the best study guides for tests.	Teachers model summarization techniques, identify key concepts, bullets, outlines, clusters, narrative organizers, journal summaries, break down assignments, create simple reports, quick writes, graphic organizers, column notes, affinity diagrams, etc. When summarizing, ask students to question what is unclear, clarify those questions, and then predict what will happen next in the text. Stick to a consistent format for notes, although students can refine the notes as necessary.
Reinforcing effort and providing recognition (Yields a 29 percentile gain)	Effort and recognition speak to the attitudes and beliefs of students, and teachers must show the connection between effort and achievement. Teachers should reward based on standards of performance, use symbolic recognition rather than just tangible rewards.	Hold high expectations, display finished products, praise students' effort, encourage students to share ideas and express their thoughts, honor individual learning styles, conference individually with students, authentic portfolios, stress-free environment, high-fives Share stories about people persevered. Personalize recognition ; offer praise when a student's performance improves.

<p>Homework and practice (Yields a 28 percentile gain)</p>	<p>Homework provides students with the opportunity to extend their learning outside of the classroom. The amount of homework should vary by grade level and parental involvement should be minimal. Teachers should explain the homework and give feedback on all homework assigned. Students should adapt skills while they're learning them. Speed and accuracy are key indicators of the effectiveness of practice.</p>	<p>Retell, recite, and review learning for the day at home, reflective journals, parents are informed of the goals and objectives, grade level teams plan together for homework distribution; establish a HW policy; vary the way feedback is delivered; focus practice on difficult concepts and set aside time to accommodate practice periods; assign timed quizzes for homework and have students report on their speed and accuracy.</p>
<p>Nonlinguistic representations (Yields a 27 percentile gain)</p>	<p>Knowledge is stored in two forms: linguistic and visual. The more students use both forms in the classroom, the more opportunity they have to achieve. Recently, use of nonlinguistic representation has proven to not only stimulate but also increase brain activity. Students should create graphic representations, models, mental pictures, drawings, pictographs, and participate in kinesthetic (hands-on) activities in order to assimilate knowledge.</p>	<p>Visual tools and manipulatives, problem-solution organizers, spider webs, diagrams, concept maps, drawings, charts, thinking maps, graphic organizers, sketch to stretch, storyboards, foldables, act out content, make physical models, etc.</p> <p>Incorporate words and images using symbols to represent relationships.</p>
<p>Cooperative learning (Yields a 23 percentile gain)</p>	<p>Organizing students into cooperative groups yields a positive effect on overall learning. Teachers should apply the strategy consistently and systematically but not overuse. Assign roles and responsibilities in groups.</p>	<p>Integrate content and language through group engagement, reader's theater, pass the pencil, circle of friends, cube it, radio reading, shared reading and writing, plays, science projects, debates, jigsaw, group reports, choral reading, affinity diagrams,</p> <p>When grouping students, consider a variety of criteria, such as common experiences or interests; vary group sizes and objectives; design group work around the core components of cooperative learning-positive interdependence, group processing, appropriate use of social skills, face to face interaction, and individual and group accountability.</p>

<p>Setting objectives and providing feedback (Yields a 23 percentile gain)</p>	<p>Setting objectives can provide students with a direction for their learning. Goals should not be too specific; they should be easily adaptable to students' own objectives/ allowing for some student choice. Teacher feedback should be corrective, timely, and specific to criterion. Feedback generally produces positive results.</p>	<p>Set a core goal for a unit and encourage students to personalize that goal. Use contracts to outline the specific goals that students must attain and the grade they will receive if they meet those goals (rubrics). Articulate and display learning goals.</p> <p>Make sure feedback is corrective in nature. Encourage students to lead feedback sessions. Student led conferences / 1 on 1 writing conferences</p>
<p>Generating and testing hypothesis (Yields a 23 percentile gain)</p>	<p>A deductive approach (using a general rule to make a prediction) to this strategy works best. Students should generate, explain, test, and defend hypotheses using both inductive and deductive strategies through problem solving, history investigation, invention, experimental inquiry, and decision making.</p>	<p>Thinking processes, constructivist practices, investigate, explore, social construction of knowledge, use of inductive and deductive reasoning, questioning the author of a book, finding other ways to solve a math problem, predicting what would happen if an aspect of a familiar system (such as government or transportation) were changed, building something with limited resources—this tasks generates questions and hypotheses about what may or may not work.</p>
<p>Questions, cues, and advance organizers (Yields a 22 percentile gain)</p>	<p>These help students use what they already know about a topic to enhance further learning. These tools should be highly analytical, should focus on what is important, and are most effective when presented before a learning experience. Teachers should use ample wait time before accepting responses, eliciting inference and analysis.</p>	<p>Vary the style of advance organizer used: tell a story, skim a text, or create a graphic image. There are many ways to expose students to information before they “learn” it.</p> <p>Graphic organizers, provide guiding questions before each lesson, think alouds, inferencing, predicting, drawing conclusions, skim chapters to identify key vocabulary, concepts and skills, foldables, annotating text, etc.</p>