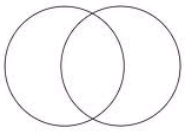
Classroom Instruction That Works Strategies

Strategy Category	In the Classroom	Key Idea
Identifying similarities and differences 	• Ask students to compare, identifying similarities & differences among concepts. • Help students classify, grouping things that are alike into categories. • Encourage students to create metaphors, identifying a basic pattern in one item that's reflected in another item. • Ask students to create analogies, finding relationships between pairs of concepts (e.g., "A is to B as C is to D").	Identifying similarities and differences may well be the "core" of all learning. Using this strategy can deepen your students' understanding and enhance their ability to apply new knowledge.
Summarizing and Note Taking 	• Teach students the rules to summarizing, and use "summary frames" (e.g., narrative, definition, or problem-solution) to highlight important text elements. • Give students teacher-prepared notes and explicitly teach them a variety of note taking formats (e.g., combination notes, outlines, webs and summaries).	Helping students sort out important information and restate it in a concise form improves their comprehension. Although verbatim note taking is not effective, the more notes students take, the higher their achievement.
Reinforcing effort and Providing Recognition 	• Explicitly teach students the importance of effort. • Stop frequently at students' desks to "pause, prompt and praise." • Use concrete symbols of recognition if they are motivating to your students.	Because not all students realize the importance of effort, one of the most important things you can do is help them understand how more effort creates better results.
Homework and Practice 	• Give students time to practice, review and apply knowledge to become efficient in a skill or process. • Design homework assignments that have a clear purpose and outcome and focus on specific elements, skills or processes. • Design homework that is a scaffold for students who may need basic skill practice in order to be proficient in course work.	Homework should not be assigned for its own sake or as a substitute for classroom learning. Rather, it's a way to extend learning and help students master a skill or deepen conceptual understanding of what you teach in class.
Nonlinguistic Representation 	• Use pictures or pictographs to represent students' new knowledge. • Help students generate mental pictures of what they're learning. • Use physical models (e.g., "manipulatives") to convey concepts. • Engage students in kinesthetic activities (i.e., activities with physical motion) to help them understand what they're learning.	Psychologists believe we store knowledge in two forms: linguistic and imagery. The more students process information using both forms, the better they'll understand and recall what they've learned.

From Classroom Instruction that Works: Research-Based Strategies for Increasing Student Achievement (2001) by Robert Marzano, Debra Pickering, & Jane Pollock. Alexandria, VA: ASCD. @2001 McREL.

Cooperative Learning 	• **Place student in small groups (3-4 members) with well-structured cooperative learning activities.** • **Vary grouping patterns so students aren't always in the same group.** • **Avoid ability grouping as it impedes the progress of low-ability students.**	**Cooperative learning is more effective than individual competition or learning. However, while in groups, students should be interdependent yet accountable for individual contributions.**
Setting Objectives and Providing Feedback 	• **Help students set learning goals that are specific and personal (e.g., I want to know why Ice Age mammals were so large).** • **Provide students with feedback that's corrective in nature by explaining why an answer is incorrect.** • **Use criterion-referenced feedback to inform students of their progress toward learning specific knowledge, not simply how they compare with classmates.** • **Provide timely descriptive feedback to students, both orally and in writing.**	**Telling students their answers are incorrect without explaining why can adversely affect learning. But giving feedback that's timely, specific, and "corrective" is one of the most powerful strategies you can use.**
Generating and Testing Hypotheses 	• **Encourage your students to generate hypotheses by using both deductive (predicting from a general rule) and inductive (developing rules from observations) reasoning.** • **Ask students to clearly explain their hypotheses and conclusions.** • **Use a variety of structured tasks (e.g., systems analysis, problem solving, historical investigation, invention) to develop students' higher-level thinking skills.**	**Although commonly regarded as the purview of science classrooms, generating and testing hypotheses is a basic cognitive skill that helps students apply knowledge and develop higher order thinking skills in many subject areas.**
Cues, Questions and Advance Organizers 	• **As you begin a unit or lesson, use cues (i.e., hints of what students are about to learn) to help students retrieve, use, and organize what they already know about a topic.** • **Instead of asking students to recall information, ask them analytic questions that encourage higher level thinking skills.** • **Wait briefly before accepting responses from students to increase the depth of their answers.** • **Use advance organizers (e.g., stories, videos, skimming reading passages, graphics) to prepare students to learn new content, especially when the content is poorly organized.**	**Helping students connect what they are about to learn with what they already know accelerates learning. Also, because cueing and questioning accounts for as much as 80 percent of what teachers do in classrooms, asking the right kinds of questions can help elicit higher order thinking and deeper level answers from students.**

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