

What are the six strategies that work?

The first two help students take in new information:

1. Pairing graphics with words.

Young or old, all of us receive information through two primary pathways — auditory (for the spoken word) and visual (for the written word and graphic or pictorial representation). Student learning increases when teachers convey new material through both.

2. Linking abstract concepts with concrete representations.

Teachers should present tangible examples that illuminate overarching ideas and also explain how the examples and big ideas connect.

The second two ensure that students connect information to deepen their understanding:

3. Posing probing questions.

Asking students “why,” “how,” “what if,” and “how do you know” requires them to clarify and link their knowledge of key ideas.

4. Repeatedly alternating problems with their solutions provided and problems that students must solve.

Explanations accompanying solved problems help students comprehend underlying principles, taking them beyond the mechanics of problem solving.

The final two help students remember what they learned:

5. Distributing practice.

Students should practice material several times after learning it, with each practice or review separated by weeks and even months.

6. Assessing to boost retention.

Beyond the value of formative assessment (to help a teacher decide what to teach) and summative assessment (to determine what students have learned), assessments that require students to recall material help information “stick.”



How were these strategies determined?

In *Organizing Instruction and Study to Improve Student Learning: A Practice Guide*, the Institute of Education Sciences (IES), the research arm of the U.S. Department of Education, identified proven practices that promote learning for all students, regardless of grade or subject, and that are especially potent with struggling students. Six practices stand out for the research behind them. There is little debate among scholars about the effectiveness of these six strategies: