26 Research-Based Tips You Can Use in the Classroom Tomorrow

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Teaching Strategies

Whether you want to increase student engagement or minimize your own stress, you'll find ideas here.

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With so many classroom research studies published daily, you can be forgiven for missing some. The techniques below are super-tactical and, for the most part, unsung strategies that you'll be excited to try tomorrow.

Just remember two things. First, there are always limitations and nuances in research, so we suggest you click the links and dig deeper into the studies. Second, studies are just words without you—your application and adaptations give them power.

Research on Engaging Students

1. Greeting students by name and including a positive statement at the beginning of class increased engagement by 27 percent.

2. The University of Virginia randomly selected one group of high school science students to write summaries of what they had learned in their class. Another group wrote about the usefulness of science in their own lives. The latter group earned significantly higher grades and reported more interest in science class.

3. Don't leave poor performers in the back row. When students in the back rows were asked to move to the front of the classroom, their participation and academic performance improved.

Studying Tips to Give Students Tomorrow

4. Taking practice tests prevents stress-related knowledge loss better than rereading material.

5. For cognitively demanding tasks, avoid music, TV, and using social media while studying. Nine deep breaths after multitasking with social media, however, enhances focus. So does looking at nature (or a photo of the outdoors) as long as it's green.

6. Handwritten notes aid recall better than typed notes.

7. Highlighting texts helps students score better on multiple-choice comprehension tests.

8. When compared with non-doodlers, doodlers remember more when asked to suffer through " tediously delivered information."

9. When practicing music, sports, and math, students benefit from applying the interleaving effect. In those subjects, switch out AAABBBCCC as a learning pattern and use ABCABCABC. Here's how that would apply to practicing tennis: forehand + backhand + volleys, and then repeat this sequence. Don't use interleaving when students are learning something completely unfamiliar.

10. Spaced practice (studying a little bit at a time over a series of days) is more effective than massed practice (binge sessions). Although massed practice does "lead to greater short-term performance," it impairs long-term performance.

11. Sleeping between vocabulary study sessions helps students learn new words faster.

Instruction They'll Remember

12. Asking students to retrieve information right after it has been introduced promotes retention: "Tell a neighbor what you just learned!"

13. Flooding the hippocampus with dopamine aids recall. To activate this "flashbulb memory" process, surprise students before or after introducing content you want them to remember. Jokes and YouTube videos will do the trick.

14. Curiosity puts the brain in a state that is conducive to learning. "When anticipating an answer, it's like curiosity is warming up the hippocampus (memory) ahead of time."

15. Deep encoding occurs when we think of the meaning of a concept and make connections. When introducing new content, ask students to reflect on how the idea specifically relates to them.

Improving Academic Achievement Scores

16. Some students overestimate their understanding of a concept, which can lead to unintended gotcha moments

when they're put on the spot. But nine studies show that merely asking learners to think or write for 5–20 seconds about their understanding of a topic, like how to pass a bill, can effectively help them recognize gaps in their knowledge and fill them in. Note that this technique doesn't work for less complex subjects—with those, ask for a fuller explanation.

17. According to a Harvard study, white teachers who discussed what they have in common with their African American students helped close the achievement gap.

How to Minimize Teacher Stress

18. Suppressing negative emotions is less effective for teachers than situation reappraisal. Here's how one teacher uses reappraisal to avoid despairing about her students' lack of achievement: "I don't panic . . . if the student does not do so well, I know that it's a long-term process. This is only grade 7, and there's going to be grade 8, 9, 10, 11, and 12."

19. Don't hang out with whiny colleagues. Sadness is contagious. One way to condition chronic complainers to be more positive is to avoid eye contact when the rant begins.

Don't Contribute to Needless Cognitive Strain

20. Don't read the text on a slide during a presentation. That common practice creates cognitive overload, according to numerous studies.

21. Don't make students look at you when answering complex questions. " Eye contact drains our more general cognitive resources." In one study, children answered complex questions correctly only 50 percent of the time when forced to look at someone. "Their scores improved significantly when they were allowed to avert their gazes." (Another study demonstrates that this is true for adults as well.)

22. Minimize use of multiple-choice quizzes. Having a list of incorrect possible answers next to correct ones can inadvertently help students learn the wrong things.

23. Avoid concept confusion. Dr. Curtis Chandler identifies "comets and asteroids" and "adjectives and adverbs" as terms that befuddle students when taught back-to-back. "If the number of similarities [between two concepts] far outweighs the differences, then chances are my students will be confused." Teach these concepts at different times during the school year.

Research on Writing Instruction

24. There is no significant statistical advantage to marking many errors on students' drafts compared with minimal marking. Additionally, most students respond effectively to no more than five error corrections per paper and tend to ignore comments on their final drafts. The takeaway: Make just a few comments on early drafts.

25. Reading good essays and literature is not enough on its own to improve student writing. Teachers need to not only model composing but also provide explicit analysis of critical genre features to be subsequently practiced.

26. Praise-bombing struggling African American learners for mediocre essays damages their self-esteem and may speed up "academic disengagement." Feedback that is specific and critical and articulates an instructor's belief in her students' abilities elevates writing performance.