



# Can Teaching Metacognitive Learning Strategies Counteract Student Stress, Anxiety, and Depression?

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According to an article in *The Chronicle of Higher Education* entitled “‘I Didn’t Know How to Ask for Help’: Stories of Students With Anxiety,” more than 25% of students, including undergraduate and graduate students, suffer from anxiety (Lipka, 2018). However, fewer than 40% of those students had sought help in the previous year. Over half of the students interviewed mentioned their academic endeavors as either a cause of their stress and anxiety or a casualty of it. When reading about the distress each of these students was facing, and the toll it was exacting on their academic performance, I thought about the experience of many of our students at the LSU Center for Academic Success who reported that after learning effective ways to study more efficiently, manage their time, use better test taking strategies, and view mistakes as opportunities to improve rather than indications of failure, they had regained confidence in themselves, felt in control of their learning, and were less stressed out or anxious about their academic performance. After getting the 4.0 she needed to avoid being academically dropped from the university, one graduate student emailed us that her GPA had “gone from a sad probation 2.77 to a Happy FREE 3.38... so I’M FREE from the academic shackles!!!” It is this freedom from worry, stress, and anxiety that effective and efficient metacognitive learning strategies can provide students.

Metacognition, a term coined by psychologist James Flavell in 1976, is, simply put, the ability to think about one’s own thinking. It includes the ability to plan, control, and monitor one’s learning activities, to be consciously aware of one’s learning preferences, and to accurately assess the depth of one’s learning. Many students who spend hours and hours studying, with little to show for it on their exam performance, are simply focusing on memorizing facts and procedures rather than understanding relationships and concepts. This age-old reality has long been represented by Bloom’s Taxonomy (Bloom, Englehart, Furst, Hill, and Krathwohl, 1956; Anderson et al., 2001), in which learning can be depicted as a pyramid of six stages: memorizing, understanding, applying, analyzing, evaluating, and creating. When students learn about Bloom’s Taxonomy, they immediately have a lens through which to see the difference between what they have been doing (memorizing information with little understanding) and what is required for excelling in their courses (applying concepts to new situations, at a minimum). They begin to understand that if they aim to reach the highest possible level of Bloom’s Taxonomy, better grades automatically result. Reaching deeper levels of understanding replaces the arbitrary, unspecific, and often demotivating goal of “getting an A.” These students begin to take control of the learning process, and, most importantly, they start to enjoy it.

Why don’t students come to college already knowing how to learn? For most, it wasn’t necessary in high school. From conversations with students around the country I have learned that many of them know exactly what items will be on upcoming tests, and they simply memorize the relevant information. Additionally, many students do not

# Viewpoint

have textbooks and rely on handouts of power point slides for study materials. So when they get to college they have few learning skills.

When students who have done very well in high school experience abject failure in college courses, with no idea how to remedy the situation, many become emotionally distraught. As their hopes of achieving a college education begin to slip away, some of these students doubt their ability and start to feel that they are incapable of excelling at the college level. One first year student who had been valedictorian of her high school class indicated that, after almost failing her first two examinations at LSU, she and her mother had decided that maybe she was “high school” smart, but not “college smart.” She was resigned and ready to give up her dream of becoming a dermatologist. However, when this young lady learned how to stop memorizing information and instead focus on metacognitive skills, she finished her first year with a 4.0 GPA and graduated three years later with a cumulative GPA of 3.6. She is now in the process of applying to medical school.

It is not difficult to teach students simple metacognitive strategies that can transform their academic performance. These strategies include previewing information before going to class, reviewing class notes as soon after class as possible, working homework problems without using examples or the solutions manual, testing understanding by pretending to teach the information, and answering questions in the order of simplest to most difficult (see McGuire, 2015; McGuire, 2018). When I first learned about strategies like these, I was skeptical, convinced that they were too simple and obvious to be effective. But when I saw student after student use the strategies to change their lives, I became a believer. When we teach students *how* to learn and not just *what* to learn, many students become more confident, experience less anxiety about their capability to do well, improve their academic performance, and escape the anxiety that feeling incompetent and performing poorly on exams often bring on.

Why was I so skeptical? I did not understand that although these learning strategies are simple, they are *specific* and, when used correctly, have enormous power. Implementing learning strategies is like dancing—there is an unlimited number of ways to do it well, but that does not mean that every way works. The devil is in the details. For example, previewing should ideally be done with a textbook, not with skeletal lecture notes, and the student should read all headings, subheadings, and highlighted words. Reviewing class notes after lecture should include mentally rehearsing what the professor has said and jotting down questions. Neither requires more than 15 minutes, but what happens during those 15 minutes matters. Similarly, active reading should involve cumulative paraphrasing, in part because it is entirely possible to highlight and write notes in the margins of a textbook without engaging in meaningful learning. So the strategies are simple, but students must be taught exactly how to use them correctly. Students must also have faith in the strategies, which means that the person imparting them should deliver them with genuine enthusiasm and belief in the student’s ability to get results. Learners also need a framework, like the Study Cycle explained in the following paragraph, for incorporating the strategies into their busy schedules. Lastly, it is important to give students an immediate goal that serves as a test for the strategies’ effectiveness, like an upcoming exam or project. The entire context within which learners encounter these strategies matters: They must come away understanding the specificity of the strategies, excited to use them, aware of how the strategies fit into their daily schedule, and looking forward to seeing the fruits of their labor (see McGuire, 2015; McGuire, 2018).

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One of the most effective learning tools that we give students is the Study Cycle, adapted from Dr. Frank L. Christ's Preview-Learn-Review-Study system (1997). The Study Cycle consists of four steps:

1. Preview information before going to class
2. Attend and actively participate in every class session
3. Review material that was covered in class as soon after class as possible
4. Implement Intense Study Sessions of approximately one hour that involve:
  - Taking 1 - 3 minutes to set a goal for the study session
  - Studying with focus and action for 30 – 50 minutes by interacting with the material, developing concept maps, re-reading, summarizing, etc.
  - Taking a break for 10 minutes
  - Reviewing what was studied before taking the break
5. Assess learning by reflecting on whether the current study methods are effective or if they need to be tweaked.

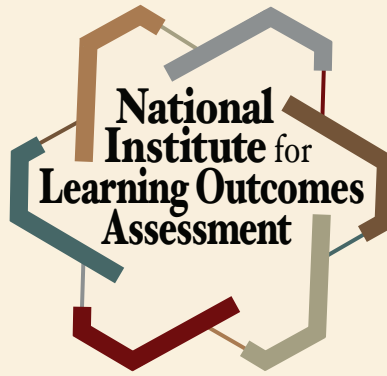
We have found that students love learning about the Study Cycle because it gives them very specific actions they can take to improve their learning. Students who have told us they didn't know how to study because they never had to in high school really appreciate having a study process that they can follow. And when they follow it they see immediate and dramatic improvement in their understanding of course material and performance on course assessment activities. Moreover, the framework of Intense Study Sessions gives students a concrete way to schedule their study time, and it helps them follow our recommendation to spend some time on each class every day. Another advantage of the Intense Study Session is that its duration can be adapted to shorter attention spans. The shortest possible version—1 minute of goal setting, 8 minutes of focused action, and a 1-2 minute break—repeated many times throughout the day works well for our most easily distracted learners. A final benefit of the Study Cycle is that Step 5 is the perfect opportunity to use one of the most powerful and popular metacognitive strategies: teaching the material to an imagined class, empty chairs, or actual study partners.

Millions of our students are stressed out and overwhelmed by their academic obligations. Having strategies to take control of their learning may be just what they need to quell the feelings that, left unchecked, might lead to serious depression. I therefore urge all faculty, staff, and administrators to prepare themselves to teach learning strategies to students. Those who are the most anxious and distressed are often the ones for whom this information makes the most difference.

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