



Video

FULL DETAILS AND TRANSCRIPT

Strategic Study: Using the “Delayed Judgment of Learning” Task

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Topic: How to Organize Your Teaching

Practice: Spacing Learning Over Time

Highlights

- Metacognition is having an awareness of what you know and don’t know.
- The “delayed judgment of learning task” can help students identify what they know and don’t know and study accordingly.
- Teachers can teach their students to use flashcards to assess what they know and don’t know and learn how to focus their efforts on studying what they don’t know.

About the Interviewee

Dr. Metcalfe is a Professor of Psychology and of Neurobiology and Behavior at Columbia University, where she has been for the past 12 years, having previously taught at Dartmouth College. Her current research focuses on how people—both children and adults—know what they know, that is their metacognitive abilities, and whether they are able to use this knowledge effectively for self-control in a variety of domains. In particular, are they able to use their metaknowledge to control their learning and study

strategies? How does their metacognition impact on choice? Do they know when they, themselves, are in control, and do these metacognitions of agency eventuate in motivated choices to enhance feelings of control or to enhance learning? Are people able to use their cool-cognitive and metacognitive knowledge to implement effective control strategies in the face of hot-system temptation?

Recent theoretical and empirical research has been directed at detailing a metacognitively-based model of self-controlled study behavior called a ‘Region of Proximal Learning’ model. In this model, people—so long as their metacognitions are accurate—are postulated to attempt selective study of materials that are just beyond their current realm of mastery, rather than the most difficult materials. Many experiments now support the contention that college-aged adults with excellent metacognitive capabilities spontaneously choose such items. Furthermore, there are now considerable data to show that this is an efficacious study strategy. Interestingly, recent experiments reveal that young children, at the Grade 3 to 5 level, appear to have excellent metacognitions when tested appropriately for this capability. However, their ability to use this metaknowledge to appropriately control study behavior is lacking. Whether children generally lack implementation strategies or whether this finding applies only within the particular domain of studying is, as yet, unknown. These and other questions of how and when people’s metacognitions are translated into appropriate strategies lie at the heart of Dr. Metcalfe’s research. The overriding quest that underpins all of Dr. Metcalfe’s work, then, is to understand how we are able to use our knowledge, and particularly our metaknowledge, to control what we do: how are people able to ‘willfully’ control their own thoughts and actions.

Full Transcript

I’m Janet Metcalfe and I’m a Professor of Psychology at Columbia University. I want to tell you about metacognition and why it’s important, first of all. When kids study, they need to learn how to get control of their own study, and it’s terribly important for them to be able to control their own learning and control it in an effective way. So many, many people have done research on metacognition.

Metacognition is our knowledge of what we know or knowledge of what we’ve learned. If you don’t know what you don’t know, you can have a very hard time studying appropriately. And your teacher or your instructor isn’t going to always be able to guide your studying, so at some point, you have to take control of it yourself. In order to do that you have to have appropriate metacognitions, and not only do you have to have that knowledge, but you also have to be able to apply it appropriately.

The best test for that is called a delayed judgment of learning task. The way it works is that after you’ve had the students learn some materials, you wait—and you might wait a day or you might wait an hour, but you don’t do it immediately because if you do it immediately, the memory for the material might be in

short-term memory, so it’s not a reliable indication of whether you have really learned, so you have to wait. And then, you give only the questions; you don’t give the answers.

So, suppose you’re teaching a student American history and you are talking about the Civil War. The way you would make a judgment of learning is to give them a question that you want them to know the answer to. For example, who was the President during the Civil War? You don’t give them the answer. You let them try to retrieve the answer in order to make their judgment of learning. And it turns out that if they can retrieve the answer, they will give that question a high judgment of learning. Later on if you test them, they will get it right on the test; the correlation is extremely high. If they can’t answer the question, then they will give it a low judgment of learning. And college students and high school students know that if they give something a low judgment of learning, they don’t know it, that’s what they need to study. So it’s really effective strategy.

I think that it would a good idea for the teachers to actually show the students how to do it and provide the materials and maybe even do a practice session in class, because they could use it in all their subjects, too.

A really easy thing that they could do would be to give the children flash cards and they tell the children to write the question on one side and write the answers on the other side and they make them...they instruct them on going through the critical questions, making the judgments of learning—do I know this—but without having the answer, of course. They make those judgments, they sift those questions that they don’t know into the “must study” pile, but they should also flip over the answers to the ones that they give high judgments of learning to, because they might make a mistake on some of those. And if they make a mistake, they want to correct those ones, too. So it’s a simple little procedure. They could keep their set of flash cards for a particular set of materials, then redo them a couple of nights later. They could even chart their progress if they wanted to—“Oh, I am learning more, I didn’t know as much on Monday night as I know now”—and it’s a good method for studying for the test and it empowers the student.

The benefits of this task are twofold: first of all—maybe most important—is that it puts the learning in the hands of the learner, so that the student himself can do it; so it’s an effective way for someone who wants to learn some material to both improve their learning and also to take control of what they need to study and what they don’t need to study. Now, you need to know the right things to study; you don’t want to study the things that you have learned already. But you have to make that assessment correctly, or you’re going to end up studying inappropriately. So by making a judgment of learning that’s accurate, the students are in a position to study the right things that are going to help their learning, and they can do it themselves.

The second benefit is that the task itself has benefits. The task itself is one where the student is testing themselves and in order to make the judgment—do I know it, don’t I know it—they have to test themselves. And there are many papers right now that have been showing that the effects of tests are beneficial to learning. That’s especially true if the person is successful, so if they get the answer right, that memory

is strengthened. If they get the answer wrong, you don't get any memory benefit from the judgment of learning task, but what you know is that you have to go back and study it. So it's a very efficient way, you get a benefit of the test and you know what you have to study.