

# DOINGWHATWORKS



## Presentation

FULL DETAILS AND TRANSCRIPT

### Space Learning Over Time with Review and Quizzing

May 2008

Topic: How to Organize Your Teaching

Practice: Spacing Learning Over Time

#### Highlights

- Research studies have found that spacing learning over time can improve students' retention of important course content.
- Key features of spacing learning over time include: introducing the key content, revisiting that content with short quizzes or targeted homework assignments, and quizzes or review activities asking students to recall key facts several weeks or months after the original lesson.

## Full Transcript

### Slide #1

Welcome to the overview on Spacing Learning over Time with Review and Quizzing.

### Slide #2

Ms. Tran is perplexed by her students' poor performance on the latest unit exams. She's given clear lectures and homework assignments but the exams indicated that her students just aren't remembering the key facts and ideas she taught them.

After talking to a colleague who noticed huge learning gains when he started giving frequent, ungraded quizzes, Ms. Tran decides to begin quizzing her students on a mixture of new and review materials at the end of each day's lesson. She also develops quiz-based games and posts them on her website for students to play at home. In short, she begins to space her students' learning over time.

### Slide #3

What does it mean to space learning over time?

This teaching technique can be described with three principles of practice. First, you introduce the key content. Secondly, you revisit that content with short quizzes or targeted homework assignments. Lastly, through quizzes or review activities, ask students to recall key facts weeks or even months after the original lesson.

### Slide #4

Research studies show the act of recalling information strengthens memory and makes the information more readily available in the future. Having students take a test or a quiz is almost always more effective than having them spend extra time re-reading the same material.

### Slide #5

The quizzes are useful from a lesson planning standpoint as well, as it quickly becomes apparent which material students are struggling with and need to review. When planning lessons, be sure to identify the key concepts, terms, and skills to be learned. Students need to be exposed to these at least twice over the

course of several weeks, and ideally several months.

#### Slide #6

There are a variety of ways to give students multiple opportunities to review and recall material, including homework, quizzes, in-class review and full exams.

There are online resources that can help teachers create short, fun games that help students review material at home. “Fill in the blank” or “short answer” quizzes are even more effective than “multiple choice” because they require students to actively recall information, which helps students remember information longer. By answering the questions on the quiz, the student is practicing the act of recalling information from memory. This practice helps solidify the information in their memory.

#### Slide #7

Typically, quizzes and tests are seen purely as evaluation tools, but they can be extremely useful as part of the learning process. When a teacher provides correct-answer feedback, students become aware of gaps in their knowledge and get useful information to help them focus their future study. Also, the very appearance of a question on a quiz alerts students to key ideas to attend to.

#### Slide #8

Students can use self-quizzing to help their recall and guide their study practices. For example, a day or a week after being introduced to new material, a student can make flashcards of key facts he has studied and separate the pile into facts he knows and facts he doesn't know. Students can then focus on studying the material they don't know.

Creating judgments of your own learning breaks the “illusion of knowing,” the sense that you know the material when there's a portion that you haven't already mastered. Self-quizzing after a delay of hours or days, without answers in front of you, gives students a more accurate sense of what they know and can help them study strategically.

#### Slide #9

What might spacing learning over time look like in practice?

Every other week, a high school social studies teacher spends half a class period reviewing facts that were covered several weeks earlier.

A middle school math teacher creates homework assignments that include a few problems covering the material that had been presented in class one or two months earlier.

A Spanish teacher gives five-minute exit exams at the end of each class on vocabulary introduced two weeks earlier.

### Slide #10

So, what do we know about spacing learning over time?

Spacing learning over time, asking students to recall the same important information on more than one occasion after a delay of weeks or months, will help them remember that information more effectively over the course of the school year.

### Slide #11

Ms. Tran was thrilled to see her students' performance skyrocket on their final exams. The quizzes had both given her help in planning review sessions and strengthened her students' recall of the material over the course of the school year.

### Slide #12

To learn more about spacing learning over time, please explore the additional resources on the Doing What Works website.