

# Cross-Content Recommendations and Strategies

## Aligned with South Carolina Standards

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# Organizing Instruction and Study to Improve Student Learning

Grades K–12<sup>th</sup>

## **Recommendation 6a**

Use delayed judgment of learning techniques to identify concepts that need further study.

This document provides a summary of recommendations from the WWC practice guide *Organizing Instruction and Study to Improve Student Learning*.

## Recommendation 6a

Use delayed judgment of learning techniques to identify concepts that need further study.

Metacognition refers to the ability to judge how well one has learned new knowledge or skills. Without training, most learners cannot accurately judge what they do and don't know, and typically overestimate how well they have mastered material when they are finished studying, called the "illusion of knowing."

A key technique for breaking the illusion of knowing and being able to more accurately assess whether or not one knows the information is known as the cue-only delayed judgment of learning procedure. This technique has three critical features: (1) students should test their mastery of a set of concepts, not right after they have finished studying the material, but after a meaningful delay (an hour, a day, or a week); (2) when testing whether they know the concepts or not, students should only have access to the cue and not the correct answer; and (3) students should judge how likely they are to get the correct answer on a quiz, rather than only attempting to generate the answer.

### Strategy 1

Teach and use the cue-only judgment of learning procedures during class time.

#### South Carolina standards alignment

SC Teaching Standards: PLAN.SW.1, PLAN.SW.2, P.A.1, P.A.2, P.A.3, P.A.4, P.A.5  
Academic Standards: ELA.K-12.I.5, M.K-12.MPS.AJ.1, SCI-K-12.S.1

Teach the cue-only judgment of the learning process after you have taught a new section of new-learned material. Prepare a selection of about 10 key questions that capture the central meaning of the material.

Give the students the questions, one at a time, without the answers, and ask the students to try to answer the question. Then, ask them to rate how likely they think it is that they will be able to get the answer to this question right, on a scale from 0 to 100, when given a test the next day. Teachers should remind the students that people forget, and that their judgments should reflect the chance that they might forget the answer by the time of the test.

After making these judgments, students should be told to review the material and find out the answers for every question that they did not give a score of 100. If they do not know the answer, they can ask the teacher or look for the answer in their texts. They should write these answers down on a separate piece of paper and think about them, and, if necessary, discuss them with the teacher for clarification. This "cue-only delayed judgment of learning" procedure should be used repeatedly, on the same materials.

#### Subject

Math

ELA

**Cross  
Content**

Behavior

#### Level of Evidence

**Minimal**

Moderate

Strong

#### Grades

Pre-K

K

1<sup>st</sup>

2<sup>nd</sup>

3<sup>rd</sup>

4<sup>th</sup>

5<sup>th</sup>

6<sup>th</sup>

7<sup>th</sup>

8<sup>th</sup>

9<sup>th</sup>

10<sup>th</sup>

11<sup>th</sup>

12<sup>th</sup>

## Strategy 2

Teach students how to use cue-only judgment of the learning procedure when studying on their own.

### South Carolina standards alignment

SC Teaching Standards: PLAN.SW.1, PLAN.SW.2, P.A.1, P.A.2, P.A.3, P.A.4, P.A.5

Academic Standards: ELA.K-12.I.5, M.K-12.MPS.AJ.1, SCI-K-12.S.1

Students can also use the cue-only judgment of the learning procedure when they are studying independently. When students are preparing for a test, they should assess the likelihood of correctly answering the question on a test on a 0–100 scale. Students should focus additional study on any item that they score less than 100. Have students document their use of the technique.

## Strategy 3

Teach and use the delayed-keyword technique to assess understanding of reading.

### South Carolina standards alignment

SC Teaching Standards: PLAN.SW.1, PLAN.SW.2, P.A.1, P.A.2, P.A.3, P.A.4, P.A.5

Academic Standards: ELA.K-12.I.5, M.K-12.MPS.AJ.1, SCI-K-12.S.1

Have students use the delayed keyword technique to assess understanding of what they read. After completing a reading assignment, students should move on to other classwork. Then, after a break from the reading, the student should try to write the main points and keywords from what they read. If they cannot generate the main points of the reading, they should go back and reread, reassessing after a break.

## References

Pashler, H., Bain, P., Bottge, B., Graesser, A., Koedinger, K., McDaniel, M., & Metcalfe, J. (2007.) *Organizing Instruction and Study to Improve Student Learning* (NCER 2007-2004). Washington, DC: National Center for Education Research, Institute of Education Sciences, U.S. Department of Education. <https://ies.ed.gov/ncee/WWC/PracticeGuide/1>