

The Language of Memory Development

You already know that the way you speak to your students can affect how they feel and how much they understand. But did you know that the language you use in the classroom can affect the development of your students' memory and self-regulatory skills?

The Research

According to researchers Peter A. Ornstein and Jennifer L. Coffman, a particular type of teacher language, called "cognitive processing language" (CPL), promotes students' acquisition of memory skills. They studied 107 first graders for a year, testing their memories periodically. Despite having no direct instruction in memory skills, students improved on the memory tests. But not all students progressed equally. Student improvement on memory tests was correlated with their teachers' use of CPL--those whose teachers used CPL the most made the greatest gains. Remarkably, these gains persisted into second grade and beyond.

One unexpected finding was that students' self-regulatory skills could also be impacted by CPL. When students who began the year with low self-regulatory skills had teachers who were high CPL users, those students made significant gains in self-regulation. When Ornstein and Coffman followed up a year later, these students continued to show improved self-regulation.

Cognitive Processing Language

So what, exactly, is CPL? It's language that guides students as they think about how to understand instruction and materials. The authors give five categories of CPL:

Strategy Suggestion

When teachers offer tips like "If you're confused, try looking at the picture on the next page," or "Read the summary first so you'll recognize the most important points while you're reading the chapter," they're offering "strategy suggestions." These tips prompt students to try out new approaches to understanding and remembering material.

Metacognitive Question

Metacognitive questions ask students to explain their thought processes. A teacher might ask "What steps would you take to solve this problem?" or "Tell me why you read the possible answers before you read the passage." Metacognitive questions invite students to articulate what they know about their own thinking.

Co-occurrence of Deliberate Memory and Instructional Activities

Asking students to retrieve information from their memories as new material is being presented activates their memories and encourages them to tie these memories to new instruction. In order to do this, a teacher might say "Yesterday you learned the names of two important scientists. Think about those two scientists now, because today we're going to write about how they're different and how they're the same. We call this comparison and contrast."

Co-occurrence of Deliberate Memory and Cognitive Structuring Activities

When teachers ask students to recall information and reorganize it, or focus their attention on specific features of the information, it encourages encoding and processing. This happens when a teacher says something like "Now, last week we found out that the planets in our solar system are each different from Earth in important ways. See if you can remember all of the planets that are mostly made of gas."

Co-occurrence of Deliberate Memory and Metacognitive Information

A teacher can ask students for remembered information and also for the thinking strategies they used as they processed the information. An example of this would be something like "When we learned about triangles, you needed to be able to figure out how much area each triangle covered. Tell me how you set up and solve a problem like that."

Practical Strategies

Incorporate CPL into Planning

As you make your unit, weekly, and daily plans, keep CPL in mind.

- In the introduction to your unit, incorporate a discussion or activity that asks students to remember an earlier unit and think about its connection to what they are about to learn.
- In the second half of your unit plans, look for places where you can ask for recall of information learned earlier in the unit. Plan for discussions and activities that explicitly ask students to remember strategies they used earlier and try to apply them to newer material.

Incorporate CPL into Assignments

- In assignment directions, offer tips about how to remember the information needed to complete the assignment, and suggest strategies for approaching the work.
- In assignment directions, ask students to remember specific earlier material and remind them of how it applies to the work at hand.
- Give assignments that require categorizing, ordering, ranking, or otherwise manipulating information that students have already learned.

- Give assignments that require applying previously learned strategies to new material.

Keep a list of CPL Prompts Handy

Wherever makes the most sense for you, stash a copy of the CPL categories with sample prompts. (A list that you can copy follows this article). Glance through it before discussions and before giving directions or writing assignments--soon, CPL will be second nature to you.

Conclusion

Using cognitive processing language in your classroom benefits your students. It will help them learn and use memory strategies, and it can even promote self-regulation among students who are low self-regulators. After being exposed to CPL in your classroom, your students will achieve more--both in your class and in their future classes.

Source:

Ornstein, P. A., & Coffman, J. L. (2020). Toward an Understanding of the Development of Skilled Remembering: The Role of Teachers' Instructional Language. *Current Directions in Psychological Science*. doi:10.1177/0963721420925543

CPL Categories with Sample Prompts.

Strategy Suggestion

- You might think about....
- Ask yourself....
- Try looking at....
- Another way to think about this problem is....
- First.... Then you can....
- If you're confused, you can....

Metacognitive Question

- Show me how you....
- Tell me why you....
- What are the steps you used to....
- What were you thinking when you....
- Help me understand why you....
- Explain the strategy you used to....

Deliberate Memory and Instructional Activities

- I'm sure you remember that _____. Well, today, we're going to
 - discover
 - practice
 - learn more about
 - research
 - experiment
 - continue

Deliberate Memory and Cognitive Structuring Activities

- Now that we've learned about _____, I wonder if you can
 - sort
 - put in order
 - choose the most/least
 - identify
 - rank
 - compare/contrast

Deliberate Memory and Metacognitive Information

- Tell me what we learned about _____, and then explain to me how you
 - memorized
 - found the key ideas
 - solved the problem
 - organized
 - figured out
 - labeled