

POD —IDEA Center Notes

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IDEA Item #2: "Found ways to help students answer their own questions"

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Background

Teachers who find ways to help their students answer their own questions are teachers who are helping their students become more metacognitive--or knowledgeable about and in control of their cognitive resources. Research on metacognition has focused on what students know about their thinking processes, what students do when trying to solve problems, and the development and use of compensatory strategies (1). The ability to reflect on one's cognitive processes and to be aware of one's activities while reading, listening, or solving problems has important implications for the student's effectiveness as an active, planful learner. As an expert learner yourself, you automatically monitor your understanding and adjust by filtering irrelevant information and pursuing additional information as needed.

One strategy you use is to ask questions; as the expert learner, you know the kinds of questions to ask to get the information you need. Students' question generation is a comprehension-monitoring device and helps them focus on content and main ideas. In addition, student questioning at higher cognitive levels is a necessary component of problem solving (2). Thus, in your role as an expert learner, *teaching students to answer their own questions by asking the right questions is vital.* Note that item #2 is correlated with eleven of the other "instructor method" items at .70 or higher. The strongest relationships are with item #1 (displayed personal interest in students), item #4 (demonstrated the importance of the subject), item #6 (made clear how topics fit), item #10 (explained clearly), item #13 (introduced stimulating ideas), and item #15 (inspired students to set and achieve goals).

Helping students answer their own questions is also related to eight of the IDEA learning objectives items at levels higher than .60. Look for similarities in ratings on these items to assess your success in helping your students to develop metacognitive and problem-solving skills.

Helpful Hints

To help students *answer* their own questions, you need to first *teach students to ask the right kinds of questions for the right purposes.* Show students that questions can be structured around the types of information sought. For example, Bloom's Taxonomy (3) of the cognitive domain provides a categorization of thought processes from least to most complex; a good framework for posing questions at increasingly higher levels of understanding. Providing students with question stems (4) will help them with this process. Another categorization of questions (5) describes questions as input (requiring recall of facts or derivations from sensory data); processing (requiring the drawing of relationships among data); or output (requiring students to hypothesize, speculate, create, generalize, evaluate). Once students understand that they need to identify what it is they want to know, they can then select the appropriate questions to ask.

Because generating their own questions will be new to most students, they will need encouragement. You can help students feel comfortable asking questions if you *create an environment in which inquiry is not only accepted but fostered.* By modeling the questioning process and scaffolding student discourse you can mold students' actions, interactions, and thought processes (6). One way to begin would be to have students write questions prior to studying a new

topic, performing a new task, or taking part in a new activity. Ask them to use the question stems to write a question at each level of thought. *Use the students' questions to guide investigations, activities, or discussions.* During these, have students think about particular questions and seek answers through their interactions with the teacher and other students. Afterwards, have students reflect upon the questions they asked to determine if the questions helped them learn. At this time, too, have students write new questions based on their prior questions and the teaching/learning activities.

A third way to help students answer their own questions is to *use teaching techniques that promote active learning* (7). These are often inquiry-based methods and include, but are not limited to, the case-study approach, debates, role-playing activities, simulations, and problem-solving activities. Through participation in these and other active-learning activities, students learn to assume responsibility for their learning by identifying issues, asking questions, seeking information, and developing answers or creative solutions.

As the preceding hints indicate, finding ways to help students answer their own questions means becoming the type of teacher who structures the teaching/learning process to facilitate students' assuming a more active role in their learning. Students who learn to ask the right questions will get answers that satisfy them.

Assessment Issues

To assess students' ability to answer their own questions, you need to consider several aspects of the teaching/learning experience. First, *you and the students must be clear on the objective of the learning activity.* In addition, the teaching strategy you use will contribute to your choice of assessment technique. You and the students should also agree that learning to ask and answer their own questions is an ongoing and formative process. Because you are helping students become more metacognitive, you should *have students engage in self-assessment.* Make sure that students are learning to ask questions within the context of the content. Use checklists, learning logs, and dialogue journals to track students' acquisition of self-assessment and questioning skills (8). For maximum benefit, couple these with other assessments of students' learning to demonstrate the relationships of their questions to acquisition of new knowledge and

skills. When students see that asking and answering their own questions is directly connected to more and better learning, their motivation and persistence will increase.

References and Resources

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IDEA Paper No. 31: [Answering and Asking Questions](#), Cashin

IDEA Paper No. 39: [Establishing Rapport: Personal Interaction and Learning](#), Fleming

IDEA Paper No. 34: [Focusing On Active, Meaningful Learning](#), Stalheim-Smith