

From the President's Pen

Back in the Saddle Again



After two years out of the classroom (a sabbatical year followed by an administrative stint), I'm "back in the saddle again." As I acclimate myself to my new school, new home and new country, I have begun to look at all aspects of teaching through different lenses.

Assessment is a key aspect of teaching that has captured my fancy in a big way. In particular, questioning has become my focus. Linda G. Barton (1997) has summarized questioning leading to critical thinking using Bloom's Taxonomy as her framework. According to Barton, there are six levels of questioning. They are knowledge, comprehension, application, analysis, synthesis and evaluation. These are arranged hierarchically, from bottom to top.

Knowledge questions are the base and test the recall of facts. Comprehension questions allow students to demonstrate their understanding of facts and ideas by organizing, comparing or interpreting. Application questions cause students to solve problems involving new situations by applying knowledge in different ways. Analysis questions enable students to break information into parts and to make inferences from these parts. Synthesis questions prompt students to compile information in different ways and to propose alternative solutions. Evaluation questions guide students to present and defend opinions by making judgments about information based on certain criteria.

This hierarchy of questioning is hardly new, but my choice of verbs to describe these levels was deliberate—allow, cause, enable, prompt and guide. Questions are gateways to knowledge. If we truly want to give our students every opportunity to tell us what they know, we must craft our questions carefully and use them as segues to new knowledge. Whether in the classroom or on tests, we all need to focus on the kinds of conversation that will occur if we ask the right kinds of questions. I challenge each of you to craft one different kind of question during each of your classes and for each of your written assessments. I know that you will be very pleased with the mathematical conversation that will result. Questions are the building blocks of communities, and our classrooms are mathematical communities. Have you asked a good question lately?

Reference

Barton, L. G. *Quick Flip Questions for Critical Thinking*. Dana Point, Calif.: Edupress, 1997.

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