



Teaching with Questions

Alan Gartenhaus

Watch people at dinner buffets. They slow their usual pace, survey the range of offerings, investigate alternatives, and actively pursue every intriguing morsel.

If only our minds were as adventurous as our palates! When presented with a sumptuous array of exhibited objects to sample, most of us look too quickly, resist investigating, and dismiss thoughts and ideas before giving them consideration.

Teaching with questions forces learners to alter these behaviors. Inquiry slows the pace, magnifies what is seen, and amplifies what is felt. Skillful questioning requires learners to observe purposefully, develop ideas, make discoveries, examine responses and attitudes, and postpone decision-making. In short, inquiry teaching reinforces learning behaviors consistent with perceptual and intellectual self-sufficiency.

Visitors arrive at institutions with widely differing amounts of interest and information. Inquiry teaching accommodates their diversity by allowing learners to participate in the acquisition of objective and subjective data consistent with their various backgrounds, interests, and levels of sophistication.

You may have noticed the alternating reference to "visitors" as "learners." Inquiry teaching assists visitors to transition into learners by helping them develop and practice learning skills -- skills they

can use again on return visits and in other contexts.

Inquiry teaching, or instruction by asking questions, is not easy or natural. It's a technique that requires practice. And, among its challenges, the most difficult is constructing and sequencing questions that will propel investigation and promote understanding.

Constructing Questions

The questions used with inquiry teaching should be "open-ended." Open-ended questions ask learners to make observations or generate ideas, while accommodating their divergent perspectives. Open-ended questions can have many appropriate answers. Closed-ended questions, by contrast, call for brief and predictable answers that usually consist of remembered factual information.

Since inquiry teaching serves to stimulate active exploration and reflective thinking, closed-ended questions that challenge the learners' prior knowledge, such as "Does anyone know what type of bird this is?" are less useful. Questions ought to prompt learners to acquire information or make

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Sequencing Questions

The questions posed

during inquiry lessons must be thoughtfully and purposefully sequenced. They are not put forth randomly. In his text,

Ah Hah! The Inquiry Process of Generating and Testing Ideas, John McCollum offers a useful model. He recommends that the first question asked be a "describing" one, calling for any observation. The follow-up question should request "explanations," forcing learners to more adequately reference their observations to the object or life form discussed. The third question should require "testing" the explanations by having learners generate ideas, hypotheses, or predictions. This sequence of describing, explaining, and testing gives inquiry lessons focus and an enabling structure.

A zoo or natural history docent using inquiry would inform her audience that the bird they're looking at is a Great Horned Owl. Then she might ask, "How is this bird different from song birds you've seen?" "Describing" questions such as this accommodate a wide range of responses, while opening discussion possibilities further. Among the responses offered might be observations about the shape and size of the bird's claws, or talons. A follow-up, "explaining" question would require a more detailed description of just how the bird's

talons differ in size and shape from others. A subsequent "testing" question, such as "Why might these owls need such large, powerful talons?" challenges learners to develop ideas and hypotheses about their observations and explanations. By teaching with questions in this example, learners glean information and understandings about such topics as habitat, food sources, and evolved specialization without having to be told.

This same sequence is appropriate to all subject areas and content considerations. An art museum docent exploring the subjective qualities of a painting with learners would use the same structure of describing, explaining, and testing questions. His "describing" question might ask for the emotional response provoked by the work. His "explaining" question would ask learners to identify those aspects of the painting that contribute to their emotional response. His "testing" question might have learners speculate about the changes required for this painting to convey an opposite emotion. This sequence allows learners to make their own discoveries about the range of emotional content in a work; the manner in which the artist manipulated materials to convey such content; and how the artist's deliberate choices determined the work's meaning.

Some might prefer that docents function as "talking labels," simply identifying objects and dispensing information. However, this is counterproductive to teaching's ultimate goal of producing independent learners. Inquiry demonstrates ways of examining and explaining objects, responses, and phenomena, and encourages learners to generate their *own* ideas and meanings.

