Notes on Science Teaching - 1

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Many teachers seem to operate from a partial teaching model that does not adequately relate the various parts to the whole of science education. The current state of affairs is much like that of the six blind men describing an elephant. Each teacher sees in part and formulates a description of science education from that point of view. As a result, teachers often become torn between subject matter; student needs; teaching techniques; administrative, community, and governmental influences; and other concerns, all tending to fragment the approach to science education.

The development of a personal paradigm by each prospective science teacher should be part of teacher training programs. This personal teaching model would, ideally, include strategies for:

A. What to teach, developing selective processes for determining facts, skills, attitudes, and values that will evolve from subject matter encounters by students;

B. How to teach, incorporating the method with subject area, learning situation, student and teacher abilities;

C. Evaluative processes, assessing the
   1. teacher input and response,
   2. student input and response,
   3. community input and response,
   4. subject matter relevancy,
   5. use of evaluation to modify the instructional process.

The consideration of the many factors of the learning that can contribute to success or failure of educational programs and the incorporation of these factors into a comprehensive framework for science education is a challenge teachers must meet in order to ensure effective and professional instruction.