Skill in teaching and success in learning may in part be determined by questions used in the classroom. The value of well planned and effective questioning has long been recognized in the context of instructional tasks and, more recently, has been given systematic attention in educational materials. The direction as well as the level of learning is greatly influenced by the questions students encounter.

Through the use of effective questions and questioning by teachers, students can participate in active involvement of their own learning. Questions are viewed by teachers as one of the most important instructional tools for helping students develop knowledge and skills in thinking. Empirical investigations of half a century indicate that most of a teacher's time and talk for instructional purposes are directed toward developing and asking questions.

Yet, reasonable indications persist that the value placed on the role of questions and questioning is all too seldom carried through to effective action in the classroom. There are a number of possible explanations as to why this situation exists. A fundamental element on the part of teachers, however, seems to be a lack of knowledge about and systematic application of a sound basis for making appropriate decisions.

Decisions about the use of questions for any given purpose from any given source are almost solely the prerogative of the teacher. Thus, it would seem that much, if not all, of the responsibility for determining the most effective means of using them must also be assumed by the teacher. How then may teachers make appropriate decisions about the purpose, nature, and use of classroom questions?

Planning

A necessary first step in making these important decisions is in the area of lesson planning. The formats of typical lesson plans do not include this classroom role most frequently performed by the teacher. Key questions should be central to the lesson plan. Planning and developing a potential sequence of key questions and activities that ask students to focus their thinking in a specific direction establish a framework for the kinds of verbal behavior the teacher will perform in actually teaching the lesson.

Moreover, a sequence of questions, planned toward a specific objective, will enable the student to perceive and organize his learning in a purposeful way and will encourage him to pose questions of his own which increase his learning. The level of thought reached by the student is directly related to the questions asked by both teacher and student. Establishing the level or levels of thought to be reached by the student, then planning questioning strategies and activities for accomplishing this goal, are prerequisite steps for effective teaching and for learning as well.

Fortunately, a number of resources, both theoretical and practical, are now available which can help teachers in formulating productive questioning strategies. The work by Bloom (1956) and Guilford (1956), identifying cognitive processes in hierarchical complexity, can be used by teachers for planning, implementing, and evaluating their questioning behavior. Utilizing a model developed by Guilford (1956), teachers can
plan and use questions in two productive ways: (a) those which direct students toward the same or similar answers (congruent thinking) or (b) those designed to develop a rich variety of acceptable response (divergent thinking).

Clearly, these are quite different ways of thinking and thus are dependent upon quite different kinds of cues. Each has its place at some point or points in teaching and learning situations. Numerous examples can be cited for both, but two easily identifiable uses of divergent thinking, less often seen, are in planning with students for goals or goal attainment and in considering ideas of projection—the “What would happen if...” kind of question.

The taxonomic structure identified by Bloom (1956) can be used by teachers to plan and measure each pedagogic question as well as each instructional objective in one of six sequential cumulative categories of thinking, from recall to evaluation. Paralleling Bloom’s structure of the cognitive domain but including suggested questions for discussion and testing which foster the several types of higher order operations, Sanders’ Classroom Questions: What Kinds? (1966) can be useful as one means of helping teachers to vary the cognitive emphasis of the questions they compose. More recently, Hunkins’ Questioning Strategies and Techniques (1972), based extensively on Bloom, offers helpful guidelines for planning and for evaluating questioning strategies.

In a different context, Mosston’s Teaching from Command to Discovery (1972) supplies a rational basis for selecting an appropriate teaching style. While not specifically directed toward the use of questions, his detailed descriptions provide an objective means for analysis of teaching styles and include use of questioning. His chapters on “Guided Discovery” and “Problem Solving” are particularly useful in this sense. More important, this book, viewing teaching as a chain of decision making, provides sound guidelines for planning a teaching-learning situation in which students can ask and use questions more effectively.

The importance of careful and deliberate planning for effective use of both teacher and student questions cannot be overemphasized. A limited bit of evidence suggests that teachers do not really understand the cognitive emphasis of the questions

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they plan (Tinsley, 1968), and an accumulating amount indicates that they use those questions demanding primarily the ability to recall (Stevens, 1912; Floyd, 1960; Adams, 1964; Pfeiffer and Davis, 1965; Davis and Hunkins, 1966; Tinsley, Watson, and Marshall, 1972).

If questions used in classrooms are significant in developing the cognitive powers of students (and it seems evident that they are) and if a primary goal of education is to develop critical thinking abilities (and we state that it is), then teachers must plan, use, and evaluate classroom questions and questioning to better accomplish these goals.

**Determining Effectiveness**

Obviously, effectiveness in the use of questions can be measured only by the criteria employed in planning. Just taping a lesson and listening to the tape for teacher-pupil questions in relationship to responses and the objectives to be achieved will provide a teacher with some insight into questioning behavior. For example, if an instructional goal is that of divergent thinking, then the tape should yield evidence of divergent questions and responses on the part of both teachers and students. Working with taped lessons in this fashion can be a starting point for analyses and, ultimately, the teacher may design his own system appropriate to his particular situation.

Analytic systems have been developed which provide types of criteria for the investigation of thinking operations, based on Bloom (1956) and Guilford (1956). The Gallagher and Aschner system (1963) is based on Guilford's constructs. Another related to Sanders' system (1966) but including two additional categories—affectivity and procedure—is the *Teacher-Pupil Question Inventory* (TPQI) (Davis and Tinsley, 1967). Teachers can tape their classes and categorize teacher-pupil questions for five-minute segments or for the total lesson.

The TPQI, along with others, is described in detail in *Questioning Strategies and Techniques* (Hunkins, 1972), and numerous suggestions for use in planning and
evaluating are given. This writer has modified the instrument for use in a preservice program so that each question can be identified by number in the order of occurrence. Also, a second instrument, the Teacher-Pupil Response Inventory (TPRI) (unpublished), was designed for use by observers in pairs—one noting questions with the TPQI, the other responses with the TPRI. The same procedure can be applied to a tape, first categorizing questions, then responses.

Guided Self-Analysis System for Professional Development Education Series—Teaching for Inquiry (GSA) (Parsons, 1968) can be useful to teachers for analyzing many of their instructional tasks, including questioning. This system is in six divisions, each of which is considered separately, and the results are then plotted into a teaching profile.

At the present stage of development, no one system or instrument is likely to provide all of the elements needed for thorough analysis of the use of questions. The use of present systems, however, by teachers, and by teachers and students working together, can be instrumental in changing the cognitive emphasis of classroom questions now and, hopefully, in stimulating the development of more productive systems in the future.

For more than half a century questions used in classrooms have been subjects of concern for instructional method as well as for empirical investigation. For the most part, these questions have emphasized recall more than any other activity and have provided few opportunities for students to engage in a variety of processes which involve thinking. Coupled with this situation has been a half century's insistence upon problem solving and critical thinking or, more recently, modes of inquiry and process learning.

It is obvious that our goals and our practices, our intent and our action, must be better correlated. Today's society, schools, and youth can no longer afford an educational system which continues to report that the questions it uses demand little more than recall of past knowledge by its students.

References


Romiett Stevens. The Question as a Measure of Efficiency in Instruction. Teachers College Contribution to Education No. 48. New York: Teachers College, Columbia University, 1912.

