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QUESTIONS IN THE CLASSROOM

The logic, functions and dynamics of questions are the subjects of lively and rigorous scholarly debate in a number of academic disciplines and applied fields in the United States. Current work on questions has important implications for classroom practice and for more esoteric pursuits like the development of scientific theories and artificial languages. In this brief review I shall concentrate on some of the research and theories which are pertinent to education.

An interrogative model of teaching

One upshot of recent interest in the logic of questions is a new theory of teaching. CJB Macmillan and James Garrison⁽¹⁾ argue that teaching is best understood as an activity intended to answer the questions which pupils ought to ask, given their present state of knowledge with regard to the subject matter being taught and

given their level of cognitive development. This conception of teaching attempts to reflect, as rigorously as possible, the logic of the relationship between teacher, pupil, and subject. Its force as a model lies in the following three characteristics:

- (i) It provides a framework for classroom observation and for the description of lessons in progress;
- (ii) It provides a rigorous set of criteria for the completion of teaching - teaching is on the mark when it provides complete answers to the questions which the pupils ought to be asking about any given subject matter or material;
- (iii) It provides a way of diagnosing failures in teaching - teaching fails, for example, when the teacher answers the questions but not in a way that makes sense to the pupils or when she answers questions which the pupils are not yet in a position to ask.

Teachers' questions

It is commonly assumed that if only the teacher asks the right questions at the right time and in the right order, she need do little more to promote lively discussion and inquiry-based learning. Questions, of the right kind, are believed to enhance cognitive, affective, and expressive processes. Professor James Dillon, of the University of California at Riverside, is one of several educationalists who questions these assumptions.

In his paper "The Effect of Questions in Education" he argues that 'research offers few grounds in support of this stance and relatively strong grounds both against it and in support of its contrary'.⁽²⁾

Dillon's argument in support of this conclusion is three-pronged. It includes an examination of theories of questions, practices in which questions are used to prevent respondents from speaking and thinking too much, and practices in which there is a tactical avoidance of questions so as to encourage expression and independent thought.

Theoretical analyses of questions indicate that a high-level question characterises the talk and thought of the questioner, not of the respondent. Such analyses also indicate that a true question is one in which the questioner does not know the answer but wants to know it. teachers usually know the answers to the questions they ask.

Dillon comments:

Thus, teacher questions cannot be held to have a stimulating effect on inquiry. there is no inquiry involved in asking them, and none in answering them; there is only interrogative form and declarative effort. It is not stimulating but deadening to supply information to someone who is already known to have it, and to go about seeking for information that one does not of one's self doubt, need or desire.(3)

In practices in which it is important to delimit people's thinking and speaking, questions are crucial. For example, survey research in all fields requires respondents not to give too wide a range of answers as this would prevent the obtaining of reliable and comparable results. Limits are set by the kinds of questions posed in the survey. Courtroom cross-examinations, too, rely on questions to prevent respondents from thinking and talking too much. A witness

may not give more information than is required by the questions asked by the cross-examiner.

In practices other than education where the expression of thought is essential, practitioners avoid questions. Psychotherapy, group discussions, and personnel interviewing all proceed by interaction and exchange of information; they all entail inquiry and expression of thought or emotion. Yet, unlike teaching, they all avoid the asking and answering of questions as far as possible. Instead they rely on statements and on deliberate silences to enhance participation.

Taking a cue from practices like psychotherapy, Professor Dillon has suggested a number of ways in which teachers can cut down on questions and so enhance the quality and duration in class discussions.⁽⁴⁾ He suggests that a single well-formulated question is sufficient for an hour's discussion. After the initial posing of the question, the teacher may choose to promote discussion by

- (i) making a declarative statement in response to a pupil (eg. giving an opinion)
- (ii) making a reflective statement (giving the sense of what a pupil has said)

- (iii) describing his-her state of mind (eg. 'I'm sorry, I'm not quite getting your point.')
- (iv) inviting the pupil to elaborate
- (v) encouraging the responding pupil to ask a question
- (vi) encouraging other pupils to ask a question
- (vii) maintaining deliberate, appreciative silence (until the pupil resumes or another pupil resumes or another pupil enters the discussion).

Pupil's questions

Although educationalists believe that pupils' questions play a significant role in learning, classroom research over the past decade indicates that pupils and students at all levels ask very few questions. How can we explain the observed lack of pupil questions?

Current work on questions in the disciplines of socio-linguistics, logic and psychology suggests several answers. A number of socio-linguistic studies (eg. Goody, 1978; Sinclair and Coulthard, 1975) suggest that pupil questions might be discouraged by the definition of the social situation and by relating status and roles of participants

rejected or deflected by the teacher.

Principles for formulating question sequences

A number of philosophers have suggested that questions are the starting point for all inquiry.

The logical and linguistic analysis of question-answer sequences shows that the form and scope of a question determines the form and scope of its answer. Answers to questions will be more or less valuable depending on how far they advance the inquiry. One of the conditions for rational inquiry, then, is that the inquirer should have a set of principles for formulating and sequencing appropriate questions to guide the inquiry. This applies to inquiry at all levels of sophistication - from the problems of everyday living to inquiries about the nature of the universe.

Professor Sylvain Bromberger of MIT has made an extensive analysis of the force and value of different sorts of questions. In his paper "Problems of the Rational Ignoramus"⁽⁷⁾ Bromberger develops four categories of value for questions: (a) Questions whose answers are likely to be interesting to the questioner have 'GOSH' VALUE, (b) those whose answers will yield material

in classroom interactions.⁽⁵⁾ My own observations of Black rural classrooms in South Africa support Goody's findings that pupils do not ask questions in societies where it is socially inappropriate for children to address a question to an adult.

From a psychological perspective, pupils' hesitancy about asking questions can be attributed to their fear of exposing their ignorance. It has also been suggested that the predominance of teachers' questions sets up a relationship in which pupils are cast in a passive, reactive role which removes their sense of responsibility and initiative. They simply follow along, 'answering when and as asked'.⁽⁶⁾

Analyses of the logic of questions indicate that a question can only be answered if it makes the right presuppositions. Where the presuppositions of a question are incorrect, the respondent is obliged to reject the presuppositions, and with them, the question. Because of their lack of knowledge or their lack of familiarity with the appropriate language, pupils who do ask questions will frequently make them on the basis of the wrong presuppositions and so have their questions

benefits to the questioner have 'CASH' VALUE, (c) those whose answers will allow the questioner to make several leaps in knowledge have 'ADDED' VALUES, and (d) those which yield new theories or conceptualisations have 'GOLLY' VALUE.

Although Bromberges does not offer this categorisation from an educational point of view, I think that it has a number of significant educational applications. For example, the teacher who motivates her class by comments like 'This is the sort of question you are likely to get in the test' is relying on the pupils' concern with the 'cash' value of the answer. We might disapprove of such a strategy, but perhaps it is appropriate where, for whatever reason, the answers have no 'Golly' value for the pupils.

Of course, the most fruitful questions for teachers to address are those with both 'Golly' and 'Added' value for the pupils. There are many more examples of the educational applications of Bromberger's categorisation. One of the strengths of the categorisation, I think, is its simplicity. The categories are humourously named and easy to understand, yet rich in application.

NOTES

- 1) See Macmillan, C.J.B. and Garrison, J.W. "An erotetic concept of teaching", Educational Theory, 33; and Macmillan, C.J.B. "The erotetic analysis of teaching". Proceedings of the AERA, April 1985.
- 2) Dillon, J. "The effect of questions in education", Journal of Curriculum Studies, 14: 2, p.146.
- 3) Ibid, p.134.
- 4) Dillon J. "Research on questioning and discussion", in press.
- 5) Goody, E.N. (Ed.) Questions and Politeness : Strategies in Social interaction. Cambridge University Press, 1978.
Sinclair, J. McH & Coulthard, J.M. Towards an Analysis of Discourse. Oxford university Press, 1975.
- 6) Dillon, J. "The Multidisciplinary Study of Questioning", Journal of Educational Psychology, 74: 2, p.160
- 7) Bromberger, S. "Problems of the rational ignoramus", presented at the conference on Knowledge-seeking through questioning, Florida State University, Tallahassee, April 1985