Teacher Diagnosis of Pupil Verbal Cues to Thinking

WALTER N. GANTT

A recent survey has been made of investigations concerned with determining methods for meeting the educational needs of nonachieving segments of the student population. This survey reveals that in many instances the pupil is regarded as a passive element in the instructional act, and that the significance of his role as a thinking, feeling, and purposing organism is frequently overlooked. Consequently, despite many prescriptions, learning problems persist.

There seems to be almost universal acceptance of an assumption that an instructional technique which is responsive to leads from children and actively involves them is significantly productive of thinking and, subsequently, of learning. This belief, however, is often disregarded in practice. Hughes, in reporting the findings from her work at the University of Utah with a descriptive instrument to record and assess teaching behaviors, the University Revision of the Provo Code, made an observation common to most studies. She noted that, despite the wide range available to teachers, classroom performance was characterized by a small range of behaviors: most frequently teachers in the study asked a question that was answered by the pupil through recall. Yet, it was observed that increasing the participation of students through teaching that was open-ended in structure with accepting clarifying responses made a difference in their achievement.

The lack of precisely delineated examples may be responsible for the fact that many teachers fail to implement their beliefs about how children learn. Therefore, this proposal is presented to suggest a model of instruction in which teachers respond to cues from individual pupils that provide guidelines for (a) diagnosing their thinking, (b) determining whether they are learning, and (c) employing effective instructional strategies based upon that diagnosis.

Diagnosing Pupils' Thinking

Guidelines for charting the development of pupils' thinking within classroom exchanges may be inferred from psychotherapeutic and psychological literature. Support has been obtained for a definition of thinking as the expression and communication of

---


*Walter N. Gantt, Assistant Professor of Elementary Education, University of Maryland, College Park.
meanings by the individual as his feelings, ideas, and experiencing are symbolized.

Eugene Gendlin’s interpretation of thinking as the process of using symbols to call forth feelings, since one “cannot have the meaning [of a word] without the sensed feel of it,” is an appropriate lead. Feelings are part of the realm of experiencing that, Gendlin has explained, occurs in the immediate present and can be referred to by the individual as part of his phenomenal field. The values which are attached to communication in the counselor-client relationship apply equally to the pupil-teacher relationship. Experimental studies of problem solving by Karl Duncker offer further direction.

His findings are integral to the concept in this proposal of thought development as an open-ended, continuous process of formulation and reformulation of ideas which alternately reflects thinking and learning.

Pupil statements extracted from classroom exchanges can be adapted to a four-level classification system based upon the foregoing ideas. Statements within this hierarchy are not necessarily classifiable in a graded series, each item of which is functionally superior to the other. Rather, they represent an arbitrary ranking of a sequence of events which provide cues to developmental stages in the performance of an act of thinking. In fact, in some instances, one or more of the following stages might not be identifiable as separate entities or might even be merged:

1. **Level A—Preformulation or Incomplete Symbolization**: Inability or limited ability to express or to symbolize feeling about an idea or to relate the meaning of the verbal symbols which are used

2. **Level B—Formulation**: Development of an awareness of the degree of correspondence between a feeling and its symbolization and the specific meanings attached to it

3. **Level C—Wide Association**: Recognition of congruence between feelings and symbols supported by a general range of associated meanings

4. **Level D—Reformulation**: Identification of changes in meaning which have occurred and consideration of other aspects of the problem that may require a return of the thinking process to Level A.

It can be seen that the preceding hierarchy encompasses levels of thinking ranging from a reflection of an inability to symbolize to the achievement of correspondence between utterance and feeling. As the pupil responds, observable shifts in meaning may be diagnosed by the teacher within the child's verbal behavior. In addition, a new idea may emerge in a form that has characteristics of the first stage or level of thinking and may involve a recycling of the process of formulation.

### Appraising Cues to Pupils' Learning

Bruner commented upon a relationship between thinking and learning in which neither is the end product of the other. He noted that students should be judged on how well they can leap from learning to thinking—the ability they have to “generate from what they know.” Bruner's premise coincided with Dewey's opinion that “while all thinking results in knowledge, ultimately the value of knowledge is subordinate to its use in thinking.” Hence, learning is conceived of as being that which functions in thinking—the source of the materials which are manipulated during the process of thinking as meanings are developed.

Thinking, in turn, is a function of learning which is movement toward a new organ...
organization of behavior and an extension of knowledge. This new dimension of learning then provides the more complex resources which affect the outcomes of subsequent thinking behavior. The situation is a continually spiraling one. These two processes—thinking and learning—can be observed in the verbal behavior of the individual. Within the instructional setting the teacher may appraise cues in the pupil's response for indications of the level of thinking which they represent, but also, if there is an improvement over a previous statement, for indications of learning.

The following examples of pupil talk illustrate some cues by which the teacher may determine if there is movement from one level of thinking to another. Changes in the individual's response, which result in more complex levels of verbal behavior, are evidences of learning.

1. Level A—Cue: Mere verbalism; lack of inner reference and meaning
   (Pupil has been asked to define a trading post.) "Well, trading post trades it—you trade it to the trading post, trading post trades it to the New France and gets the supplies he wants."

2. Level B—Cue: Literal and specific descriptions; examples or definitions
   (Pupil has been asked for an exception to the hypothesis that colonies existed for the purpose of improving the well-being of the homeland.) "Well, again, in these—I think it is very important to know the place, that is, the location. Because if it was, say, in a very barren place that—and there were no other settlements, I think it would need much help from its homeland. And I—and then, if it was in a place that was very densely settled, I think that it would not need as much help; and that it would get along more on its own then."

3. Level C—Cue: Wider range of related and derivative associations; expression of complex metaphors
   (Pupil is elaborating upon his feeling of the relationship between colonies and the mother country.) "Well, that's like the United States divided up into states. Illinois, for instance, grows a certain amount of corn. It sells this corn and the farmers pay the—pay their taxes and their taxes—at least some of their taxes—go to the state. And the state builds its own cities and stuff up. And the other states do the same thing."

4. Level D—Cue: Identification of changes in problem configuration as initially symbolized. This may result in its redefinition at Level A.
   (Pupil had previously cited Antarctica as an illustration of his belief that availability of natural resources was not a requirement for the establishment of a colony.)
   Teacher: So you're saying that the locally available natural resources is not a necessary element.
   Student: It probably helps a lot.
   Teacher: That contradicts what you said here.
   Student: I'll say it probably helps quite a bit, but it is not necessary.
   Statements such as these provide signals or cues which the teacher utilizes during pupil-teacher interaction as he diagnoses, structures, and responds within the instructional situation.

Identifying Effective Teacher Strategies

Teacher verbal behaviors, as he makes a diagnosis of and response to pupil verbal behavior, may be separated into two main categories—controlling and pupil-centered. If the teacher aims to impose opinion and to elicit pupil response, the correctness or appropriateness of which is judged or evaluated solely in accordance with some standard external to the learner, then his behavior is controlling in nature.

The teacher's behavior is pupil-centered, however, if he responds to the pupil in a manner that is directed toward encouraging independence in thinking and decision making. This is accomplished by stimulating him to express opinions supported with data, to clarify and explain ideas, and to evaluate and judge on the basis of an internal criterion of correctness or appropriateness.
Of the two kinds of teacher behaviors identified, pupil-centered teaching techniques are associated with more successful verbal response, or thinking, by the pupil and less talking by the teacher; more explaining by the pupil and less informing by the teacher; and more evaluating by the pupil than is provided for in the controlling teacher categories.

Examples of suggested pupil-centered sequences which the teacher might use as a guide in responding to cues in pupil verbal responses are listed below. Exploration of the outcomes of strategies such as the following, in assisting the individual pupil in expressing meanings, will lead to a broadening of the range of effective teaching behaviors.

1. Pupil: (Is at a loss for a word or phrase.)
   Teacher: Is it like—or?

2. Pupil: (Uses a word incorrectly.)
   Teacher: What do you mean by—? Give an example. Do you mean—?

3. Pupil: (Gives a “bookish” definition.)
   Teacher: What does that mean to you? Give an example.

4. Pupil: (Makes a confused, rambling statement.)
   Teacher: Are you saying that—? Is this what you mean?

5. Pupil: (Makes a questionable assertion.)
   Teacher: You are saying that—.

6. Pupil: (Makes a novel, unexpected response.)
   Teacher: How did you arrive at that? How would that apply to this situation?

Consistent application of techniques advocated in this article has a potential for leading to new dimensions in forwarding children’s thinking as the teacher makes skillful use of cues in their verbal output. Moreover, possibilities of greater success in dealing with the unmet needs of educationally disadvantaged children are promised by further development of the pupil-centered teaching behaviors which have been identified. These ideas are not set forth as a cure-all but, rather, as an addition to the repertoire of responses available to the teacher as he guides the pupil in his quest for learning.