

# WHEN THE TEACHER

# DIAGNOSES LEARNING

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WHAT kind of a boy is Johnny? What has he already learned? What "next" learning tasks are appropriate for him? How can a teacher increase the efficiency and economy of his accomplishment?

As the teacher confronts these questions for each learner under his supervision, small wonder he is tempted to murmur, "Please pass the crystal ball!" Fortunately, crystal balls and divining rods are not available on supply requisition lists, so professional rigor is beginning to replace folklore and fantasy as the basis for diagnosis of and for educational prescription for the learner.

This shift from routinized application of the currently recommended panacea (what is it this year, look-say or phonics?) to decision making based on critical evaluation of each learner has been the major factor in the change from the technology of teaching to the profession of education.

No longer is diagnosis restricted to or reserved for only the educationally "sick." Rather, such diagnosis has become an intrinsic part of the teaching act for *all* learners. Out of such diagnosis are created educational prescriptions. The repertoire of competencies of the teacher and alternatives offered by the

*What kind of a boy is Johnny?*



school constitute a pharmacy from which such prescriptions are filled.

We first must identify the questions such diagnosis is designed to answer. Only then can we seek instruments whose validity, reliability and precision give us confidence in the accuracy of the assessment on which diagnosis is based.

### Diagnostic Questions

Identification of the essential and relevant has as its irrefutable and logical counterpart identification of the nonessential and irrelevant. The latter, no matter how fascinating and tempting (with *that* home situation what can you expect of me?), must be discarded. We also must discard many of our most easily collected but relatively worthless "test results" on learners.

Each datum we use in our diagnostic procedure must pass the screen of contributing to the answer to one of the following questions:

1. What objective is appropriate for this learner to achieve? (Notice the change from "I am seeking to attain with this learner.").
2. What is his present status in relation to that objective?
3. What is the next learning step in attainment of that objective?
4. Based on data about this particular learner, what can the teacher do to help him take that step efficiently and economically?
5. Was he successful?
6. If so, what is the next appropriate step?
7. If not, what changes should be made?

Questions 1, 2, and 3 are content-based. Knowledge of the learning task (reading, math, or ball playing) must be related to the assessment of the

learner's present degree of achievement.

Question 4, is learner-based. An assessment of the intellectual, physical, social, and emotional factors that contribute to or detract from the learning process provides the data for the answer.

Questions 5, 6, 7 are evaluation-based, where "at this moment in time" must become the qualifying phrase for any answer.

Let us begin with an inspection of these questions as they relate to a physical activity so we will not get trapped in the value-imbued educational platitudes ("competency in reading," "appreciation of the democratic process"), which are so emotionally charged. Suppose we are trying to determine the appropriate high jump objective for a boy of a given age. The first factor that becomes obvious is that other data may be more critical than his age. Does he have long or short legs? Is he fat or thin? How well is he muscled and coordinated? (It makes you stop to reconsider the statement that ten-year-old boys should be reading at a fifth grade level, does it not?)

Suppose we agree that this boy should be able to clear a five-foot bar. Now we turn to our second question—how high can he actually jump? We find (possibly to our horror) that he can comfortably clear only a 3' 8" bar, although on occasions he can jump a 4' one. Obviously, at this point we are not going to insist he keep trying the 5' bar, but plan to start teaching so he can consistently clear the 4' one. (Hammering away at 5th grade work that is too difficult is as obviously unsound.)

Our fourth question is concerned with the use of data about the learner that

will guide us in planning the learning opportunity and teaching strategy to help him accomplish his task. Will competition with other jumpers stimulate or retard his effort? What for him is the optimum ratio of success to failure? If he responds well to performance heavily weighted with success, we had better keep the bar at 3' 10". If he is motivated by the frustration of some failure, let us start at 4'. What does he need in the way of teacher support? Shall we stand by to encourage or let him work by himself? Does he respond well to his own perception of growth or does he need public recognition of his achievement? Will his parents contribute to his achievement motivation or do they think high jumping is a waste of time? (His parents may be getting a divorce or his father may be an alcoholic; however, these dramatic bits of information are not relevant unless we find evidence that they contribute to or detract from his accomplishment of the learning task.)

Now that we have defined the task, and applied a teaching strategy to help him accomplish it, did it work? If the answer is "yes," we are ready to move on to the next task, raise the height of the bar and proceed. If the answer is "no," we must look for factors that may need to be changed. Have we correctly assessed his jumping ability or should we have started with a lower bar? Could there be something wrong of which we were not aware (fatigue, low energy, movement or coordination difficulties)? Was our teaching strategy ineffective? Should we have given more encouragement? Should we have been "tougher" and insisted he "get at it" with consequences if he did not? Would making

him the high-jump coach for less able jumpers do the trick? Are there other factors operating which we had not taken into consideration? By practicing, he may miss the opportunity to talk with fascinating girls or perhaps he may be attempting to insure our continued attention by his lack of success.

Our estimate of the correct answer to all of these diagnostic questions becomes the basis for an adjusted educational prescription. Again we fill the prescription from the pharmacy of teaching competency and the alternatives possible in the school and again assess its effectiveness by the performance of the jumper.

### Diagnosis in Reading

Let us now pose these same questions in the diagnosis of a learner we find in every classroom.

Bill is not performing well in reading. While not so remedial that he needs special help, he is dragging at the bottom of his group. We have the uncomfortable feeling that the only thing he is learning is that reading is a bore to be avoided whenever possible.

We begin our diagnosis with the first question, "What goal is appropriate for this learner?" Notice by using goal in the singular, we are being forced to give priority to "enjoyment of reading" or "skills in reading" or "appreciation of literature" or "more active participation in the reading program." Once we identify the primary goal we are able to deal with or eliminate the incompatibility of other goals. (Chaucer and enjoyment may not be compatible at this point.) Unidentified, their counter-directions can neutralize our teaching efforts.

If we select "enjoyment of reading"

as the goal basic to the achievement of all others, this becomes our criterion for answering subsequent questions. (It also eliminates such temptations as having his dad make him read an hour each night.)

Our second question, "What is his present status in relation to that goal?" involves a valid assessment of Bill. The eyes and ears of a well prepared teacher continue to be among the best instruments of appraisal; however, we can validate or supplement these observations with objective tests. There is a relationship (but not one to one correspondence) between enjoyment of and skill in an activity, so we need carefully to assess Bill's reading skills. We look beyond the homogenized 5.3 grade placement score on the fact sheet of a reading test because the information we are seeking is inside the test and we will find it only if we inspect Bill's responses.

What kinds of items did he miss? Did he do the easy ones correctly and then quit? Were careless errors responsible for missing easy items while he passed harder ones? Could his errors indicate an attempt to respond correctly or was he simply filling in the blanks? Most important, how does his test performance compare with our daily perception of him? If he performs significantly better in either the test or classroom, what factors might be responsible? Obviously, a numerical grade placement score does not begin to answer these questions.

Let us assume our answer is: Bill *can* read 5th grade material with understanding but the vocabulary load slows him down. Fourth grade material insures a more comfortable pace; however, the content of both 4th and 5th grade mate-

rial he finds uninteresting. When the reading is difficult he seems to turn off his effort and make wild guesses. When the content is uninteresting, he withdraws into daydreaming with a resultant lack of focus on the learning task.

Our assessment of Bill's performance should direct us to the answer to the question, "What is the next appropriate learning step?"

Now we have two criteria to guide us. The material must be easy enough to encourage his progress and interesting enough to hold his focus. This may involve abandoning, for a time, the state series and selecting a book with a low vocabulary load and exciting content. Remember, "enjoyment of reading" is the goal with highest priority at this point in time. (We are adjusting the high jump bar so he can get over it.) We have not abandoned word attack skills and extraction of meaning but we are concentrating on first things first.

Having selected an appropriate task, we now turn to our design to help him accomplish it. Here our diagnosis of the learner requires professional literacy in learning theory and personality theory. To what reward system will he respond? Will his accomplishment be positively reinforcing or do we need to add the social rewards of praise and recognition? Do we need to suppress any behavior (such as avoidance of reading) by negative reinforcement? Will *increasing* or *decreasing* anxiety result in better motivation? How long a reading period can he tolerate before negative feelings take over? How might we extend this period?

These are samples of the questions we must answer for a valid diagnosis. The questions determine whether we

skillfully entice him into the reading task or arbitrarily assign it with a time limit and consequences. We may make him the star performer in a book review or may quietly converse with him when the rest of the group are busy. We may make reading a definite assignment or a leisure-time activity. We may "keep after him" or turn him loose.

Diagnosis must lead to action. As mere intellectual exercise it is useless. Consequently, based on our best judgment, we will do *something*. The results determine the validity of our diagnosis and prescription. If all goes well we will proceed to the next learning task. If not, we will reassess our answers to each of the questions, revise our diagnosis and prescription, and try again.

Many people are seeking an instrument that will diagnose, then will "tell us what to do." It is important that we remember this has not been accomplished in any profession that deals with the intricacies of a human being. The thermometer registers with considerable accuracy the temperature of the patient but a doctor must decide which medication to use. In spite of his best and learned judgment, some patients are allergic to the dose and some are beyond his ability to help. Still we have seen tremendous advances in the skill and precision of the medical diagnostician.

As educators, we too are increasing the skill and precision of our assessment of the learner, so we no longer need to keep interminable records and stockpile useless data to stuff cumulative folders. By identification of the critical elements of an assessment we may be sure that instruments will be devised so their objectivity and precision will augment but never replace the highly trained observation that guides educational decisions.



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