Interpreting Educational Concepts for the Teaching Family Physician: Some Parallels between Patient Care and Undergraduate Clinical Education

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Three of the most widely used concepts in education, *objectives, curriculum,* and *evaluation,* have direct parallels in primary care. This parallelism suggests an approach which may help family physicians both in understanding these educational concepts and in applying them with judgment. By drawing specific attention to the parallels and by the use of examples drawn both from clinical practice and from teaching, the author hopes to encourage physicians to view their teaching as an analog of clinical skills that are already familiar to them. This approach is applied to the problem of accommodating to individual differences in students, the most difficult obstacle to the proper application of educational concepts.

The Basic Educational Spiral

The meaning and application of educational concepts can perhaps be clarified for the family physician by drawing attention to some parallels between the practice of family medicine and teaching. Three of the most widely used concepts in education are *objectives, curriculum,* and *evaluation;* each has its parallel in family medicine.

Educational *objectives* are descriptions of the desired results of instruction, the end products; in patient care the objectives are the set of desired outcomes, the consequences of effective treatment. In teaching, the *curriculum* includes all the instructional procedures, materials, settings, as well as the content; in patient care, history taking, physical examination, problem identification, treatments, and therapies are equivalent to the concept of curriculum. *Evaluation* in the educational context is an appraisal of the success of the curriculum in fulfilling the objectives; in the medical setting a follow-up of the therapy, an appraisal of patient care outcomes, is the evaluation.

Furthermore, both in teaching and in patient care the three tasks are roughly sequential. The first problem of teaching is to decide what the students ought to learn, the objectives of education. Second, a program of teaching strategies can be developed to facilitate the learning of these goals. Finally, the students can be observed in some systematic way to find out whether they have in fact learned what they had set out to learn and whether, in retrospect, the objectives were appropriate. In patient care the first task is inquiry, enumeration of the problems and formulation of the outcomes necessary to effect improvement in the patient, followed by a therapy or treatment selected for its appropriateness to these problems. Finally, the doctor follows up the treatment with an eye to its effectiveness.

Since the objectives and curriculum are continually modified as indicated by the results of evaluation, objectives-curriculum-evaluation are often viewed as forming a circle. I prefer the spiral as an analogy because of its optimistic connotation: the hope is that both objectives and curriculum will be successively improved with each cycle. Spiral growth should accompany long-term patient care as well; a patient's problems and therapies should continually be redefined as his or her condition is observed to change.

The Problem of Individual Differences

One of the main obstacles in setting educational objectives, designing a curriculum, or planning an evaluation, is accommodating to individual differences in students. Yet this obstacle must be overcome if the teacher is to be effective in carrying out any of these educational activities. This is no less true for the physician. Accommodating to individual characteristics is as important in interaction with the patient as it is in interaction with the student, and for similar reasons. Physicians' dependency on their patients for accurate information is apparent, for example, in the use of drugs. In the treatment of arthritis with acetylsalicylic acid, the dosage cannot be prescribed by the physician on the basis of the age and body weight of the patient alone. The physician has to rely on information about the patient's experiences with the drug, such as the patient's awareness of a ringing sensation in the ears. There is a range of treatments which vary in aggres-

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siveness for gastric hypersecretion of acid, including antacids, diet, and surgery. The guide to the treatment of choice will be its appropriateness to the life-style, general health, attitudes, and other characteristics of the patient.

The successful physician is neither a servant who simply carries out the patient's every wish nor is he a benevolent dictator who can ignore the patient's wishes. He must enter into reciprocal interaction with the patient.

The family physician whose primary activity is patient care eventually develops a sense of judgment about the relative degree of control over the therapy by physician and by patient. However, the teaching family physician may not be able to achieve this level of familiarity with educational concepts. Perhaps, then, one way to elucidate for the family physician how some educational concepts ought to be interpreted in accommodation to individual differences, is to point out parallel examples in medical practice and in teaching.

Two examples (adapted from actual clinical cases) will be examined for each of the three tasks, *setting objectives, designing curriculum,* and *evaluation.* Each case presents a challenge to the physician since each is chosen from the extremes of the continuum of reciprocity between physician and student (or patient). That is, they are cases in which the physician has to make a special effort to insure some reciprocity of interaction. In less extreme cases, in which the two participants are each contributing, less effort is required on the part of the physician.

Task 1: Setting Objectives or Problems

Let us first take the case in which there was a danger that the setting of the problem would be dominated by the patient, thus forcing the physician into the role of servant. A common case of this sort is that of the patient who presents his own diagnosis. A 32-year-old executive greeted his doctor with: "I have excessive stomach acid. What can I take for it?" The objective was implied in his diagnosis. He wanted to eliminate stomach acid. He had bypassed the discussion of objectives with the physician. To achieve some degree of reciprocity, objectives should be the product of interaction between physician and patient – not arrived at unilaterally by one or the other. The physician's contribution to this phase of their interaction is needed. The physician may have wanted to know why or when the patient felt that he had stomach acid so that he could evaluate the validity of the patient's conclusion. The physician may have wanted to know some background information including some aspects of the patient that the patient himself may not have given any significance. Finally, the physician may have wanted to run some tests or examinations, in an attempt to gather more information, none of which had been available to the patient when he diagnosed himself.

The second case is from the opposite extreme of the continuum. A woman who presented with very vague symptoms appeared willing to settle for any diagnosis that the doctor offered. Her symptoms sounded suspiciously like a miscellaneous collection she had drawn from the implications of physicians' questions. This would have been a very easy patient to deal with if the purpose of medical practice were to sell diagnoses as salesmen sell cars. Such a person would be happy with any price that the car dealer set. But assuming medicine is non-caveat emptor, a physician may feel troubled by the prospect of suggesting a disease to the patient. In this example the necessary reciprocity may have broken down from the other direction. The doctor may easily have been forced into the role of benevolent dictator if he or she failed to make an active attempt to discover the patient's conception of the problem.

Most actual cases lie somewhere between these extremes. The executive may present with stomach pain or the woman may complain of feeling tired, uncomfortable, and so on, initiating in each case a line of investigation from the physician that leads to the patients selectively revealing more information about themselves and the physician's rephrasing that information in the formation of a medical diagnosis and a set of expectations for successful treatment.

A similar interactive process takes place, or should take place, between the physician and the *student.* First consider a case in which objectives are controlled by the student and in which the physician is in danger of falling into the role of an educational servant. A fourth-year medical student, who was interested in psychiatry and was beginning his rotation in family practice, asked the staff physician to allow him to see only those patients having emotional or behavior problems since such cases were appropriate to his special set of objectives. While such initiative on the part of students to determine their own objectives is to be encouraged, it should not be at the expense of the teacher's contribution. A physician in this position ought to inform the student of the goals of the family practice service and the reasons for exposure to physiological pathology as well as to psychological pathology. It is the teacher's obligation to society to insure that the student has had certain experiences and skills before he or she is considered certified. On the other hand, the individual interests of a student should not be ignored. Some adaptation of the curriculum to the student's unique needs is important to the student's motivation and learning.

At the other extreme is the student who forces the teaching physician into the role of benevolent dictator. In response to the teacher's question, "Is there some patient from today's list that you would like to see?" or, "Is there some experience in the unit that you are interested in? We could arrange it," the student replied with a shrug, "Not really." A teacher may feel uncomfortable with such lack of feedback from the student. The teacher may want to question the student further, asking pointedly about his future interests, how family practice fits into that, and so on. Such a student may have attitudes toward family practice that could make learning impossible. By expressing his attitude the student would provide his teacher with an opportunity to explain the other side.

Again the majority of cases will undoubtedly fall between these extremes. These are the cases in which a discussion of the objectives of the family practice unit evolves from an exchange between students and physicians, the physicians clarifying, justifying, and explaining their objectives to the students while each student introduces individual objectives of his or her own. The result of any of these interactions ought to be mutual

acceptance and commitment to the objectives of the educational program.

Task 2: Planning Interventions (Therapies or Curricula)

Let us again begin with a case in which it appears that the planning of the therapy was dominated by the patient. A 28-year-old journalist told his doctor that he needed Valium (diazepam). He supported his request with symptoms indicating tension and nervousness. He said that he would be under some extraordinary stress in his work for the next few months and that he needed Valium to get over this period. The physician who complies with this request has been reduced to the role of medical servant, a dispenser of drugs. On the other hand, the patient's request should not be ignored. For one reason, a flat refusal may send him searching for a less scrupulous source, perhaps outside the medical profession. For another, his request reveals his conception of the problem. The doctor should use it as a starting point for further investigation into the patient's problem: "Why did you choose Valium instead of some other tranquillizing drug? What do you think Valium will do for you? Are you acquainted with any of its side effects?" and so on.

Next, let us consider a similar case in which, however, the physician is being forced into the opposite role of benevolent dictator. After the physician diagnosed a patient's condition as excess gastric acid, the physician presented an array of possible treatments including antacids, diet, or referral to a surgeon, for the patient's consideration. The patient failed to consider the alternatives in relation to his lifestyle. His complete dependence on the physician was manifested in his frequent use of the phrase "Whatever you think is best, doctor." In such a situation the physician may have to divest himself of his authority, at least with respect to the patient's decision. The physician may want to point out to the patient the importance of matching the treatment to the lifestyle or characteristics of the patient, and the physician may have to rely on non-verbal cues from the patient at first to get into the patient's sphere of understanding.

While it is unlikely that the majority of actual cases will be close to either of these extremes, these examples may be useful in raising the awareness of the reader toward the importance of reciprocity. In most cases the physician discusses a treatment or a choice of treatments with the patient in an attempt to estimate the degree of acceptance of each treatment by the patient. There is no use prescribing pills which the patient will not take. Even in the case of "good" patients, there is evidence to cause one to believe that a large percentage fail to comply with the doctor's advice. An interaction over the nature of the therapy or treatment should result in mutual commitment and acceptance of the treatment.

Similar examples can be found to illustrate the importance of reciprocity in the planning of a teaching curriculum. A case in which the student tended to dominate the curriculum, relegating the teacher to the role of educational servant, is the following: At the beginning of her clerkship a fourth-year medical student explained to the physician that she believed in "learning by doing" and would therefore appreciate the opportunity to see patients without having any preliminary instruction, priming, or background information. Having seen the patient, she argued, the physician could tell her what she had done right or wrong. In this case the physician had to explain to the student that however desirable this procedure was from the educational point of view, it was not satisfactory from the point of view of the patient who deserved not only the best possible care, but some continuity of care. To be faced with a new "doctor" on every visit may be difficult for the patient.

Examples from the opposite extreme, in which the physician is forced into the role of benevolent dictator over the curriculum, are more common. In one case the physician had introduced several teaching devices to the student including the one-way window, the tape cassettes, an opportunity to spend time in emergency, etc, while to all of these explanations the student replied with a question. The student wanted to know what was required or considered an essential objective of the Family Practice Unit. The student was obviously searching for the official curriculum so that he could "do it," or "cover it." This attitude often occurs in very disciplined students. They deny themselves any rights over the curriculum. They have learned a habit, over many years of student life, of accommodating to the curriculum so that they are unable to express their particular interests when asked. The problem is that this student may be going through the motions of the clerkship mechanically without connecting his experiences with his aims and expectations as a future physician. That is, he may not be personalizing the experience; he may be absorbing impressions about what others do in their practice without testing out the roles he himself may like to take as a doctor. The physician probably ought to sit down with such a student to explain the importance of expressing, if not actually trying out, his conceptions of patient management and so on in preparation for his own practice where he can no longer rely on the guidance of the teacher.

In most cases the physician is not forced to assume a straight dictator or servant role. The physician ought to set the curriculum (and usually does) but his plan should be put before the student for criticism and comment. The curriculum needs to be discussed actively by the physician and student so that the student can come to accept it as his or her own.

Task 3: Evaluation

The following is a medical example in which the patient fully usurped the evaluative task. A 65-year-old male patient with high blood sugar cancelled his follow-up appointment by telephone, explaining to the secretary that he was "OK now." Here is a case of the customer declaring satisfaction with the product, and yet most physicians would be unlikely to count this patient as one of their successes. They would probably attempt to reach the patient with some explanation of his condition and of the benefits of coming in for another appointment. Patient feelings may be the *main* criterion of successfulness of a medical treatment but is not the only one. The physician is not a shaman whose aim is to leave the patient feeling better and feeling gratitude toward the physician in the face of a worsening physical condition. The physician has his or her own criteria of the success of his therapy, which include the patient's feelings but are not limited to them. If

the patient still has very high blood sugar the physician has to make some attempt to make the patient aware of the consequences of this over the long term. (It may not be wise for the physician to give some shocking news to the patient all at once. The physician may have to rely on a gradual strategy, revealing the story bit by bit, over a series of visits. But whatever the method, the physician must make his or her contribution to the evaluation or follow-up of therapy.)

An opposite case is the following, in which the physician is forced into the role of benevolent dictator because of the patient's complete unwillingness to contribute to her own evaluation of her well being. For example, if a certain 70-year-old woman asked her physician "Doctor, am I well?" and the physician said "no" the woman might begin to feel ill. The physician has learned from experience with this woman the danger in generating a long list of frightening pathologies which might be normal signs of aging in a 70-year-old. But – should the physician take advantage of the naive question "Am I well?" to cure the patient "by authority"? When faced with such a dilemma, the physician may want to right the balance by pointing out that, to the doctor, one of the most important clues in assessing the health of the patient is how the patient feels. "How do you feel, Mrs. Jones?"

Even in the less extreme cases, which are the ones more frequently encountered, the physician must be wary of slipping into the role either of benevolent dictator or of medical servant. The interaction between doctor and patient concerning the evaluation or follow-up ought to result in an agreement or at least an understanding with regard to the success of the therapy. Both the patient's point of view and the physician's tests and examination results ought to be considered.

In the educational sphere, teachers are quite accustomed to pressure from their students in favor of student evaluations as the sole criterion of success. After all, who knows better than the student how he or she is progressing, so the argument goes. Surely there are some aspects of the student's behavior for which he or she is the best – perhaps the only – judge, such as the feeling of confidence or sense of autonomy. However, there are other aspects of themselves which students are unable to observe. A person who participates in an interview, for example, cannot fully and adequately observe himself/herself in interaction. Nor is a student aware of the comments that the patient makes to his family doctor about the "new doctor who came in here and examined me." Observations like these are for the teacher to make.

Examples from the other extreme, in which teachers are made into benevolent dictators, are also fairly common in educational settings. Students are eager to know "How am I doing?" Some hang on every word of evaluation. The physician's comments, however casual, may run the risk of becoming self-fulfilling prophesies. If the physician tells the student that the student is doing well, the student may gain greatly in confidence and begin to do better, and vice-versa. The physician is forced into the position of unwilling authority. It is important to the physician to know if the student feels confident or autonomous, independent of the physician's own judgment of the student's skills. The physician's evaluations should be shared with the student in a gradual fashion, as part of an ongoing dialogue so that they can reach an agreement on directions for improvement without the doctor's preliminary remarks dominating the interpretation of the learning experience.

A good evaluative dialogue ought to include contributions from both the physician and the student. The student as well as the physician and the program ought to be evaluated. The result should be an agreement or at least an understanding of one another's point of view with respect to the success of the learning experience.

Extension to Other Educational Concepts

The next step is to extend this reciprocal interactive approach to some of the many other educational concepts that teaching physicians have to face if they attempt to improve their teaching. Such concepts as *reinforcement motivation* and *feedback* must also be adapted to individual differences; there are no universal reinforcers or motivators.

A rule specifying some superior method of teaching always has to be accompanied by such qualifiers as "with certain students . . ." or "when teaching this particular subject matter . . ." For example, there is a great deal of psychological evidence to show that too much or too little excitement, tension, or arousal in students may detract from learning. But how can a teacher use a rule like this? How is the teacher supposed to discover what the optimal level of excitement is for his or her class, especially in view of the fact that different students have been shown to work most efficiently under different levels of excitement? The optimal level of excitement also varies with the subject matter. Simple learning tasks are often facilitated by high levels of excitement whereas complex problem-solving or intellectual tasks are hindered. The optimal level may vary with other characteristics as well, such as the current physiological state of the learners, making the task of arranging the conditions for optimal excitement an impossible one for the teacher unless the teacher has the active participation of individual students.

To cite another example, the teacher is expected to reward the student, but what is rewarding to one may be neutral to another and downright insulting to a third. Try patting the head of a three-year-old, an eight-year-old, and a clinical clerk! Teachers are expected to motivate their students, but if students have different needs and values the same procedure may be viewed as motivating to some and not to others.

In short, teachers have to attend to differences in their students before they can be effective. Attention to individual differences is an overarching principle which the teacher must appreciate if the teacher is to benefit from an understanding of any of the other concepts. The professional whose primary activity is teaching eventually develops a sense of judgment about these concepts, when to apply them, under what circumstances, and how to apply them. The assumption underlying this paper is that the teaching doctor can improve his or her ability to utilize educational concepts by becoming aware of parallels between teaching and patient care, since the latter is an area in which the family doctor may already have developed such judgment.