The Teaching-Learning Situation

By GORDON W. ALLPORT, Ph.D.

Principles derived from the psychology of learning and of human relations can be applied to medical teaching. A widely known Harvard psychologist tells coordinators of cancer teaching about the need for teacher enthusiasm for the subject being taught . . . the classroom lecture and its participants . . . the student's growing-edge and his ego-involvement . . . and possible methods for imparting the skills needed to reduce patient anxiety.

IN GENERAL, the rules for effective teaching and retentive learning that I offer here somewhat dogmatically are as valid in the field of medical education as in the field of liberal arts. For whether as teachers our aim is to communicate the principles of cancer, of psychology, or of English composition, the basic rules are essentially identical.

The first requirement for successful teaching is too obvious to require explanation: The teacher must himself possess expert and up-to-date knowledge of his field. The only comment on rule number 1 is that while it is a necessary principle of good teaching, it is by no means a sufficient principle. Plenty of men with expert knowledge are failures as teachers.

The second requirement reaches into the domain of temperament. A good teacher needs to have a contagious enthusiasm for his subject, by which I mean he should be intellectually noisy. Not that he must be loud in voice or garrulous. His manner may be soft or bold, his voice quiet or loud, his bearing assertive or genteel. But there must be a tonicity of interest and a pressure to communicate that convince the student that something of vital importance is gripping the teacher's mind.

For teachers who feel timid and unsure in meeting a class, there is a reassuring principle. Be yourself. If you know your subject and are reasonably prepared, then forget all about your appearance, even your tics, your stammer, your mannerisms, and your neurosis. Teaching is not acting; it is not oratory; it is not salesmanship. Unlike these vocations it does not depend on superficial address. It is a deeper process of communication. It can proceed successfully, no matter how unfavored the teacher is by nature, provided he wants to convey his more adequate information about a subject to a student who wishes to learn.

The Student's Growing-Edge

So much for the teacher's own equipment and personality. Look now at the interaction process itself, at the devices the teacher may use to enhance the success of his efforts.

I emphasize the need for any teacher to know where the student stands now in his knowledge. The target should always be the growing-edge of the student. It is true that at a given time

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Dr. Allport, member of the National Commission for UNESCO and formerly editor of the Journal of Abnormal and Social Psychology, is author of Personality: A Psychological Interpretation and other books.

no two students have precisely the same growing-edge. One has more knowledge than another; one has read the assigned textbook, another has not. The identical point made by a teacher may strike fire in one student and leave another cold. Even so, a medical teacher—any teacher—can acquaint himself with the previous average preparation of the students, assuming neither too much nor too little knowledge on their part. If in doubt, the instructor can always inquire of the group what the stage of their training may be. Three minutes taken at the beginning of the hour for this purpose are well invested. Unless I am mistaken this principle needs to be observed especially in medical education where specialist teachers are likely to be unacquainted with the background in fundamentals that the student brings.

The principle just mentioned does not, of course, preclude the need for review. To spend the next 5 minutes of the hour in reviewing the fundamentals of the subject is like laying fresh cement to hold the new bricks in place.

Talking reaches only the ear. The blackboard reaches both eye and ear. Why not give the student two chances for his money rather than one? For the comprehension of more difficult material investigations have shown that visual reception is superior to auditory. While not all audio-visual aids are effective, the teacher's duty is to keep abreast with audio-visual and demonstrational aids so they may be used if in his judgment they promise to be effective.

Return, for a moment, to the student's growing-edge. Those who are just entering into the study of a special topic sometimes complain of the tendency of some instructors to nourish their own edge rather than the student's. They cite the habit of some teachers who devote the instructional hour to some current article in a technical medical journal dealing with a small point of interest to the teacher but far too specialized for the student's current need. Even when the citation is accompanied by wholesome enthusiasm and excitement on the part of the teacher, it is basically a self-centered and not a student-centered device, unless, as occasionally happens, the journal article falls at the student's growing-edge. On the whole, the device seems more suitable for the instruction of interns and staff than for younger medical students. The principle, being stressed here, says: Let the elementary student's present need, not the instructor's current enthusiasms, channel the instruction.

A synapse, we are told, may stop conducting if overcrowded by nerve impulses. So too may a student's mind. A common type of overcrowding is the recital by the instructor of endless statistics. They cannot be understood, certainly not retained. Round figures, in most cases, will fix the point in mind with sufficient accuracy. Learning will be aided if the amount of material to be assimilated within the hour is kept to manageable proportions, and the unessentials are trimmed out.

Invariably students praise instructors who know how to organize the material well. It is safest for most of us deliberately to follow a prepared outline. A medical student told me that he thought the subject of cancer had a natural, intrinsic, organization of its own. Whether he was right, or was unconsciously reflecting superior teaching, you can judge better than I.

Recent research has—broadly speaking—put the lecture on the defensive as a pedagogical method. Its potential virtues, however, are considerable. It can give perspective, inspire enthusiasm, and summarize much material from varied sources. But it can only do so if it is orderly in arrangement and distinguishes the highlights of a subject from lowlights.

There is no single method of employing a textbook to best advantage. Some effective teaching follows the text closely, never of course with monotone repetition, but with the purpose of underscoring important points, and made vivid through added example and personal experience. It seems a safe rule that the instructor should never disregard completely the assigned reading. The student is expected to integrate reading with oral teaching; it is only fair for the teacher to give what aid he can. Such integration is especially important for the beginning student.

Student Participation

Some of the principles may seem little more than pedagogical routine. Yet they have a

bearing on the most important of all factors in the teaching-learning situation—the motivation of the student to learn. Granted that a medical student is thoroughly committed to his chosen profession and suitably goaded by poverty, by zeal, or by spouse to pass the endless array of requirements, there is still the fact that one medical subject may seem to him dull and lifeless, and another may inspire him to put forth maximum learning effort. What principle is the teacher of the first subject failing to observe? Why is his subject as he presents it dull and dead?

In all probability he is failing to maximize the student's opportunity for participation. A student learns more by doing than by listening. The educational philosophy of John Dewey is certainly correct in stressing this generalization. So too is the Chinese adage:

When I hear it I forget it
When I see it I remember it
When I do it I know it

The Role of Lectures

Lectures have their place. They can properly supplement participation, or, to a greater extent than most lecturers realize, they can evoke it. When the student asks a question, he is participating. When he is asked to look up the answer and report back to the class at the next hour, he is participating still more. He is less likely to forget the information than if the instructor, like an oracle, pronounces the answer. Such participation can be woven into a lecture, though available time limits its use. When a diagnosis is called for, let the student try his hand at it before the instructor makes his pronouncement. And—very important—give the student plenty of time to reach his decision, so that he may know that his best effort at the task has succeeded or failed. I wish that all teachers of all subjects would obey the rule to give the student time. It is a common failing, especially on the part of the insecure teacher, to choke off a student wrestling with a problem, and himself to supply the answer before the gains of participation have been achieved.

Participation is a large subject. It covers student questions, recitations, prepared papers, practice diagnoses, laboratory work, case presentation, and much else besides. A particularly effective method for participant study is the assignment of questions in advance for a coming examination or for the next day's class work. In the latter event it is well for the student to correct his own paper, spotting his own errors and thus cultivating his own growing-edge.

The law of participation has, of course, a mundane practical side. The possibility of participation is normally in inverse ratio to the size of the group being taught. Medical schools surely know this fact; else it would be difficult to explain and justify the severe restrictions on the size of entering classes. In teaching the radiological aspects of cancer, for example, one can do with a cluster of five or six students what one cannot do with thirty. But we should not take refuge in this easy alibi. Even in a large lecture class alert teachers can often discover small ways to elicit participation. Instead of droning on for an hour without interruption the teacher can have his listeners in their seats perform small experiments or write down what they think are the right answers to certain questions which later will be answered by the lecturer. There are more devices to elicit participation than we teachers realize.

Ego-Involvement

But participation has deeper psychological significance. Who participates? It is surely not the hands and voice of the student. It is, if I may introduce the term, his ego. In recent years psychologists have had much to say concerning ego-involvement. In one sense ego-involvement is basic to all learning; in another limited sense, it impedes it. In the broad sense, favorable to learning, we may say ego-involvement is more or less identical with interest. By a principle of susidiation a student will learn to absorb and organize material that is consonant with his own interest system. The instructor will elicit this form of ego-involvement if he is successfully aiming at the present growing-edge of the student, and if by his own example he conveys enthusiasm for the subject.

In a more restricted sense, ego-involvement means self-esteem. Even a medical student—

burdened and misshapen as he is by poverty and prescriptions—is strictly normal in respect to his human sensibilities. For him, as for all learners, praise is a great incentive. If he does a good job he wants to know it. Next time he will deliver an even better performance.

But if praise is favorable to the effective acquisition of knowledge and skill, ridicule and embarrassment are not. Here we come to a curiously sadistic teaching-learning situation that has nothing to be said for it. Why some teachers like to pounce on a given student without warning, and with fierce aggression demand that he produce the precise point that the teacher has in mind at the penalty of being ridiculed, is a question in the psychopathology of teachers that we shall not explore. The principle in question can be summarized by saying that to raise the student's self-esteem is a mark of good teaching; to lower it is (with very rare exceptions) a mark of bad teaching.

Reducing Patient Anxiety

There is one important special skill that every medical student—especially those dealing with cancer patients—must acquire. How to learn this skill poses a major problem for the teaching-learning situation. The alleviation of the patient's anxiety is one ability that certainly cannot be taught by lectures. How then may a student learn it? Unless I am badly mistaken, medical education in general and cancer education in particular pay too little attention to this difficult pedagogical problem.

Recently I reviewed data collected in connection with a project in cancer research. The problem concerned reasons why women with breast lesions had delayed in seeking treatment even after they suspected the nature of their difficulty. I am not prepared to offer a statistical report of this research, but the large number of cases where the physicians themselves seemed at fault was disturbing to me. They aroused so much anxiety that the patient repressed the matter, disbelieved the doctor, or took refuge in some other form of psychological defense. Disturbing too were the cases where patients reported callous acts on the part of doctors. In one case, following an examination, three physicians held their consultation in the corner of the woman's hospital room; then left the building without speaking to her. For days she lay in agonized doubt, without knowledge of her condition and without the clearly indicated supportative psychotherapy.

Most experienced physicians, I know, behave very differently. Many make it their first duty to allay anxiety to the best of their ability. I am not here presuming to raise the disputed question as to how much a patient should be told about his condition. My point is merely that however much is told it can be told so as to relieve anxiety to the maximum degree possible.

How is the reassuring manner to be learned? What approaches may be used in breaking bad news? For that matter, how can any physician in any kind of case help lift the patient over his psychological hurdles? A young medical student—especially one not temperamentally gifted in this regard—has much to learn. While I am not wise enough to solve this difficult problem, I can offer two teaching devices that have been successful in modern attempts to give instruction in the field of human relations. Possibly you may see merit in one or both of them for the teaching of doctor-patient relations.

Apprenticeship

The first device is an extension of the ancient method of apprenticeship, aided by modern technology. Perhaps as an understudy to a skillful doctor, both in his technical work and in his human relationships, a student would be given a model from which to pattern his own efforts. But there are limitations to apprenticeship. Can a medical student accompany a physician who is about to tell a patient that he will die of carcinoma of the liver? Modern technical developments include the possibility of hidden recordings, also of using one-way screens made of molecular chromium glass. Granted that these devices are not adapted to home calls, is there the possibility that they can be employed effectively in hospitals for the teaching of doctor-patient relations, not only when matters of life and death are involved but in other situations calling for skilled efforts at anxiety-reduction?

I realize that this suggestion, made most tentatively, raises problems of medical ethics. Does it differ significantly from ward rounds, attendance at operations, or other occasions where medical students are introduced to intimate personal relationships? In certain psychological laboratories the ethical problem of using hidden recordings has been met in the following way. The subject (patient) is later told that a recording was made for teaching purposes. If he will permit it to be so used the investigator will be grateful; but if he prefers that it not be so used the recording is straightway destroyed. The one-way screen does not, of course, permit this ethical safeguard. But it too may have its limited uses, for example, in cases where a patient gives advance consent.

Psychodrama

The second suggestion raises no problems of ethics. It concerns the possible employment of role-playing in cancer education. Let one young medic play the part of a patient who is to be told that he has an operable malignant growth. Let another play the role of his physician. The situation can be specified somewhat more fully. The patient, let us say, is 45 years old, father of a family, worried about expenses, as well as about the possible outcome. The physician in his own mind is not too certain that the outcome will be favorable but like all physicians he holds the optimistic bias. Innumerable situations of this sort can be invented to start off the psychodrama. When the play has run its course, there can be class discussion and criticism of the "physician's" behavior. The class instructor may have suggestions to make. The scene can be played again until it meets general approval. The actors can, and should, reverse their roles. And every student in the class can, and should, have extended practice.

This method can helpfully expand and deepen the experience the student now gets through his attendance at clinics. Situations he has observed can be more fully explored through acting them out. Hypothetical situations that anticipate his own later responsibilities can be used. The process of role-playing, awkward as it is for the tyro, can in time confer upon him flexibility in manner and an invaluable understanding of the patient's point of view.

It is true that teachers who would employ this method themselves need training in its use. There are experts in psychodrama who would, if asked, turn their attention to the field of doctor-patient relations, and if it seems desirable, conduct a workshop in the technique for the benefit of interested medical teachers.

It does no good, I feel certain, to tell a medical student that he should allay anxiety, that he should be sincere, reassuring, quiet, calm, confident. He needs concrete example and he needs practice in human relations. I hope that in the future medical, especially cancer, education will develop methods to train in these skills, and thus rub off in advance some of the rough edges of young practitioners.

Apart from the problem of alleviating anxiety all of the features of the teaching-learning situation that I have mentioned are common pedagogical property. The principles I have stated with such brevity derive from the psychology of learning and from the psychology of human relations. Experience has found them to be sound guides to teaching. I hope that some of them may have suggestive value for you.