Learning Model for Behavioral Science in Medical Education

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THE STUDY OF BEHAVIORAL SCIENCE in medical education has had a low profile and low priority among academicians as well as students. Yet success of treatment often hinges upon the physician-patient relationship and the physician's ability to negotiate this transaction effectively. The study of the biological and clinical sciences, on the other hand, has taken over the major part of the academic calendar as well as the priority in the students' time and study. As the scientific data base of the biological sciences has developed, increasing time has been devoted to this study at the sacrifice of patient contact. Recently, some curriculum planners have moved to reverse this trend by re-introducing patient contact during the first 2 years of medical education.

The medical learning model presents scientific information and relates it to practice. The study of anatomy is inconceivable as a conceptual study isolated from its pragmatic basis in the cadaver. It is also logical to engage in the study of the behavioral sciences through the pragmatic base in the interpersonal transaction. Recent collaboration among scientists indicates that human behavior provides the interface between the interpersonal and physiological environments of the patient. Behavior thereby takes on new significance as the focus for integrated study of illness and health in its social and biological components (*1*).

Historical Perspective

Hippocrates' principles of direct observation, interest in the whole patient, and therapeutic restraint are as sound today as they were in the fifth century B.C. Despite efforts of Galen and Paracelsus and others, the practice of medicine has relied heavily on the arts of the physician rather than the scientific basis upon which those arts might be practiced. In fact, until the 20th century, the practice of medicine could be characterized as relying heavily upon the human interaction process because of a general lack of information about basic sciences and inadequate scientific methodology. As the growth of medical practice is traced through history, it becomes apparent that the art of the relationship has been important—and often more important—than the administration of specific therapeutic procedures. Upon the advent of modern medical education which followed the objectives and curricular format presented by Flexner in 1910, it seems that the art of medicine or the process of the act of caring became an assumed behavioral aspect of the physician role. This behavioral aspect was to be acquired in the academic process with no direct effort being invested in teaching students about the process.

With the increasing knowledge and information available, characterized by many as the knowledge explosion of the 20th century, more and more of this information was considered essential in the basic science background before the study of clinical medicine. Little attention was given to the content areas of the behavioral sciences as necessary for the practice of medicine. Physician educators, seemingly, assumed that the humanistic abilities attributed to the art of the practice of medicine would accrue naturally from the student physician's assumed intent—to be of service to mankind. Time and experience were affirmed to be the best teacher.

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Recently, increased attention has been given to the medical arts (*2–4*). The study in medical education of the basic sciences to the exclusion of behavioral science has been noted and deplored (*1a*). Concern has been expressed that the graduate of medical education today is unable to relate to the patient (*1b,5*). It is recognized that interpersonal diagnosis and negotiation are crucial aspects of the physician-patient relationship and the therapeutic process.

A Model: Experience-Based Learning Design

Most young adults who embark upon the educational route toward attaining an MD degree begin with a clinical objective to work with patients. Medical education is acquired with clinical application of the information as its ultimate goal. Basic science courses which may seem far removed from patient application do indeed become related to some medical clinical sciences with ultimate application to patient care. Behavioral science courses, traditionally, have been taught from a theoretical framework. Lecturers from the representative behavioral sciences may be invited to present information related to their specific field, generally by using a lecture format and a didactic presentation of a theoretical construct. Often there is no apparent practical or clinical application of this information. It is perceived as having little meaning or usefulness to the medical student; hence, it is rejected, ignored, or disliked, or all of these.

Rationale

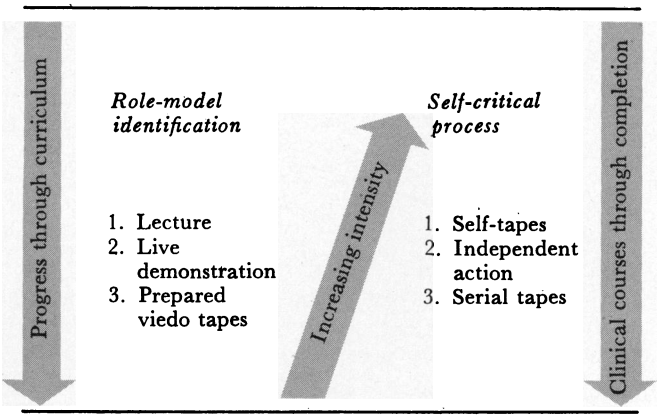
The data base for a physician in clinical diagnosis requires subjective information from his patient or an appropriate alternate. This information is acquired in the interpersonal situation through observation of verbal and nonverbal behaviors. Therefore, factors which influence perception and the processing of communication behaviors become important in the interpretation of this subjective information. These factors include, at least, the following—each is related to the others: (*a*) who the parties in the relationship are and their status with respect to one another, (*b*) the experience base that each person brings to the relationship, including his social and economic status, ethnicity, race, nationality, religion, and so on, and (*c*) where each person is with himself—maturity might be used to symbolize this, as well as self-concept, body image, and identity.

Framework of the Model

The physician works in a clinical (pragmatic) situation, and medical students have the clinical application of course material as a criterion of relevance. The behavioral science course components must have pragmatic application to meet the test of relevance for the student. This experience-based model sets the starting point at the locus of the clinical application so that the student will be aware of the implications of behavioral science for his ultimate practice with patients. We observe the interaction process between a physician and a patient and process the information available to us in verbal and nonverbal forms. The study of interpersonal communication process is well documented and grounded in the behavioral science interdisciplinary literature. This literature consists of, at the minimum, anthropology, sociology, psychology, biophysiology, and combinations of all of these. Therefore, the interpersonal communication framework has been selected as the pragmatic base for teaching the behavioral sciences.

Discussion

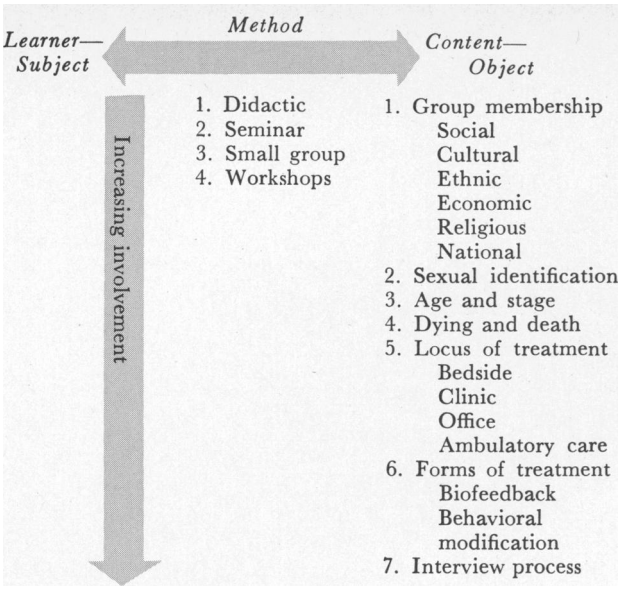
Two learning structures are proposed, with increasing amounts of student participation, correlated with increasing knowledge of medical sciences. These two learning structures are called "Role-Model Identification" and the "Self-Critical Process." Role-model identification is well known to physicians; it is the following teaching-learning situation in which the student observes and emulates the master.



In this scheme, three specific forms of modeling are delineated: (*a*) the lecture, in which the physician-educator tells what or how it is done; (*b*) participation of patients in demonstrating to the students what or how somehing is done; and (*c*) use of prepared video tapes that illustrate particular physical or social problems that the physician and social scientist educators may elaborate to broaden the students' data base for understanding patient behaviors.

The first two steps are so commonly used that further explanation is unnecessary. The third, however, requires clarification. When we capture on film the interaction between a physician and a patient a great deal of data are available for discussion.

The following content areas briefly outline the possible foci to be developed from a stimulus provided by the interpersonal transaction on tape. The verbal and nonverbal data are accessible through sight and hearing for identification, clarification, and discussion.



In any given taped interaction far more material is available for elaboration than could possibly be discussed in one structured learning experience. However, provided with a key or cueing mechanism and references, the students could use the tapes, individually or in small groups, for independent study of social phenomena, personal values, and prejudice.

The other learning structure is the self-critical process in which the student becomes a primary actor in the interpersonal transaction. In the first stage the student's relationship with a patient is transcribed on video tape. This taped interaction may then be used as the focus for discussion among a group of peers with a faculty supervisor or facilitator. A social scientist as a member of this type of group could provide specialized input for interpretation and understanding of the information on the tape.

In the second stage of this structure the student works with the patient without the benefit of taped supervision. This structure is a progression from the distant lecture and demonstration, through staged tapes, to the intimate and personal contact of the supervised tapes, to unobserved independent work with the patient. The learning experience of working with the patient, unobserved and independently, is commonly used in medical education and requires little explanation except to suggest that the earlier exposure to staged tapes and the supervised experience with self-tapes provides a basis upon which the student can build. The earlier exposure to interpersonal interaction with analysis and amplification of the data provides a sample of process and methodology which the student may use in his independent and observed patient contacts.

The third aspect of the self-critical process is the production of individual serial tapes; that is, a compilation of segments of taped patient-physician interactions throughout each student's medical school career. These tapes provide a live (on tape) diary of the student's developing facility in interpersonal transaction with patients, and it may help him to identify his learning needs as well as his abilities.

The methods by which the content is managed and the learning environment created for the student may vary. Depending on the size of the group and the nature of the material, the choice may be didactic presentation, seminar, small group discussion, or workshop design. Here again, involvement progresses from the least active learner stance in the didactic or lecture format to the most involved participation model in the experience-based learning designs that are possible in a workshop format. Learner distance and involvement are inversely related. There is less risk of threat for the student to change or make decisions in the passive learner stance provided by lecture.

Faculty Development

Medical school faculties largely are products of medical school education, with the possible exception of those in the behavioral and basic sciences. Because of their own experiences, academic physicians may value the importance of communication skills in the physician-patient relationship, but they may have as little specific education in behavioral science as their students. Therefore, it is suggested that learning experiences be offered to the medical school faculty so they may have an opportunity to systematize their data base as well as to identify and analyze their skills. An experience-based learning design, similar to that developed for the curriculum, is recommended; the net effect will be to put an enlarged data base at the disposal of the physician, one that will enable him to upgrade his supervisory skills and to experience using the learning design within which he will be functioning as teacher-supervisor or facilitator with the students in the curriculum.

References

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