Evaluation of Knowledge

Evaluation of Learning in Graduate Education

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Perhaps one of the most conspicuous features of medical education today is the extent to which the traditional educational process is being challenged. What are its objectives? Are these objectives adequately attuned to the intellectual needs of the student, and to the health needs of a growing and changing society? To what extent are these educational objectives being achieved?

As a result of this challenge, the role of evaluation in medical education has been remarkably enhanced in recent time. For now more than ever there is need for careful and continued evaluation of both the product and the process of the educational system.

Purposes of Evaluation

Since evaluation in any discipline, by any method, must be viewed in relation to the purpose it is intended to serve, I should like to comment briefly upon the two major purposes of this procedure with respect to medical education in general.

Certification. Perhaps the most familiar purpose of evaluation is that of certification. During medical school, the student undergoes a variety of examination procedures designed to determine his qualification for a course grade, for promotion to the next class, or for graduation and an M.D. degree. He must then submit to additional examinations in order that he may be considered qualified for a license to practice his profession. And finally, if he wishes to qualify as a specialist, after some years of graduate training, he must pass the examinations of a specialty board.

All of the foregoing types of evaluation have one feature in common: that of certifying or qualifying an individual at a specified level of academic achievement and professional skill.

Evaluation of Learning. The second and perhaps more important purpose of evaluation is one which has just begun to gain the attention it deserves, the evaluation of learning as it relates to those involved in the educational process. For the teacher, the on-going appraisal of educational outcomes affords essential feedback relative to the effectiveness of his teaching efforts. Careful evaluation can provide specific information with respect to learning that has, or perhaps has not, been achieved.

For the student himself, whose performance is being evaluated and who is, after all, the focal point of the entire educational process, evaluation serves his needs and interests by answering his two most important, perhaps unspoken, questions: "What should I know?" and "How am I doing?"

The evaluation process thus enables those involved to get their bearings, to know in which direction they are going, and thus not only serves as a valuable educational experience but also as an important guide to learning.

Evaluation of Learning at the Graduate Level

I believe we can agree that evaluation of learning as just described is a well-accepted and operating concept at the undergraduate level in medicine. Let us now examine evaluation of learning at the graduate level, namely, during the years of formal residency training.

I should like to begin by stating five assumptions which will form the basis for the discussion that follows:

1. Graduate training is, in fact, an educational experience.
2. Those involved in this educational experience have interest in the evaluation of learning.
3. This educational experience has certain definable objectives.
4. These educational objectives are measurable.

5. Appropriate and accurate evaluation methods are available for such measurement.

Is Graduate Training an Educational Experience? For purposes of our discussion, let us accept the assumption that graduate training is, or at least is intended to be, an educational experience. But I would like to qualify this assumption further. By virtue of the inherent nature of graduate training as conducted in a clinical setting, it is a rather unique educational experience with certain very distinctive features that set it apart from other educational experiences. One of these unique features is the fact that graduate medical education is primarily patient-oriented. Consequently, there is great variation in clinical experience among residents within a given training program. Conferences, which provide an opportunity for evaluation of learning, may not be presented in systematic and sequential fashion, since these sessions tend to be patient-oriented as well.

Another distinctive feature relates to emphasis on independent learning. As the resident appropriately assumes increasing responsibility for patient care, and also for his own continuing education, the program director and others on the teaching staff have less and less opportunity to observe and evaluate the progress and learning which may or may not have taken place.

Furthermore, because of the increasing complexity and diversification within the various graduate disciplines, an increasing number of specialists, of necessity, must share in the teaching responsibilities for each resident. The program director cannot always assess the effectiveness of these experiences, and must depend on the judgment of others, many outside his own discipline, for evaluation of trainee learning.

As already noted, these factors are inherent in graduate training; they are not presented as problems with respect to the educational experience, but rather as educational variables which place certain limitations on the evaluation process. As a result of these educational variables within a given program, it is certainly conceivable that basic deficiencies in the learning of an individual trainee may go undetected during the training period.

I am not, of course, proposing that the training program be restructured so as to provide a more controlled environment for purposes of evaluation. The specialty boards and review committees have already done a great deal with respect to establishment of minimum standards and ground rules for graduate training programs. However, I do feel that the inherent educational variables during graduate training must be recognized and taken into account if any meaningful form of evaluation and guidance for learning is to be carried on.

Do Those Involved in Graduate Training Have Interest in Evaluation of Learning? In some disciplines, graduate education may be considered such a lofty and scholarly pursuit that evaluation is looked upon with disdain. There are those who may believe that, at this advanced educational level, learning should be its own reward, providing its own intrinsic motivation and guidance for study.

Where does the trainee in graduate education stand with regard to this matter? I would submit that the resident today wants and needs as much, if not more, guidance and direction for learning as does the sophomore medical student. For the resident is keenly aware that educationally he is shooting a moving target, that if he hopes to move forward with the rapid advances in the biological sciences he must continue throughout his professional life to ask those same two simple questions: What should I know? How am I doing? For once he stops asking, or caring, he is lost.

And what of the program directors participating in this educational endeavor? Where do the teachers in graduate education stand on this issue? I know I need not speak further to this audience of the important role of evaluation at the graduate level. Res ipsa loquitur. It was your own specialty board which, with the full support and approval of the program directors, in 1963, initiated a most significant evaluation program in graduate medical education. I might note here that your In-training Examination has served