Devising examinations in pathology: Objectives and difficulties

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The main objectives of training in anatomic pathology and cytopathology are to acquire the skills necessary to practice our subject independently, to be informed about what knowledge is needed to evaluate developing techniques and new developments in the discipline objectively, and to know how to manage a laboratory effectively. Examinations are held to determine levels of competence in these areas but also provide information on the sufficiency of training and educational programs.

Before an exam can be designed the objectives 01 training must be agreed upon, the professional skills to be acquired should be documented, and the methods of internal quality control, external validation and consistency 01 the examination determined by the group who will drive the process.

In arriving at a format for the European examination, a group formed as a subcommittee of the European Board of Anatomic Pathology used these criteria. A number of helpful factors determined some aspects of the outcome; candidates were required to have completed their national training program before entering our examination. This ensured that they had received a training approved by the Board and that certain aspects 01 their professional competence and attitudes had already been assessed. The current examination consists of 120 multiple-choice questions (including general pathology), 40 glass slides with related multiple-choice questions (MCQs) and 60 Kodachromes with MCQs. It takes place in one day at the IAP or ESP meetings and is set in English. Links with other examining bodies help us to ensure that appropriate standards are applied.

Some of the difficulties apparent from consideration of the examination results have reflected on those parts of the discussions that caused us difficulties during planning. For example, the failure of many candidates to demonstrate a convincing grasp on the basic scientific information and knowledge which underlies many of the modern advances affecting our discipline reflects a considerable difference in view in different nation states on how much of this work should be the concern of practitioners. There are surprisingly few disagreements about diagnostic and related issues.

We have made no attempt to examine management skills, since the format of laboratory organization ditters so markedly in the member states.

A number of candidates have been well qualified, if professorial appointments are considered to be useful indicators of ability. Feedback from these candidates has been helpful in modifying the examination, which continues to evolve.

Interpat: An interactive method for teaching pathology

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All teaching reforms for medical studies in the twentieth century have been based on information management and decision making. Consequently, there is a need for continuing education in medicine and the development of strategies for learning how to learn. It is clear that what is necessary is an active methodology in which the student reduces the role of the teacher.

Medicine is an ill-structured discipline in which knowledge is heterogeneous and each type of diagnosis has a large number of associated results. The excessive number of students is another difficulty for continuing the classical methods of teaching medicine.

In recent years, however, these needs seem to have been met by new technologies (1), such as hypertext, multimedia and hypermedia. Hypertext means nonsequential writing, in which the user navigates actively through the contents of the system, instead of reading. This method is good when there are large amounts of related information. Multimedia adds other teaching resources such as images and sounds to hypertext.

Moreover, new technologies can also individualize the art of teaching given the amount of information and the possibility of creating environments of interactive and self-regulated learning (2). The strategies for individualization of teaching include navigation, self-pacing, mastery learning, prompt reinforcement, multimedia and continuous self-monitoring.

The traditional feedback methods (feedback of verification) have a small real effect on learning. Hypermedia offers a feedback of elaboration (learner-generated feedback) through selected text, images or examples, but the key is the adaptation of the feedback to the needs of the user (3). This then leads us to discovery learning, which is the best known method of learning.

Interpat is a trade name for an interactive method of teaching pathology (Pardo J., Interpat. Harcourt-Brace, Madrid, 1997). This program relates and communicates the following six systems, including 12 secondary programs:

i) An integrated textbook of pathology (Pardo Mind~n FJ., Anatom[a Patol6gica. Mosby, Madrid, 1997). The navigation through the book is complete and integrates thousands of images, tables and animated images.
ii) 5,700 images divided into types of lesions and/or diseases.
iii) A medical dictionary containing around 5,000 words.
iv) Different aspects of pathology explained with animated images, such embolus, metastases and activation of complement.
v) 38 clinical pathological cases with the clinical history and the autopsy findings
vi) five types of self-evaluation, as follows:
   a) Multiple-choice questions are generated by the system such that repetition of a question is very unlikely.
   b) Multiple-choice questions with images are also generated by the program. After answering the question the system permits the visualization of the unanswered statements.
   c) There is a written test about images in which, at the end of the examination, Interpat shows each image, the answered response, and the correct diagnosis.
   d) Seminar cases include a clinical history and the basic images from radiology, macroscopy and hematoxylin and eosin. The user may request special stains and immunohistochemistry. The student answers in three levels: type of lesion, basic lesion and diagnosis.
   e) Self-assessment in which the student has to provide words or phrases about each chapter of the book.

Finally, Interpat includes several methods for helping navigate through the program.