

Table 1 Scores in multiple choice questions (MCQ) and essay sections of six preclinical pharmacology examinations

Examination	Number of Candidates	Essay scores* %	MCQ scores* %	% candidates with similar scores in each section†
A	119	57.9 ± 0.6	59.5 ± 1.0	71.4
B	103	52.0 ± 1.0	59.3 ± 0.9	71.8
C	109	52.4 ± 1.1	61.7 ± 0.9	57.8
D	114	55.0 ± 0.7	56.0 ± 0.8	83.3
E	122	55.0 ± 0.6	59.2 ± 0.8	74.6
F	115	56.9 ± 0.8	58.9 ± 0.9	56.5

* Results expressed as mean ± s.e.

† Scores on MCQ and essay sections differing by less than 10%.

the whole group for both sections of the six examinations all show scores which are normally distributed about a mean approximately one standard deviation above the pass mark. In each examination, the mean MCQ score of the whole group is slightly higher than the mean essay score (Table 1). Inspection of the histograms shows that the distribution of essay scores is slightly skewed, covering a wider range of scores at the lower end and a smaller range at the top end of the scale. Table 1 shows that, although most candidates obtained scores for the two sections of the examination which differed by less than 10%, there is a large group of candidates with poor score correlations in the two tests.

These data show that the MCQ and essay sections

of the examinations yield essentially similar information about the overall range of abilities of the candidates, and that many candidates achieve similar scores in both sections. However, there is an important group of candidates who score very differently in the two types of examinations. The existence of this group justifies the use of both types of assessment.

Reference

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Learning from and attitudes to routine tape-slide teaching

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The use of slides in the teaching of medical and allied subjects is of very long standing. Linking audio-tape with slides to provide a single educational unit is of more recent origin although in some institutions the method has been in use for about a decade (Amos, Duncan, Gilder, Hall & Smart, 1969; Holloway, 1964). Furthermore, the Medical Recording Service Foundation of the Royal College of General Practitioners has developed a large catalogue of recordings illustrated by slides which is extensively used and covers a wide range of subjects (Graves, 1971). This illustrates that even at the postgraduate level, where a helpful source of information exists, demand for it will be forthcoming, although research

information on the efficacy of the service is lacking. Nevertheless, the use of tape-slide presentations in pharmacology teaching programmes, although accelerating, has not yet become routine in most courses perhaps because of the effort involved in preparation but also because of doubts regarding effectiveness and student acceptability once the novelty of the method has diminished. Indeed, most of the investigation into the efficacy of information retention have taken place in circumstances where the tape-slide method has been singled out for special attention either because the class was divided into special groups (Harden, Dunn, Holroyd, Lever, Lindsay & Wilson, 1969), or because special tests were administered (Birn & Christophersen, 1973).

Although not used very extensively tape-slide instruction has been a routine part of pharmacology teaching at Bradford for a number of years. The method of preparation and presentation of the tape-slides will be outlined. The results from computer marked objective tests given during the course reveal that compared with lecture based topics, answers

arising from tape-slide generated material are between 3% and 12% better depending on the point of comparison. The majority of students expressed a desire for more such programmes. The main reported disadvantages of the method are connected with speed of presentation or technical difficulties (although given a choice students at another centre preferred automatic equipment in study booths; Harden, Stevenson, Lever, Holroyd & Wilson, 1975). But they readily appreciated the convenience of the method including the facility to repeat and ease of access and availability. A sample of the type of tape-slide in use will be available as a demonstration.

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The teaching of pharmacology to undergraduate pharmacy students

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It has been stated that learning is enhanced by feedback (Miller, 1967); this is true not only for the students studying in academic institutions but also for staff involved in teaching them. Students attending the School of Pharmacy, University of Bradford are frequently asked to complete questionnaires concerning the teaching methods and content of pharmacology courses (Cooper & Foy, 1967) but this is the first attempt we have made to evaluate the course by means of a questionnaire sent out to pharmacy graduates. The analysis was on a much smaller scale than the one on medical pharmacology recently reported from an American centre (Burford & Stritter, 1974).

The questionnaire was simple and divided into two main parts, the first part being involved with the occupation of the ex-student since graduation and the second part devoted to an evaluation of the pharmacology section of the pharmacy course. The questionnaire was sent to all persons (212) who graduated during the years 1972–74 from this School of Pharmacy, 51% of the forms were completed and returned for analysis.

The undergraduate course in pharmacology for pharmacy students in this University can be divided into two main sections, namely, experimental pharmacology in the second year and applied

pharmacology in the third year of studies. The experimental pharmacology course introduces the student to the fundamental principles of the science of pharmacology and is supported by a practical programme which demonstrates the mechanism of drug action. The course in applied pharmacology has been described fully elsewhere (Foy, Hicks, Leach & Senior, 1972) and is designed to prepare the student for a role in a clinical multi-disciplinary team. Approximately 50% of the applied pharmacology section is composed of the study of clinical pharmacology. Results from the completed questionnaires show that the pharmacology component of the pharmacy course was rated at 3.5 on a 'completely satisfactory' 5—>1 'inadequate' scale. The relevance of the pharmacology course to the work currently being undertaken by the graduate varies from 3.6 on a 'relevant' 5—>1 'irrelevant' scale for 1974 and 1973 graduates to 2.9 for 1972 graduates. The survey calls for more emphasis in the course to be placed on drug interactions, applied pharmacology and therapeutics, toxicology and pathology. Topics which are seen as expendable to allow expansion in the above areas are pharmacodynamics and pharmacokinetics. In a previous survey sent to all types of recent graduates in pharmacology the most frequent criticism of the components of the pharmacology course was also lack of clinical teaching on the use of drugs (Bakhle, Straughan & Webster, 1974).

The results from this latest 1976 survey to be extended in the communication show that a further emphasis towards clinical pharmacology may be desirable if the undergraduate course for pharmacists is to result in a more adequate pharmacological training.