

Assessment of Anatomy and Standard Setting in Oxford

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Any university assessment of the understanding of anatomy must have two components. The GMC requires that our students achieve 'core' competence, but a university course must also strive for excellence. However, so broad is the scope of modern medical knowledge that students can be expected to achieve excellence in only a few self-selected areas. Oxford currently approaches this dilemma by setting two different sorts of assessments. "Part A" is a pass-fail computer-delivered, illustrated 20x5 part MCQ/EMQ/True-False set of questions; this is used for all first and second year BM course including the year 1 course in Organisation of the Body, and for the 3rd year Principles of Clinical Anatomy course which concentrates on clinical aspects as students prepare to enter clinical training. "Part B" gives students a choice of essays; answers with core only gains a bare pass, evidence of further reading/understanding is rewarded according to marking guidelines. One major benefit of the on-line approach (using Question Mark Perception software) is the detailed analysis of each part of each question that the software makes available. We have used this both to fine-tune previously used questions (and, indeed, to disregard any which the analysis and examiners concur that a part question could have been misleading), and also to produce banks of questions of known difficulty for future examinations.

Variables which influence the exam marks in addition to student performance include the difficulty of the questions, variation in examiners, and in the learning opportunities provided. For the Part A exams we have been developing a standard-setting method to define pass-fail and viva boundaries that attempts to take these variables into account. Many published standard-setting methods require panels of informed judges but there is a substantial cost in such procedures. A recent paper (Cohen-Schotanus & Van der Vleuten (2010) *Medical Teacher* 32:154-160) takes as its premise that year-by-year variation among examinations and examiners can be greater than that among the top cohort of students. An analysis of past examinations in Oxford provided support for this premise and we have found the Cohen method to provide a practical and affordable procedure for standard setting. Examination marks are rarely normally distributed (although often presented to examination boards with summary statistics of mean and standard deviation!), particularly for a pass-fail exam. With help from a statistician, we are investigating the use of the Weibull (2-factor) statistic to analyse the marks distributions and so further to validate the Cohen method of standard setting.