ARE OMR-COMPUTED DIFFICULTY INDICES OF EXAMINATION QUESTIONS RELIABLE MARKERS OF PERCEIVED DIFFICULTY?

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ABSTRACT

Educational institutions have recognized the importance of evaluating academic curricula and setting standards for desired academic outcomes to keep up with dynamic changes in their respective professions. Having acknowledged this trend, the Faculty of Medicine and Health Sciences (FMHS) of Universiti Malaysia Sarawak has put in place various programs and methodologies as a means of delivering a higher-quality education in the medical school, in addition to a comprehensive assessment system to monitor the curriculum. Various assessment types – Multiple Choice Questions, Modified Essay Questions, Short Answer or Essay Questions, Objective Structured Practical or Clinical Examination, Short or Long Clinical Cases are administered to evaluate the achievement of specified cognitive, affective and psychomotor-related objectives of the curriculum.

As statistical treatment of the results of an examination paper obtained by a class will provide a window on the quality of the questions used, routine item analysis by the Optical Mark Reader (OMR) System at the Faculty of Medicine and Health Sciences (FMHS), UNIMAS provides difficulty and discrimination indices of the Multiple Choice Questions used in its examinations. These indices are calculated from examinees' performances in the individual questions. The difficulty index of a particular question is the ratio of number of examinees who have given a correct answer to the total number of examinees who sat for the examination.

In an attempt to investigate how reliable these computed difficulty indices are to reflect the difficulty levels of individual questions or items, a survey of examinees' perceptions of difficulty levels was undertaken. The perceptions of 218 examinees on 705 MCQ (True-False) questions in 32 examination papers (both End-of-Blocks/Postings and Professional Examinations) were solicited. In all but two examination papers (94%), there were significant correlations between perceived difficulty and computed difficulty indices. Difficulty indices computed by the OMR are reliable indicators of the difficulty levels of the MCQs and can be used to benchmark the standards of these questions.