Kurzfassung Vortrag

A comparison of scoring algorithms for multiple answer MC-exams

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Workshop

**Objectives:** To compare different scoring algorithms usually employed in determining students' scores in multiple correct answer multiple-choice (MC) exams regarding performance, reliability, selectivity, and item difficulty.

**Methods:** Data from 420 3rd year medical students' end of term exam in internal medicine in February 2005 at Munich University were analysed (30 MC questions; up to 15 possible answers, up to 6 correct answers per question, at least as many distractors as true answers).

Scoring Algorithms: Each question scored a maximum of one point. No negative scores were applied. We compared:
- "Dichotomous" (D): One point if all true and no wrong answers were chosen.
- "Partial 1" (P1): One point for 100% true answers; 0.5 points for 50% or more true answers; zero points for less than 50% true answers.
- "Partial 2" (P2): A fraction of one point depending on the total number of possible answers was given for each correct decision (picking a right or ignoring a wrong answer); for each wrong decision one such fraction was subtracted.

**Results:** The P1-algorithm showed best results concerning item selectivity, item difficulties, and internal consistency (Cronbach's alpha), respectively.

**Conclusions:** The P1-algorithm seems to be the preferable method for the scoring of multiple answer MC-exams.

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