

Abandoning Negative Marking



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EDA EXAMINATIONS COMMITTEE

ESA

Editorial

Abandoning negative marking

The European Diploma of Anaesthesiology and Intensive Care was created in 1984. It has matured and developed over the last 24 yr into a multi-lingual examination, which takes place today in more than 20 centres in Europe. It consists of two

Diploma of Anaesthesiology and Intensive Care. There are a number of studies [2–4] that have indicated that examinees tended either to answer ‘Don’t Know’ or to omit items which they had a better than random chance of answering correctly.

Abandoning negative marking

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On behalf of the Board of Examiners of the European Diploma of Anaesthesia and Intensive Care – ESA.

Negative Marking



- Unpopular among students
- Hotly debated amongst examiners

Negative Marking -Main Rational



- To reduce the “guess factor”

True- False-Don't Know Format Formula Scoring



- +1 for a correct answer
- -1 for a wrong answer
- 0 for a Don't Know answer

$$S = R - W / C - 1$$

S = Corrected score for guessing

R = Number of right responses

W = Number of wrong responses

C = Number of choices per item

Formula Scoring



- Correct for guessing
- Improve validity
- Improve reliability

The “Don’t Know” option



- *Attempt all questions!*
- **Level of certainty:**
 - Positive: candidate is sure of the answer
 - Educated guess: Candidate knows something about the subject but is not absolutely sure of the answer
 - Wild guess: candidate is taking a random guess
 - Hammond et al.- Anaesthesia ,1998; 53: 1105-1108

The “Don’t Know” option



- Positive option: 89.2%
- Educated guesses: 75%
- Wild guesses: 65%

“There may be no such entity as the wild guess”

The “Don’t Know” option



- The “Don’t Know” option may conceal a small but very real residue of knowledge
- Examinees are likely to be right than wrong if they answer having a hunch or are hazy about
- Candidates perform better

Ebel R.L.- Measuring educational achievement (1965)

Sanderson PH- The ' don't know' option in MCQ examinations- BJ of Medical Education (1973)

Fleming P.R. Medical Education (1998)

Attempt all questions



- -Harden and colleagues
- 85 candidates
- **62 gained marks**
- 23 lost marks

(sign test= 0.00002)

Authors conclusion



“This is very strong evidence **against** the hypothesis that all the students are guessing their responses to the ‘Don’t Know’ questions”

Elimination of the “Don’t Know” answers



- Elimination of the “Don’t Know” answers caused no obvious differences in rank position of students
- The top 10 and bottom 10 candidates remain at the same rank position

Harden et al. Education (1976)

Negative marking: what's wrong?



- Tends to penalize the more able students

Bliss (examinee guessing behavior on MCQ tests- Journal of Ed. Meas. 1980)

- The decision to omit questions is influenced by personality

Harden et al.- Medical Education-(1976)

- Female candidates tend to be more cautious with regard to guessing

B. Mc Guire- (Anaesthesia 1999)

Negative marking: what's wrong?



- Use of “Don’t Know” answer influenced by instructions received before the examination:

-“The penalty for a wrong answer is severe”

Young et al.-Experience with the MCQ in Glasgow- B J of Med. Education 1972

Cultural and linguistic influence



- Glasgow Surgical Fellowship Primary Examination:
 - 66% avoided guessing
 - 34% did not
- 55% from countries where English was the official language avoided guessing
- 80% from other countries did so

Cultural and linguistic influence



- *“It appears likely that the latter group, whether because of cultural characteristics or test naivety, adopted a less than optimum strategy in the examination and this may at least in part account for their poorer performance”*
- As multicultural examinations the European exams may well belong to this group

EDA

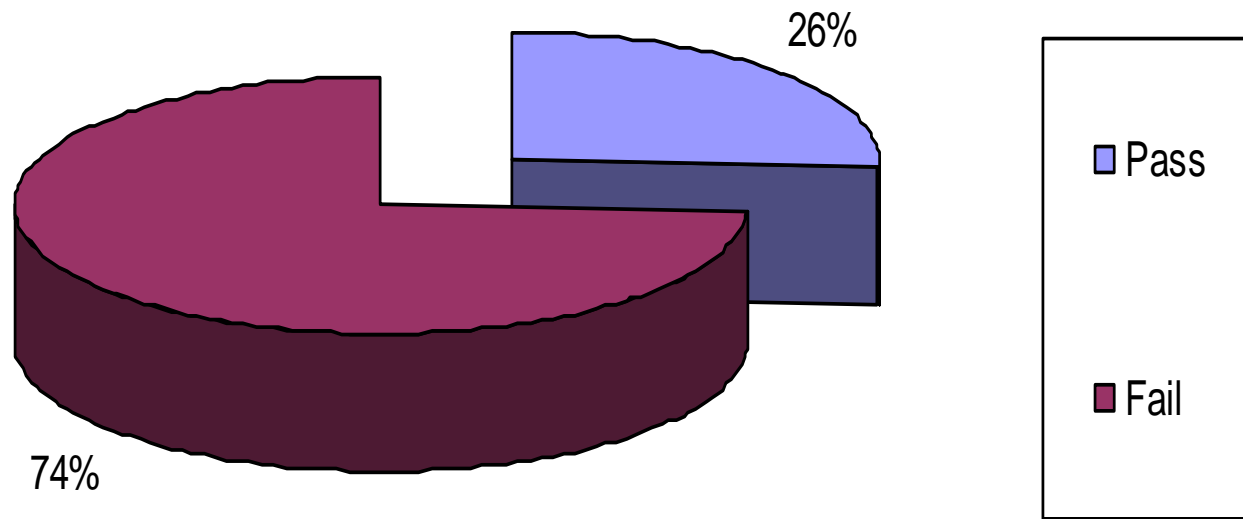


- Relatively high rate of omitted questions

(Amongst them the discriminator questions)

- This fact may affect reliability and validity of the examination when it comes to decide the pass marks

ITA - 2006



Conclusions



- *“Medical professionals should not be stimulated to react with guessing when they are faced with a lack of knowledge”*

VS.

- *“In medical practice the doctor has to make a decision on only partially complete information”*

Conclusions



- Choice between *partial knowledge* and *absolute knowledge*

(“Don’t Know” answers may hide partial knowledge)

- The experiment to abolish negative marks and “Don’t Know” answers is worth

Conclusions



- If the purpose is to place the candidates in rank order there is little merit in negative marking as it does not affect the rank order

Conclusions



The essence of the art of medicine is decision making

The “Don’t Know option and strict penalties for doubt and partial knowledge encouraging only “absolute knowledge” might be a wrong goal

Conclusions



- **The Examinations Committee of the ESA has decided to abolish the negative marks and the “Don’t Know” option for the ITA and the EDA part I examinations starting on next examinations to be held in year 2008**