Use of Optical Mark Scanners

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President, EBOPRAS
Secretary, UEMS-CESMA
Chairman, EBOPRAS Exam Board

UEMS-CESMA meeting Brussels 20/11/2010
MCQ Exam - paper or computer based?

CBT – computer based testing
  multiple local centres
  appropriate security checks needed
  marking is done by software program
  more expensive to run
  reduced travel costs for candidates
  may only be appropriate for larger exams
  ISB in UK&I moving to this format
MCQ Exam - steps

Venue(s)
  single or multiple venues possible
  hotel, university, hospital etc.

Single easier to administer
Multiple easier for candidates
EBOPRAS MCQ Examination
held twice a year in Brussels
MCQ Exam - steps

Venue(s)

Invigilators

may be specialist or lay

specialist may be helpful in translingual exam to explain words
MCQ Exam - steps

Venue(s)

Invigilators

Marking

By hand – tedious, error-prone

By scanner

fast

accurate

analysis reports available

start-up costs (marksheets, decode software)
European Board of Plastic, Reconstructive & Aesthetic Surgery

MARKING INSTRUCTIONS
This document is designed to be machine readable.
Select the one most appropriate answer.

- Mark like this
- Please use the pencil provided
- Please do NOT tick, cross or circle
- If you make a mistake use the eraser
- Do NOT crease or fold this sheet

Answer Sheet

Name

Date
Automated sheet feed scanner
New Scanner

6kg weight
Reads pencil or ink
Automatic sheet feed
Better discrimination of erased marks
Carry case for air transportation
PC connection only – not Mac
MCQ Exam - steps

Venue(s)
Invigilators
Marking
Validation

Uses analysis report as basis
Statistical & Clinical aspects to the performance of questions.

This cannot be done by lay people
# MCQ Analysis

**European Board of Plastic Surgery**  
**Speedwell Multiquest Report**  
**File: EBOPRAS 2009**

## Item Analysis Report (Response Order)
**EBOPRAS MCQ 21 - 2009**

**Exam statistics:**  
**Mean:** 69.3 (72.2%)  
**St. Dev.:** 9.19 (9.57%)  
**Candidates:** 97  
**KR20:** 0.818

### Question 46

<table>
<thead>
<tr>
<th>Mean Score</th>
<th>0.928</th>
<th>% All</th>
<th>92.8</th>
<th>7.2</th>
<th>85.6</th>
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<tbody>
<tr>
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<td>Upper</td>
<td>96.9</td>
<td>3.1</td>
<td>93.8</td>
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### Question 47

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<td>Facility</td>
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<td>65.6</td>
<td>34.4</td>
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<td>Point Biserial</td>
<td>0.413</td>
<td>Lower</td>
<td>11.9</td>
<td>88.1</td>
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<td>Correct Answer</td>
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<td>Facility</td>
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MCQ Exam - steps

Venue(s)
Invigilators
Marking
Validation

Passmark setting

For a competence exam, the modified Angoff procedure is the best method. This requires the examiners to be specialists. This can be done in advance of examination.

Basing mark purely on statistics (eg mean – 1SD, or X% fail) not appropriate
MCQ Exam - steps

Venue(s)
Invigilators
Marking
Validation
Passmark setting
Results can be issued
On-site scanning

Cost to purchase - £5000

OR

Rental £ 250/exam
onsite attendance £ 700/day
plus travel etc.

(Prices exclude VAT)
Scanning & processing bureau service

Cost to purchase - nil

Scanning £ 500/day
Analysis services £ 500/day

(Prices exclude VAT)
Single site

On-site scanner

On-site, same day
Reports available
Validation of questions
Setting passmark
Issue results

Many sites

Remote scanner

Delays process
Who validates?
Who sets passmark?

Needs an examiners’ meeting
Thank you for your attention