

## **Supplemental Digital Appendix 1**

### **Specific Search Terms and Strategy for a Systematic Review to Compare Open- and Closed-Book Examinations, 2013–2014**

We included the following keywords or their combinations: open book exam, open book examination, open book test, closed book exam, closed book examination, closed book test, computer aided test, web based examination.

#### **Example search strategy:**

##### **MEDLINE (Ovid)**

MEDLINE (OVID) Search Strategy (June 7, 2013):

Notes: 1,340 retrieved – 73 duplicate records = 1,267 total

##### **Search Strategy 1:**

((computer or web or paper or internet) adj (aided or based) adj3 (assess\$ or test\$ or exam\$ or curriculum or learning or evaluat\$ or teaching)).ti,ab.

AND

(exp education, professional/ or ("professional education" or "medical education" or "nursing education" or "graduate education" or clerkship\$ or residen& or student\$).mp.)

##### **Search Strategy 2:**

((open or closed) adj1 (book or web) adj4 (assess\$ or test\$ or exam\$)).ti,ab.

#### **Searches OR together and limited to English Language**

##### **ERIC Datatabase**

ERIC Search (June 7, 2013):

##### **Search Strategy 1: 46 records**

All Fields: ("open book" OR "closed book" OR "open web") AND (assess\* OR test\* OR exam\*)

Limits: Peer Review

##### **Search Strategy 2: 557 records**

Thesaurus Descriptors: "Tests"

AND

Keywords: computer OR web OR paper OR internet

AND

(Keywords: assess\* OR test\* OR exam\* OR curriculum OR learning OR evaluat\* OR teaching

AND Limits: Peer Review

#### **Duplicates removed: 34**

## **EMBASE**

July 1 2013 (2,619 articles)

### **Search 1:**

'computer aided':ab,ti OR 'computer based':ab,ti OR 'web based':ab,ti OR 'paper based':ab,ti OR 'internet based':ab,ti

AND

assess\*:ab,ti OR test\*:ab,ti OR exam\*:ab,ti OR curriculum:ab,ti OR learning:ab,ti OR evaluat\*:ab,ti OR teaching:ab,ti

AND

'medical student'/exp OR 'resident'/exp OR residency:ab,ti OR resident\*:ab,ti OR 'clinical education'/exp OR clerkship\* OR 'nursing student'/exp OR student\*:ab,ti

### **Search 2:**

'open book' OR 'open web' OR 'closed book' AND (assess\* OR test\* OR exam\*)

Limited to English AND EMBASE

**Duplicates removed: 8**

## Supplemental Digital Appendix 2

### Article Coding Sheet for a Systematic Review to Compare Open- and Closed-Book Examinations, 2013–2014

Reviewer Name:

Date:

1<sup>st</sup> reviewer ☐

2<sup>nd</sup> reviewer ☐

3<sup>rd</sup> reviewer ☐

#### *Section A. Basic information*

Reference Number: \_\_\_\_\_

Authors (First, second, third author, et al):

\_\_\_\_\_

Title:

\_\_\_\_\_

Publication: \_\_\_\_\_ Year \_\_\_\_\_ Vol \_\_\_\_\_ Issue \_\_\_\_\_ Pages \_\_\_\_\_

Search Method:

☐ Electronic search

☐ Hand search (e.g. bibliography of electronic search, recommended paper)

1. Citation type

☐ Original research paper/peer reviewed empirical study

☐ Review paper

☐ Commentary/opinion

☐ Conf. paper/proceedings

☐ Book

☐ Thesis

☐ Other (List \_\_\_\_\_)

2. Description of OBE

3. Description of CBE

4. Research question

☐ Stated (list \_\_\_\_\_)

☐ Implied (list \_\_\_\_\_)

5. Stated hypothesis

☐ Stated (list \_\_\_\_\_)

- ☐ Implied (list \_\_\_\_\_)
- ☐ Not clear

6. Hypothesis justification

- ☐ Stated (list \_\_\_\_\_)
- ☐ Not clear

7. Conceptual framework

- ☐ Stated (list \_\_\_\_\_)
- ☐ Not clear

**Section B. Outcomes considered**

- |   |   |
|---|---|
| <input type="checkbox"/> Exam performance   | <input type="checkbox"/> Anxiety or enjoyment |
| <input type="checkbox"/> Exam preparation   | <input type="checkbox"/> Psychometrics        |
| <input type="checkbox"/> Logistics          | <input type="checkbox"/> Testing effects      |
| <input type="checkbox"/> Public perception  | <input type="checkbox"/> Judgment of learning |
| <input type="checkbox"/> Other (list _____) |   |

**Section C. Study context**

1. Country \_\_\_\_\_
2. Student level
  - ☐ College students
  - ☐ High school students
  - ☐ Medical students
  - ☐ Other post-college settings
  - ☐ Others (list \_\_\_\_\_)
3. Test stakes
  - ☐ High
  - ☐ Medium
  - ☐ Low
4. Type of material tested (list \_\_\_\_\_)
5. Test format (list \_\_\_\_\_)
6. Number of questions \_\_\_\_\_
7. Delay between learning and test
  - ☐ Yes
  - ☐ No

8. Prior experience with OBE

☐ Yes ☐ No

9. Incentive provided

☐ Yes ☐ No

***Section D. Study design***

1. Description \_\_\_\_\_

2. Within vs. Between subjects design

☐ Within ☐ Between

3. Condition 1 \_\_\_\_\_

4. Condition 2 \_\_\_\_\_

5. Condition 3 \_\_\_\_\_

6. Condition 4 \_\_\_\_\_

7. Comparability of exam context

☐ Comparable ☐ Not comparable

8. Comparability of exam format

☐ Comparable ☐ Not comparable

9. Outcome 1 \_\_\_\_\_

10. Outcome 2 \_\_\_\_\_

11. Outcome 3 \_\_\_\_\_

12. Outcome 4 \_\_\_\_\_

13. Outcome 5 \_\_\_\_\_

14. Scoring

☐ Objective ☐ Subjective

***Section E. Sample characteristics***

1. Total N \_\_\_\_\_

2. OBE N \_\_\_\_\_

3. CBE N \_\_\_\_\_

4. Age \_\_\_\_\_
5. Other demographics noted \_\_\_\_\_

**Section F. Findings (include statistics)**

1. Outcome 1 \_\_\_\_\_
2. Outcome 2 \_\_\_\_\_
3. Outcome 3 \_\_\_\_\_
4. Outcome 4 \_\_\_\_\_
5. Outcome 5 \_\_\_\_\_
6. Main conclusion \_\_\_\_\_

**Section G. Evaluation**

1. Trustworthiness  
☐ 5   ☐ 4   ☐ 3   ☐ 2   ☐ 1
2. Rigour  
☐ 5   ☐ 4   ☐ 3   ☐ 2   ☐ 1
3. Implementation  
☐ 5   ☐ 4   ☐ 3   ☐ 2   ☐ 1
4. Analysis  
☐ 5   ☐ 4   ☐ 3   ☐ 2   ☐ 1
5. ☐ Include in the review   ☐ Exclude from the review
6. Limitations \_\_\_\_\_
7. Additional references to check \_\_\_\_\_

Notes \_\_\_\_\_