Open-Book Exam Success

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Objectives

• Explain pros & cons of open-book exam
• Write effective open-book questions
• Assist students in preparing for open-book exams
Warm Up: Group Discussion

Mentimeter - Interactive Presentations

What is your opinion about open-book exams?

- Challenge:
  - A lot of work but very fulfilling.
  - Harder to fairly grade.
- Hardest to develop for higher-order thinking
- I do not like them. I do not how to write questions to encourage application
- Doable, but unsure of how much time to give them
- Time consuming
- Students can succeed without knowing much.
- No strong opinion. Is assessment tool I don’t know much about. Do suspect may be time-consuming to grade because may be short-answer/essay?

Go to [www.menti.com](http://www.menti.com) and use the code 189149
Exams and Learner Experience

• Focus on memory retrieval through recognition instead of recall
• Encourages learners to take responsibility for personal learning style (strategies such as time management, goal setting)
• Facilitation of success now creates building blocks for future success
• However, learners are self-directed and autonomous, but not necessarily spontaneous in these characteristics.
Learner Autonomy

• Promotion of reflection, reflexivity, critical thinking, and problem solving
• Increased self-efficacy and self-esteem
• Fosters a sense of empowerment
• Two-way communication
• Indicative of online student success

Nielsen, Bean, & Larson, 2018
Growing Body of Knowledge

Health FX, Jun 12., 2018; Heinjne-Penninga et al., 2008
Application Example

- U.S. Air Force Academy
  - Pilots, emergency procedures

Green et al., 2016

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Pros & Cons
Pros

- Application of knowledge (deep learning)
- Learners can show what they know vs. what they don’t know
- Reduction of test anxiety

Block, 2012; Williams, 2004; Dhall, 2016; Green et al., 2016; Gupta, 2007
Pros

• Use of resources = slight (if any) higher achievement
• No need for $11,000 test monitoring software (yes, PER test)
• Proctoring burden decreased

Block, 2012; Williams, 2014
Cons

- Writing new or revising previous exam questions
- More difficult & time-consuming to grade
- Potential for cheating

Dhall, 2016; University of Newcastle, n.d.
Cons

- False sense of security for students
- Learners spend more time finding answer than answering question
- Students might study less

Block, 2012; Green et al., 2016
Open-Book
Question Writing
Role of Resources?

- What would be the role of notes and other resources?
  - Organization of ideas
  - Concise presentation of information
  - Applying information to solve problems
  - Evaluating information from sources
  - Assessing relationships between ideas

Dhall, 2016
Role of resources?

- Students should DO things with information
  - NOT just locate information and reproduce it

Arthur, 2018
Open-Book Questions

- Replicate real-world conditions
- Rich, messy clinical learning environments
- Set student up as the “expert advisor” or “key decision maker”

Arthur, 2018; Williams, 2004
Focus on the Conceptual

• Ask students to apply and synthesize multiple pieces of information to answer

Siering, 2020
Socratic Questions

- Clarification
- Assumption
- Reason & evidence
- Origin & source
- Implications & consequence
- Viewpoint

University of Newcastle, n.d.
Conceptual Examples

• Describe (what is) the next step in this process…
• Define (which of the following defines) X within context Y…
• Explain this situation through the lens of theory Z…
• What would have happened if…?
• Identify/explain/fix the error in a computation

Siering, 2020
Mini Case Study

• Provide mini case & ask questions related to it
  – Based on the case above, which of the following is the most likely cause of the patient’s pain?
  – Based on the above patient’s needs, which of the following is the preferred course of action?

Siering, 2020; University of Newscastle, n.d.
Outcome Prediction

• Describe an interaction, and ask students to predict the outcome
  – What would happen if we prescribe X?

Siering, 2020
Identify a Concept/Principle

• Which of the following is an example of a Z?
• Which of the following best exemplifies the principle of X?

Siering, 2020
Interpretation

• Provide a chart or laboratory results for students to interpret.
• Ask “what if” questions

Siering, 2020
Other Tips

• Have students show their work by uploading a scan
• Use multilevel thinking by including phrases like “most appropriate” or “most important”

Siering, 2020
Other Tips

If using problems from a textbook publisher, change names, numbers, and the scenario

Siering, 2020
Helping Students Succeed
How can we help students succeed on open-book exams?
Preparation: Strategies that Work

• Focus on pertinent information, reinforce with examples
• Encourage learner involvement throughout the learning process with activities and engagement
• Allow and promote verbalization, encouraging a safe learning environment.
• Handouts, practice tests, etc. including examples and key topics

Mitchell, 2004
It Begins with the Instructor

• Set your expectations to higher-level skills
  – Conceptualization
  – Problem solving
  – Reasoning

Green et al., 2016
Setting the Stage for Success

- Time management (24 hrs?)
- Clear, unambiguous questions
- Design with learning outcomes in mind
- Match exam questions with the kind of information emphasized in class

Arthur, 2018; Siering, 2020; Green et al., 2016; University of Newcastle, n.d.
Setting the Stage for Success

• Lay ground rules
• All students have all resources and materials needed
• Encourage learners to study and not rely on a book or notes
• What will be rewarded with partial credit?

Block, 2012; Gupta, 2007
Key Points

• Consider role of resources
• Similar to MCQs based on higher levels of Bloom’s Taxonomy
• Focus on the conceptual
• Help students prepare for success
Resources


Resources


Resources


Questions?