

Authentic Assessment

Open-book Exam



DEFINITION

Open-book examinations are similar to traditional examinations, but with one major difference: in the former, students are allowed to bring and look at their textbooks, notes, or other reference materials. This places the focus on understanding the learning material rather than memorizing content. Teachers may also provide a general set of review materials or examination questions before the open-book examination, so that students can prepare their notes and references in advance with the assigned resources.



HOW DOES IT WORK?

To design an open-book exam, teachers should follow the procedures below:

1. Define the learning outcomes of the open-book exam (e.g., higher order thinking skills, rather than memorization of content).
2. Decide on the format(s) of the questions in the exam (e.g., MCQs, essay responses).
3. Formulate questions which target students' higher-order thinking.
4. Review questions to ensure that they align with the set learning outcomes of the open-book exam assessment.
5. Develop appropriate marking criteria for the exam.
6. Help students become familiar with the open-book exam format, such as by providing mock open-book exams as practice.



BENEFITS & CHALLENGES

Benefits

- Open-book exams are less demanding on memory.
- Provides a chance for students to acquire knowledge during the preparation process of gathering and organizing suitable learning materials. This goes beyond simply recalling or rewriting learned information.
- Enhances students' information retrieval skills, comprehension skills, and synthesizing skills.

Challenges

- With regard to the books and materials brought into the exam, it is difficult to ensure that all students are equally equipped.
- More desk space is needed for students during open-book exams.
- Many students are still unfamiliar with open-book exams. They need to be well and clearly informed of the procedures and rules.

CASE SAMPLE

Open-book exams in an undergraduate Physiology course in the University of Dayton

Design of the assessment:

Students were required to complete three open-book exams throughout a semester-long course. There were 10-12 multiple-choice questions (MCQ) for each exam with four options for each question. Students were allowed to consult any resources including notes, books, references, and other hardcopy materials to complete the exams. Notably, as the exams were designed to assess higher-order learning, the answers were not easily or directly retrieved from the book or class notes. Students were thus required to integrate different concepts and knowledge in order to determine the correct response.

As practice and exam preparation, students developed their own open-book exam questions and give explanations for the correct responses.

How are students assessed?

One mark was given to each correct MCQ response circled, as well as one mark for each incorrect MCQ response NOT circled. This evaluation approach allowed students to gain credit by demonstrating mastery of each question item (i.e., the concepts, terms, and their relationships relevant to the question), rather than taking on an all-or-nothing grading strategy.

Reference

Vanderburgh, P. M. (2005). Open-book tests and student-authored exam questions as useful tools to increase critical thinking. *Advances in physiology education*, 29(3), 183-184.

TIPS FOR DESIGNING

- The open-book exam questions should be straightforward and clear, in order to limit any potential confusion.
- The design of open-book exam questions can be guided by Bloom's Taxonomy and/or Socratic questioning.