

## Open Book Exams

In the broadest sense, an open book exam allows students to consult some form of reference material in the course of completing the exam. Open book exams and closed book exams have different pedagogical ends. While a closed book exam “places a premium on accurate and extensive recall, and unless carefully designed, its assessment of students’ knowledge is likely to be dominated by that ability” (Gupta, 2007), an open book exam places the focus on higher level learning. Because open book exams don’t have the same emphasis on memorization, questions can move up Bloom’s Taxonomy of Educational Objectives, and ask students to analyze, evaluate, or synthesize knowledge, rather than just remember it.

In her essay for Faculty Focus, Maryellen Weimer puts it simply: “exam situations are pretty artificial. How often in your professional life do you have a limited time window and no access to resources or expertise?” She goes on to say: “In this age of technology, we need to be purposely teaching students how to access, organize, and apply information,” not to simply memorize it (2013). Students also respond positively to open book exams. When asked about it, “they don’t talk about how preparing the sheet helps them prioritize and organize content.” Instead, they see their reference materials as stress relievers (Weimer, 2013).

As with any form of assessment, an open book exam can come in a multitude of formats. These can fall into a few broader categories summarized by Chan as:

1. Students are allowed to review reference material during the examination
2. Exam questions are distributed to students in advance of the exam, allowing students to prepare resources for use in the exam
3. Students are allowed to take home their exams to complete at home within a specified time period (Chan, 2009)

This issue of Best Practices will focus on the first of these categories. Within the framework of an open book exam in which students are allowed to bring reference material to review during the exam, there is also a great deal of variation. For example, only part of your exam could be open book and part could be closed. The reference material “may be known and accessible to the students (such as handouts distributed earlier), or it may be newly supplied material not previously seen by the examinees” (Gupta, 2007). The reference material could be identical for all students, such as a textbook or formula sheet, or it could be prepared by the students to meet their own needs, requiring the students themselves to select the books or materials they will bring, or to create their own notes or “crib sheets” (Gupta, 2007).

### ***Benefits of Open Book Exams***

There are advantages and disadvantages to using open book exams, which have been broken down by Gupta and Chan:

## Advantages

- Availability of reference material allows more freedom and flexibility in constructing exam questions
  - Emphasizes higher order skills, de-emphasizes “cramming” or rote memorization
  - Broader in scope –
    - students can call upon more information than they could have ever been expected to memorize
    - questions can be longer and more involved and require students to integrate information from multiple sources or types.
    - exams can address a greater variety of subjects and learning objectives
  - Permits more realistic exam questions that mimic professional work where information is available and the skill is in determining the appropriate application
  - Easier to include multi-step problems
  - Can continue or extend work done in homework or other assessments
- Encourages students to develop new learning strategies to ensure their success
  - Enhances information retrieval skills
  - Places greater focus on knowing how to use information

## Disadvantages

- Students may place too much emphasis on their reference materials
- Students may believe that they don’t need to study as much, or may underestimate how long it will take them to locate the information in their reference materials.
- Student workload may be increased by the need to create reference materials before exams
- Instructor workload may be increased if it’s necessary to police the material that is used in the exam
- Depending on the reference materials being used, limited desk space may be a problem
- The reference material may not be available to all students, such as an expensive textbook that all students may not have purchased.
- Students may be unfamiliar with the format and will need to be provided with clear procedures and rules.
- Several types of questions that would be acceptable in a closed book exam will not work in an open book exam – these include questions that ask for definitions, descriptions, or lists of properties, characteristics, etc.

## ***Best Practices in Using Open Book Exams***

Chan, Gupta, Cullen and Forsyth provides the following best practices when considering using open book exams:

- Decide whether all or part of an exam will be open book
- Establish what materials are permissible and how they will be selected. Ask yourself the following questions:
  - What type of material can they bring?
  - How much can they bring?
  - Will you check if the material is acceptable?

- How do you plan to guide students in the preparation of appropriate material?
- Design exam problems that take advantage of the open book format
  - Questions should require students to “do things with the information available to them, rather than merely locate and summarize or rewrite it”
  - Make sure there is enough time allotted for the exam – open book exam questions will typically take longer than closed book exam questions
  - Set up appropriate marking criteria with the weight placed on knowledge, comprehension and critical thinking, rather than just recall.
- Tell students from the beginning of the class that this is the format you will be using and let them know the purpose of using an open book exam. Inform student that:
  - Open book problems won’t rely on memorization and thus will be harder than closed book exam questions
  - Bringing too much information with them will actually hinder their retrieval of the necessary knowledge
  - They won’t receive partial credit for merely reproducing information that was available to them in the reference material

Maryellen Weimer suggests that preparing a crib sheet “might be an excellent activity for an in class review session.” Students can work together to prepare their sheets, which they submit at the end of the session and will be returned to them on exam day (2013). Students could also be required to return their crib sheets along with their exam. This allows you as the instructor to see when students had the necessary information on their crib sheet but were unable to apply it successfully, and to think about how these gaps in understanding can be addressed. Weimer also suggests using the open book format to get students to reflect on the way they studied and how they selected information. For instance, you could have them answer the following questions:

- “How many questions did your crib sheet help you answer
- Did you have information on the crib sheet that you didn’t use at all
- How did you decide what to put on your crib sheet
- If you had the opportunity to revise your crib sheet, what changes would you make
- What have you learned from preparing this crib sheet that you want to remember when you make the next one?” (Weimer, 2013)

### **Work Cited**

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