Suggestions for Non-Invigilated Examination: "Take-Home" Open-Book Exam

Open-Book Exam Examination without invigilation is, logistically and technically, an easier approach to both teachers and students alike. It doesn't mean that this kind of exam is less reliable or less valid. In fact, with detailed planning and careful execution, the exam may be more effective in assessing students' higher cognitive abilities. Having an open-book exam is also an opportunity to make the exam part of the learning process for the students, rather than just an assessment of what they have learnt. This document aims to present various considerations of designing a good "take-home" open-book exam that challenges students adequately, and provide suggestions for making such an exam valid, reliable, clear to students and efficient to teachers.

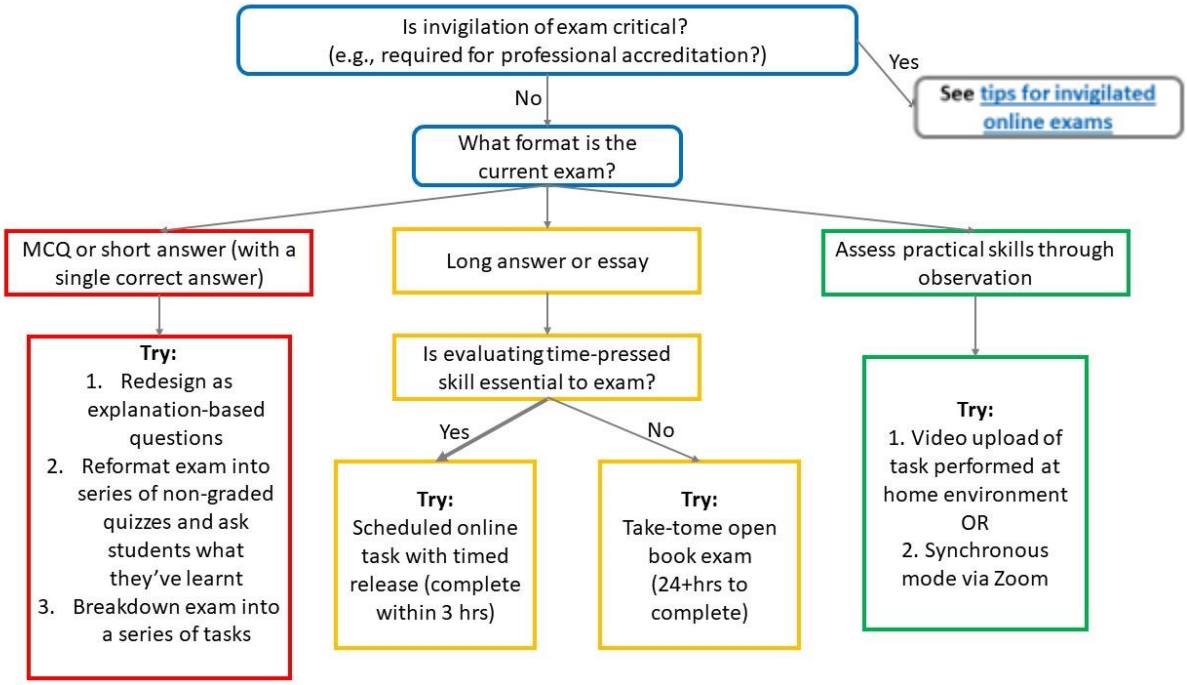
1. Advantages of a "take-home" open-book exam
    - *Easy to administer*: You don't need to spend time to restrict students from using other materials while taking the exam. All you need to do is to hand out the exam paper/ questions at a pre-announced time through Blackboard or other platforms of your choice, and require students to submit their answers within a specified period of time (often a few hours). Besides, compared to an invigilated online exam, this exam format creates less burden on you and your students in terms of hardware/ software requirements and the privacy issues related to video recording the students and their surroundings during the exam.
    - *Nurture important skills*: A good open-book exam requires students to demonstrate information retrieval skills through getting the necessary information and data from various resources efficiently. It also makes students practice their comprehension and synthesizing skills as they need to present the information and their ideas in a simple and concise manner. In most professions, it is a common practice to look up information from sources when solving most real-life problems. Hence an open-book exam can be a more authentic assessment method than a conventional closed-book one.
2. Disadvantages of a "take-home" open-book exam
    - *Effort to maintain fairness*: Without invigilation, it is difficult to ensure that the answers provided by students are entirely their original work. You may need to create different sets of exam papers, randomize the order of the questions, or give explicit warnings to defer students from doing the exam together or seeking help from others (more information below).
    - *Unfamiliar with the exam format*: Many students are not familiar with open-book exams and don't know how to prepare for them. You need to provide clear instructions to them before the exam (for example, time and date the answers should be submitted, where to submit, how much time will be given to complete the exam, what topics will be covered, how long answers should be, what kind of references students need to take the exam, what type of questions students can

expect to see in the exam, etc.). Moreover, some students are not familiar with the rules applied in open-book exams so they may violate them unintentionally. Explain to them what behaviors are allowed and what are not and what consequences they will face if rules are broken (more information below).

3. Considerations for designing an open-book exam
    - Prepare questions of which answers cannot be copied straight from the web or book.
    - Design questions that require students to locate, apply and analyze what they learned instead of asking them to retrieve information.
    - Apart from knowledge application (e.g. providing a solution, doing calculations), place the focus on explaining as well (e.g. how they come up with the solution) to test student's understanding of the topics.
4. Some ideas for open-book exam questions
    - *Real-world scenarios and cases*: Ask students to critique recent events with reference to theories and related events/ cases discussed in the subject.
    - *Problems*: Demonstrate problems that require students to analyze and evaluate what are at stakes, apply knowledge to solve them with references to academic sources such as journal articles and publications. Ask students to provide creative solutions and explain their answers.
    - *Data interpretation*: Provide quantitative and/ or qualitative data and ask students to analyze and interpret it. Invite them to discuss their observations and implications.
    - *Challenging questions*: Ask students to compare or even evaluate concepts/ ideas/ theories and argue which one is the better/strongest, and explain their rationales.
5. Considerations for delivering an open-book exam to ensure fairness
    - Make it clear to students that it is an exam and the answers attempted should be their own work without help from others. Explain to them what actions will be considered as "cheating" (e.g. discussing exam questions and answers, posting answers on a forum, impersonation fraud, etc.) and what penalties will be imposed if they don't comply with the rules (more guidelines can be found here).
    - Consider requiring students to sign an Academic Honor Code, a statement addressing issues like cheating and plagiarism in which participants pledge to adhere to, or a self-declaration form like this to deter students from cheating.
    - Ask students to submit their answers through VeriGuide for plagiarism check.
    - Consider randomizing the order of the questions/ answers to further minimize the chance of cheating. If you use Blackboard to deliver the test, you may learn more about the feature here.
    - Consider developing more than one set of exam papers and distribute them to students randomly. Inform students that they will be given different exam papers to minimize their incentives to cheat.

- Avoid giving a very long period for students to complete the exam. The longer the exam period, the more the chance of them discussing the exam questions with others.

6. Choosing a suitable online exam format
    - The following flow chart, adapted from Bearman et al (2020)[1], may be useful for teachers to decide a suitable format for online exam.



*The document is prepared by Centre for Learning Enhancement And Research, CUHK. For any technical questions, please contact elearning@cuhk.edu.hk. For other questions that involve assessment strategies, please contact us at clear@cuhk.edu.hk.

[1] Bearman, M., Dawson, P., O'Donnell, M., Tai, J. and Jorre de St Jorre, T. (2020) *Ensuring academic integrity and assessment security with redesigned online delivery*. Deakin University, Melbourne. http://dteach.deakin.edu.au/2020/03/23/academic-integrity-online/