

# Open Book Examinations

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## What is an Open Book Examination?

An "open book examination" is one in which examinees are allowed to consult their class notes, textbooks, and other approved material while answering questions. This practice is not uncommon in law examinations, but in other subjects, it is mostly unheard of. Radical and puzzling though the idea may sound to those who are used to conventional examinations, it is ideally suited to teaching programmes that especially aim at developing the skills of critical and creative thinking.

## Teaching as Transmitting Information

In order to appreciate the merits of open book examinations, it is first of all necessary to understand the nature of teaching programmes in general. Many people think of the central goal of school and university teaching as the "dissemination of knowledge". This approach to education treats the *information content* of a subject to be the most important. The teacher's role is viewed as facilitating the transfer of information from the textbook to the students' minds. What the student is expected to do is to understand this information, retain it, and retrieve it during the final examination.

Based on the above approach, most conventional examinations test how much information the students have been able to store in their minds. In order to cope with this demand, students memorise the information in class notes and textbooks, and transfer it to answer books during the examination. In this type of examination, success depends on the quantity of information memorised, and the efficiency with which it is reproduced .

## Teaching as Triggering Mental Development

An alternative view is that teaching should not be transferring information from the library or textbooks to the students' minds. Rather, true teaching is teaching students how to learn. That is, teaching should equip students with the ability to acquire knowledge, to modify existing knowledge on the basis of new experience, to build new knowledge, and to apply available knowledge to solve problems and make intelligent decisions. Education is not a matter of doing what is needed in order to get a degree, but the lifelong process of mental development that does not terminate with any degree.

If we accept this view of education, then the main focus of teaching will be on the *skills* of acquiring, modifying and creating knowledge, that is, on *processing* information, rather than on the *information content* itself. In other words, the focus shifts from rote learning to the development of certain mental faculties. The teacher's function then is not summarising the information in the textbook but ensuring an environment that triggers the development of these creative and critical faculties. This can be done by activating learning through questions, exercises, projects, assignments, and so on, and sustaining and guiding it by providing comments, criticisms, and other forms of feedback.

A good analogy for such an approach would be a physical education programme which aims to develop the students' physical fitness, stamina, and flexibility. Using this example, we may say that subjects taught in a high school or university should aim to develop the students intellectual fitness, intellectual stamina, and intellectual flexibility.

## Testing Rote Learning vs. Thinking Skills

What kind of examinations would be most appropriate for this type of educational programme? Clearly, conventional memory testing examinations must give way to examinations that test the intellectual skills of the student. This is where open book examinations come in.

If the purpose of an examination is to test the information that students have memorised, open book examinations are inappropriate, since students can easily transfer the information in the textbook or lecture notes to the examination paper. Suppose the examination consists of information based questions like, "Who invented the theory of relativity?", "Explain the term 'Standard Deviation'", or "Write an essay on the main structural characteristics of Old English". Students can then easily find the answers in the textbooks or notes, and copy them in their answer books.

On the other hand, if the examination tests the *skills of problem solving and critical thinking*, then there is no harm in students consulting their text books and class notes. If students have to evaluate a conclusion that crucially involves their understanding of the concept of standard deviation, reproducing what the text book says would be pointless. Similarly, given a sentence in Old English and asked specific indirect questions that demand an understanding of the structural characteristics of Old English, students cannot copy anything from the textbook.

In an open book examination, it is meaningless to ask questions "Define the notion 'atom'", since all that the student has to do is copy the relevant information from the textbook directly into the answer book. In a closed book examination, the student first copies the information from the textbook to his memory, and then copies it into the answer book. This intermediate stage of memorization is what open book examinations attempt to eliminate. Given the availability of textbooks in the examination room, teachers will not ask questions that require the mere transfer of information from the textbook to the examination book.

Needless to say, indirect problem solving questions that test the students' thinking skills can be used in closed book examinations as well. One might therefore be tempted to argue that what matters is designing the right kind of questions, rather than setting open book examinations. But this would be an argument for living with a conflict, rather than resolving it. The essential difference between closed book examinations and open book examinations is that the former can still be used to evaluate how much the students have memorised, while the latter cannot. If we are not interested in testing memorised information, why use closed book examinations?

I am not suggesting that memory has no value in education. Let us distinguish passive and static memory, involved in rote learning, from active and dynamic memory, involved in accessing memory as part of creative and critical thinking. Imagine what it would take to memorise a few sentences from a foreign language without knowing their meanings. With some effort, this task can be achieved. But it involves mechanical memorisation. In contrast, consider the kind of memory that a statesman requires in order to think through a social or political issue. The situation may demand keeping in mind a myriad facts at the same time, turning them around to view them from different angles, making connections, and arriving at a decision. The kind of memory required for this purpose cannot be fostered by rote learning. While open book examinations are not suited to testing rote learning, they can be used effectively to train students in the use of active memory.

## Two Types of Open Book Examinations

One may think of two kinds of open book examinations, say the *restricted* type and the *unrestricted* type. In the restricted type of open book examinations, students are permitted to bring into the examination room one or more specific documents approved by the course instructor. In the unrestricted type of open book examinations, students are free to bring whatever they like.

In the restricted open book examination, students may be permitted to consult printed documents such as the logarithmic tables, dictionaries, or complete works of Shakespeare, but no handwritten material or printed documents which have not had prior approval. One may also need to make sure that the printed documents that students bring do not contain any scribbles on the margin. In this type of examination, the approved documents function more or less as *appendices to the question paper itself*. These examinations are not radically different from closed book examinations. They do not present any special problems, irrespective of the nature of the course.

As I said earlier, there are no restrictions on what the students can bring in an unrestricted open book examination. They may bring any books (with or without scribbles on the margin), lecture handouts of the course instructor, or their own handwritten notes. The use of such examinations presupposes certain teaching strategies and types of questions. In particular, it demands that the course focuses on a set of *intellectual skills*, rather than on the *information content*, and that no content based questions be asked in the examination. If the course instructor has concentrated on handing down currently available knowledge, and the question paper contains traditional content based questions like "Write an essay on the difference between British and American English", the use of the unrestricted open book examinations would be disastrous.

When used properly, it will be pointless for students taking the unrestricted open book examinations to consult any material they have brought, because the questions will be designed in such a way the answers will not be found in the textbooks, handouts or class notes. An intelligent student who has had the experience of such examinations once will not bother to bring anything for the next examination, since (s)he will know that no prepared material will be of any use. The use of these examinations then acts as symbolic gesture that makes the students realise the nature of the course and the examinations, and shocks them into a mode of studying that does not involve cramming.

### Impact on Learning Strategies

A more important reason for using open book examinations is that they have a tremendous impact on promoting the right mental sets in both learning and teaching. The most immediate result on students will be that they will stop "mugging" or rote learning. Most students used to conventional examinations think of "studying" as the mechanical memorisation of information in textbooks and classnotes in order to reproduce it in examinations. Open book examinations will effect a fundamental change in this attitude. If textbooks can be consulted in the examination rooms, why bother to memorise them?

Does this mean that students don't need to "study" for examinations? No. It implies that studying should not be equated with memorising; instead, it should be understanding concepts, and using these concepts (along with available information) to practise the skills of modifying and building knowledge, thinking critically, and solving problems. In acquiring the right strategies of studying, nothing is as effective as the shocking realization that mugging is of no use in the examinations. Given open book examinations, there will be no more mugging. Once

the burden of mugging is taken away, education can be a pleasurable activity, not a painful drudgery. What is learnt with pleasure is learnt more effectively, and retained better.

### **Impact on Teaching Strategies**

The effects of open book exams on teaching strategies will be equally profound. First, the nature of the examination questions will change. They cannot be of the form: "Write an essay on X", "Explain the term Y with examples", "Define the term Z", but will have to be designed carefully and intelligently to test the students' understanding, and the skills of applying that understanding.

If the nature of the examination questions changes, strategies for preparing students to take those examinations will also have to change. It will no longer be enough to paraphrase or simplify the content of the text books in the classroom. Teachers will have to design tasks that will provide exercises for the appropriate mental skills required in each subject. Instead of the teacher talking all the time and students taking down notes, classes will have discussions, questions, and other active processes. In other words, teaching will no longer be the transfer of information from the teacher to student: it will be the training of the mind in certain intellectual skills.

Thus, open book examinations can restore the true meaning of the word education for both teachers and students. It is true that *it will take some time and effort on the part of students and teachers to adapt themselves to the demands of open book examinations* . But the changes will be inevitable. When combined with the mode of teaching that focusses on thinking skills, they will make education an exciting and enjoyable intellectual adventure, the beginning of a lifelong quest for knowledge.

