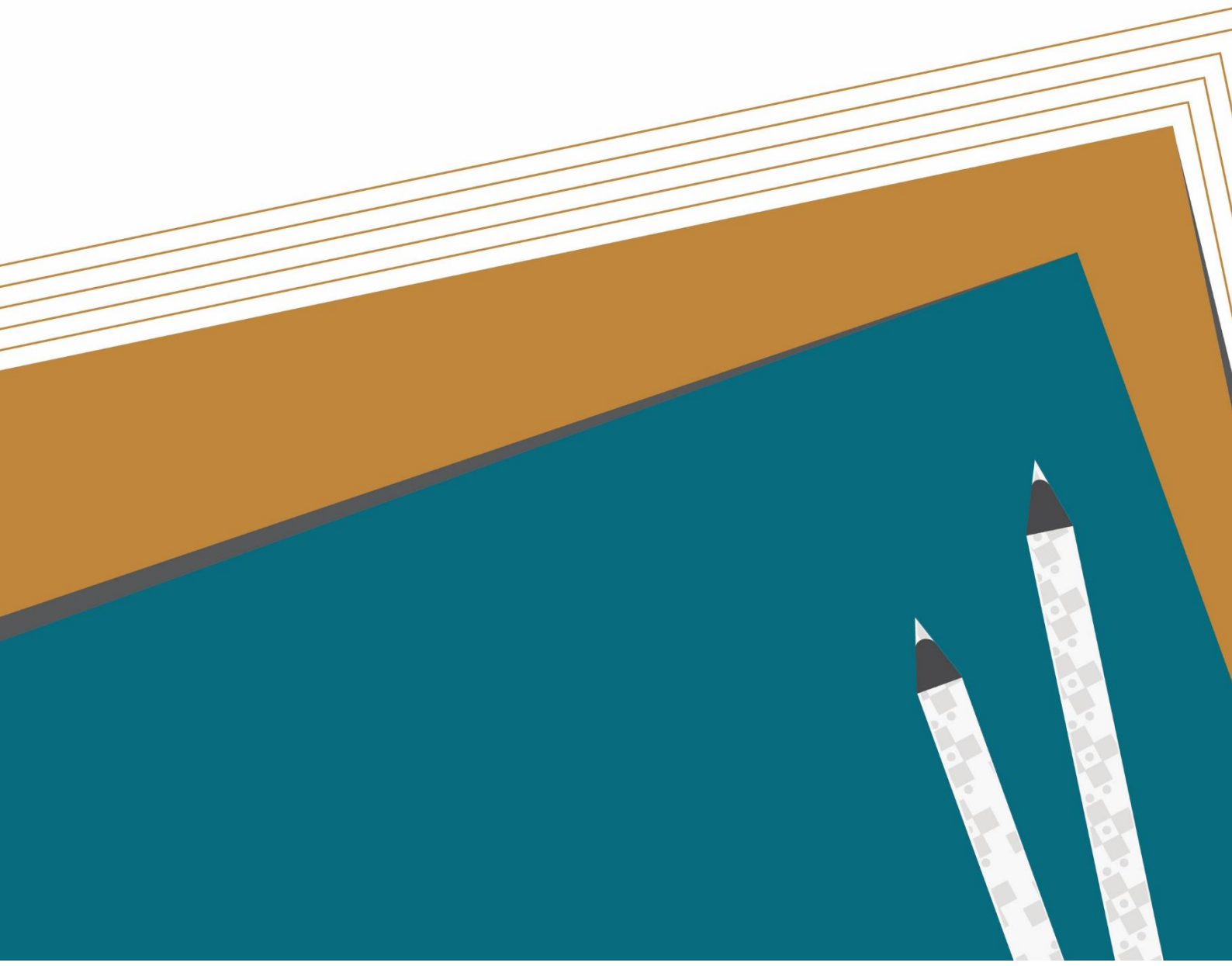


Unleashing the Power of Open Book Examinations for Summative Assessments



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Introduction

For the past several decades, written examinations in schools such as end of term exams, short unit tests, high stakes school certification exams etc. have followed a fairly standard pattern. Students are presented with a range of questions testing their learning of content over the year. Most tests are a combination of multiple choice and open-ended response questions. One of the biggest criticisms faced by this format of testing is its tendency to promote rote learning. Students are not just expected to demonstrate their understanding of concepts but there is also a huge requirement for memorizing and reproducing several facts. Traditional summative assessments are time and again critiqued for their tendency 'to measure lower order thinking skills in a decontextualized manner at a time when the literature frequently argues for the benefits of a richer, authentic approach to assessment' (Villarroel, Boud, Bloxham, & Bruna, 2019). The closed book and invigilated nature of traditional end of term examinations also tends to have an impact on test anxiety faced by students.

School education scenario in the country has greatly evolved over the years. From greater access to education with the advent of Right to Education Act (RTE) 2009 to transformational use of educational technology in a post pandemic context, a lot has changed. The power of assessment as a domain has also been explored more in depth with school education largely moving away from assessment of learning to assessment for and as learning. In such a context, it becomes pertinent to relook at the effectiveness of closed book written paper exams to better suit the ever-evolving educational needs of students. In an age where accessibility to knowledge and information is increasingly open and free, the potential of making summative assessments authentic and relatable to real life is worth exploring.

"In keeping with the constructivist tradition, students are presented with an opportunity to produce a response that clearly delineates 'what they know' rather than 'what they don't know'. Importantly, students engage with a more authentic and meaningful assessment task, which enhances their learning experience and provides a solid grounding for the demands of the business world." (Williams, 2004)

Open book Exams (OBE) are one such form of authentic assessments that could potentially alter the effectiveness of summative assessments in a dramatic manner. In a post-pandemic era of tech-enabled online classes and even online examinations, a variation of OBEs also includes what is popularly known as the Open Book Open Web (OBOW) examinations (Williams & Wong, 2009). OBEs and OBOW exams represent a significant departure from traditional closed book invigilated exams. They believe in complete utilization of rich sources of information including textbooks, reference books or even sources in the world wide web as a part of the actual examination writing process.

Making Written Exams Authentic

Summative assessments are essentially designed to understand how well a student has achieved the prescribed learning outcomes after a stipulated period of teaching learning. Irrespective of grade bands, the traditional format of such exams tends to be close ended, invigilated and time bound in nature. Students are supposed to answer questions testing their subject content knowledge in a written format within a stipulated time period. Students are to rely entirely on their memory in terms of retrieving any form of information along with exhibiting their ability to understand, apply, analyse, evaluate, and create information related to various content presented. Strict invigilation procedures are also in place in order to avoid students attempting to 'cheat' in an examination. In such a context there is a whole lot of anxiety and fear that tends to get associated with summative tests.

An effective assessment culture is one which adapts to a dynamic education scenario that is constantly evolving. Such an assessment culture should also be reflective of the real-world in terms of functionality. OBEs and OBOW exams if formulated effectively can bring in the so-called real-life authenticity to summative assessments. Well-designed OBEs can enable test makers to understand students' ability to do reflective thinking; integrating new knowledge from the learning material; being critical, and problem-solving etc. (Myyry & Joutsenvirta, 2015). It provides students an opportunity for deep thinking and reflection and actual application of their knowledge built over the years. Ongoing research on effectiveness of OBEs in higher education shows multiple benefits attached to this authentic assessment methodology.

Scope for Deeper Learning- Since use of reference materials in textual or online form is permissible during OBEs and OBOW exams, there is a popular misconception that it does not require much preparation on the part of students. However, research studies in the area show that not only do OBEs require thorough preparation, but it also encourages learning at a deeper level. In one of the studies conducted in Norway, participant students felt that the practice of cramming information and reading to memorize like in case of traditional closed book exams is not an effective strategy for OBEs. Students felt that preparing for OBEs needed more creativity as they were more focused on understanding concepts through a combination of logic and common sense. As a consequence, 'many students reported being more concentrated and more focussed on understanding the topic

throughout the lessons' (Eilersten & Valdermo, 2000). A more recent study further validates this claim wherein participants shared that preparing for OBEs helped them pursue deep learning by making detailed notes regarding relevant information for supporting their memory. 'The focus is on the assessment of the usefulness of the content and on gathering an information base about the whereabouts of available knowledge' (Myrsky & Joutsenvirta, 2015). Since OBEs are designed in such a manner that the questions activate higher order thinking skills, the examination process itself was a learning experience according to few participants (*ibid*).

Improved Accountability and Academic Honesty- Strict invigilation is a constant feature in classroom based close ended examinations. In case of OBEs, however, the availability of reference material during examinations has a mixed effect on cheating in examinations. Since OBEs are designed from a constructivist education perspective, it requires students to bring in individual creativity while responding to the questions. In fact, well- designed OBEs tend to enhance academic honesty in student test performance as it is not easy to cheat in such an examination. There are no tailormade responses that could be easily replicated. This is especially true in case of OBE's that are designed as customised case studies taking into consideration the theories, concepts and issues covered in the discussion boards and assignments related to a particular subject (Williams & Wong, 2009). Additionally in case of OBOW exams which are usually conducted online, it becomes easier to detect plagiarism using relevant software. This might serve as an additional stimulus for students to resort to academically honest means of test taking.

Reduced Test Anxiety and Creative Application of Learning- While the reproductive and time bound nature of closed book exams tend to have a direct impact on student anxiety, multiple research studies discuss the role of OBEs in reducing the same. Accessibility to reference materials during tests, tend to relieve students from the anxiety of learning things by heart. Instead, they are able to focus more on understanding and applying their knowledge (Myrsky & Joutsenvirta, 2015). Few studies also show the correlation between reduced test anxiety and increased student enjoyment through deep learning of concepts as part of test preparation (Green, Ferrante, & Heppard, 2016). While for some students, unfamiliar assignments, or shortage of time to make use of the available materials, can also be anxiety-provoking, this is more a result of level of student preparedness as opposed to the format of testing itself (Eilersten & Valdermo, 2000).

Designing Effective OBEs

Like any other form of assessment, in case of OBEs as well, a robust design is necessary to ensure valid and reliable test results. The core purpose of exploring OBEs is rooted in its ability to make summative assessments more authentic and relatable in nature. As such, the test designing should also be carried on keeping this in mind. While moving away from traditional closed book exams to OBEs, a crucial factor that needs to be kept in mind is the time limit for writing the exam. There are two ways to

design OBEs keeping the time factor in mind. One is having a fixed time limit to complete the exam, which is similar to traditional summative tests. The other is to design them in such a way that it could be take home assignments with a much broader time for completion. Fixed time limit OBEs are easier to adapt as they are modelled similar to traditional closed book exams but with better access to reference materials. Take home OBEs on the other hand has the potential to allow for more complex and reflective responses. They also tend to reflect a more realistic professional situation where individuals are required to synthesize available information to respond to a given task (Deneen, 2020). The scope of questioning in these two modes also tend to vary slightly as explained below:

Possible Question Design	Classroom Based OBEs with Fixed Time Limit	Take Home OBEs with Extended Time Limit
	<p>Solve a problem or a calculation and explain the reasoning behind the approach.</p> <p>Present a case study scenario prompting students to apply what they have learnt in terms of concepts, theories, and principles to analyse issues/present solutions/evaluate strength and weakness etc.</p> <p>Present quantitative or qualitative data or diagrams to assess students' ability to interpret the data and draw conclusions with adequate reasoning/ analyse possible implications of the given data etc.</p>	<p>Prepare a report after interpreting and analysing a given data set.</p> <p>Extended written task wherein students can organise and integrate information to analyse an issue or compare and contrast ideas and examples.</p> <p>Critically reflecting on a given case study or social issue by drawing from subject specific theories and qualifying the same with additional resource and reference materials.</p> <p>Solve a complex novel problem/develop an original solution to address a complex problem by drawing on key ideas and principles covered in the subject</p>

*Adapted from (Deneen, 2020)

Apart from the time factor, OBE designs should also be mindful of student preparedness over the year. The switch from closed book to open book summative assessments need to be gradual and progressive in nature. It is necessary to help students prepare and hand hold them since the beginning of the academic year on how to approach OBEs. As mentioned earlier, both examination formats require very different preparation strategies. The design should also be contextual and customized in terms of the student population attempting the same. For e.g. An OBOW exam pattern might not be practically possible in many schools across the country due to unavailability of necessary

infrastructure. Similarly, as OBEs are designed to test higher order thinking and critical analytical skills of students, such a format would be more meaningful for higher grade students.

An equally critical aspect of designing OBEs and OBOWs is how to grade them. Ensuring student preparedness for OBEs also include clarity in communicating what is expected of them in such exams. Detailed grading rubrics aligned to the purpose and process of such exams could be developed and shared in advance with the students. Teachers also require adequate handholding and training in developing such detailed rubrics and marking schemes. Preparing model answers with key marking phrases highlighted can also help evaluators bring in better reliability in grading. “Overall, the marking guide should be clear and concise, outlining the expectations for the markers and providing specific guidance on how to evaluate the students’ answers” (University of Malaya, 2023).

Conclusion

School examinations and even University level examinations continue to be dominated by traditional closed book invigilated exams. Exploring OBEs and OBOW exams as a viable alternative in higher grades would lead to summative assessments that are more authentic and rooted in reality. It would also give students a very close simulated experience of what is actually expected of them in a future working environment. Students will be able to move on from reproducing textual information to actually integrating their learnings and meaningfully applying the same in different contexts. Multiple studies have shown the effect of OBEs in reducing text anxiety and improving academic honesty among students. Further, the comprehensive nature of preparation required for such exams not only helps maximise student learning but also allows teachers to explore creative teaching-learning strategies.

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