Open-Book Examinations: An Innovative and Student-Centred Approach

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Abstract—**Open-book examinations (OBEs) have become increasingly significant as an alternative assessment approach, especially in higher and medical education, as they prioritize advanced cognitive skills such as analysis, synthesis, application, and clinical reasoning above rote memorization.OBEs, in contrast to typical closed-book exams, let students use educational materials while answering challenging, problem-based questions that reflect actual professional practice. OBEs lower exam-related stress, encourage deeper learning, enhance conceptual understanding, and match assessment with real-world clinical decision-making, according to evidence from medical and homoeopathic education. The viability and acceptability of online OBEs are further supported by research conducted during the COVID-19 pandemic, which demonstrates improved student wellbeing and academic results that are comparable to those of traditional exams—as long as strong question design and technology infrastructure are guaranteed.**

I. INTRODUCTION

The usage of the open book exam has been a focus of some of the current pedagogical trial-and-error initiatives to improve classroom assessment methods. The student is free to use any resources available to him, such as dictionaries, lecture notes, and textbooks, during such an exam, but he is not permitted to ask other students for answers directly or indirectly.(1)In higher education, the closed-book test is a well-established process because it is used extensively. In this kind of test, students must respond to questions depending on how well they can apply the information they can remember.(2)OBEs assessments demonstrate the student's proficiency in analyzing, synthesizing, and evaluating the course materials and designated learning outcomes in examinations in a measurable and predominantly standardized manner. (3)

II. IN MEDICAL FIELD

The viewpoint of medical students on the switch to open-book exams (OBEs) during the COVID-19 epidemic is presented in this article, which makes the case that OBEs are a fair, less stressful, and academically competent evaluation technique for medical education. Because complicated clinical and problem-solving queries could not be readily answered by simple searching, the authors indicate that OBEs still required strong core knowledge despite access to notes and web resources. This is similar to real clinical practice, where guidelines and references are routinely used. Benefits including fewer logistical errors, better exam navigation, automatic answer saving, and a learning focus that moves from rote memorization to efficient use of clinical resources are highlighted.

Although there were worries about academic misconduct, cheating was prevented by time constraints, random questions, and severe disciplinary actions. Overall, the authors endorse OBEs as a constructive and practical method of evaluation that better reflects actual medical practice, promotes student welfare, and equips students to become competent and safe physicians.(4)

III. BENEFITS

Open book exams will improve the learning environment and provide students a chance to master

and use higher order abilities more effectively. Additionally, the Open Book Examination approach could improve students' learning because it would require critical thinking, reasoning, and knowledge application. When compared to the standard exam, the Open Book Exam would help students achieve more.

However, a shift from traditional exams to Open Book Exams would necessitate additional time so as to permit both teachers and students to get adjusted with the format. A definite discipline would be imposed on the teachers to set questions which cannot simply be answered by recall of information.

Open Book Examination could be a viable substitute or supplement to conventional evaluation techniques. The advantages of open-book exams are not to be overlooked, but bringing this format into practice would be challenging and time-consuming due to the training, preparation, and orientation needed before it could be used. It might undoubtedly be a long-term goal.(5)

IV. RELATED RESEARCHES

In this case-based study, 55 third-year undergraduate homoeopathic students' higher-order learning on the concept of homoeopathic aggravation was assessed using open-book exams (OBEs). Following previous instruction, students had to use textbooks and notes to analyze and apply the concept to a clinical case during the OBE. A performance rating scale was used to evaluate their performance, and a Likert scale was used to capture perceptions. In comparison to traditional recall-based assessments, OBEs effectively promoted analytical thinking, application of knowledge, reduced exam-related stress, and enhanced attainment of learning objectives. The results demonstrated that the great majority of students achieved outstanding performance and reported high satisfaction, supporting OBEs as a valuable student-centered assessment tool in homoeopathic education.(3)

During a three-hour open-book exam, the study methodically observed thirty students and discovered that, on average, candidates spent roughly one-third of the exam consulting notes or textbooks, with significant individual differences; stronger students consulted materials less and relied more on their own understanding, while heavier reliance on notes and texts was associated with lower exam scores and weaker prior academic performance.Exam performance was inversely connected with the amount of time spent using notes and texts, although this association was mostly explained by past competence rather than the act of consulting materials. The majority of students studied less for open-book tests than they would for closed-book ones, according to questionnaire data, and those who reported wasting time or losing focus as a result of checking notes did noticeably worse than anticipated. Overall, the results point to the necessity to teach students good open-book examination techniques, indicate that open-book tests significantly alter exam behavior, and disadvantage poorer students who rely too heavily on materials. (6)

The results of identical cognitive psychology tests given in open-book (2021; n = 112) and closed-book (2022; n = 83) formats were compared in this study. It was discovered that students in the open-book condition had significantly higher exam scores, spent more time on the test, and had higher pass rates. Importantly, the comparison's validity is strengthened because the same questions, time constraints, and scoring standards were applied, controlling for item difficulty. In comparison to closed-book exams, open-book exams often resulted in somewhat better results.

Crucially, pupils who performed worse gained the most from the open-book format. While higher-performing students displayed comparatively lower changes, indicating a ceiling effect, these students demonstrated a greater performance gain in open-book tests compared to their closed-book counterparts. The results show that open-book exams have the potential to be a more inclusive assessment format in higher education by reducing performance gaps and raising pass rates without being influenced by simpler questions.(7)

During the COVID-19 pandemic, this pilot project assessed the viability and acceptability of an online open-book test for undergraduate medical students and concluded that it was a good alternative for assessment: The test, which was administered to sixth-semester students using higher-order, application-based ENT questions, yielded pass-fail results similar to those of traditional closed-book exams, with 78.6% passing; student feedback indicated that the exam's main benefits were less

stress, increased conceptual understanding, and deep learning encouragement; As long as adequate technology infrastructure and thoughtful question design are guaranteed, online open-book exams offer enormous potential as a contextual and future-focused assessment tool. Even though they acknowledge the educational value of this approach, many students are reluctant to adopt it in the long run due to issues like internet connectivity, time constraints, logistical challenges, and a preference for multiple-choice formats—largely driven by competitive entrance examination preparation .[8]

V. CONCLUSION

A significant change in assessment philosophy is represented by open-book exams, which move education away from memory-based testing and toward the assessment of critical thinking, problem-solving, and real-world knowledge application. While maintaining academic standards comparable to closed-book exams, OBEs have been demonstrated to promote deeper learning, lessen stress, and more accurately represent real-world clinical practice in medical and homoeopathic education. OBEs can be a useful addition to or substitute for traditional assessments, despite ongoing issues with faculty training, question development, technology constraints, and student adaptability. Open-book exams have great potential as a future-focused, learner-centered, and academically sound assessment method with appropriate implementation and orientation.

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