

# Instructors' Readiness and Practices in Implementing OBE and HOTS-Based Assessments

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## ABSTRACT

Open-book examinations (OBEs) have gained traction in Malaysian higher education as a means to promote higher-order thinking skills (HOTS) and enhance assessment quality, in line with the aspirations of the Malaysian Education Blueprint and Sustainable Development Goal 4. Despite their pedagogical potential, OBEs are often misunderstood and perceived as ineffective, primarily due to challenges in question design, varied student proficiency levels, and limited instructor training. This study explores university instructors' views and practices regarding OBEs, focusing on their readiness to develop high-quality assessment questions. Using a qualitative approach, semi-structured interviews were conducted with eight experienced instructors from Malaysian and international institutions. Findings revealed that while most instructors still prefer traditional closed-book examinations, they acknowledged the value of OBEs in encouraging deeper learning and reducing examination misconduct. However, issues such as designing cognitively demanding questions, plagiarism, and marking fatigue persist. Instructors managed to set quality HOTS-based examinations despite having limited formal training due to accumulated years of teaching. However, balancing academic rigor with student preparedness and assessment fairness remains a concern. The study underscores the need for targeted training and institutional support to bridge the gap between the theoretical benefits and the practical implementation of OBEs in higher education assessment.

**Keywords** – Open-book examinations, Higher-order Thinking Skills, Assessments, Instructors' Readiness, Higher Education

## INTRODUCTION

In line with United Nations Sustainable Development Goal 4 (SDG 4), which aims to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all, education systems worldwide are shifting towards more progressive and innovative assessment methods. To prepare learners for real-world problem-solving and critical thinking demands, various forms of alternative assessments have been adopted, such as pass-or-fail grading, open-internet or open-book examinations, collaborative assessments, portfolios, trust-based self-certification, and next-generation assessments (Salmi, 2020). These initiatives reflect a significant push to cultivate higher-order thinking skills (HOTS) and reduce dependency on rote memorization.

In the Malaysian context, the drive to become a developed nation is closely linked to transforming the education system. Open-book examinations have been proposed as a strategic way to enhance assessment quality, as they

require students to critically engage with materials and apply their understanding (Razali & Adnan, 2022). Abu Hassan et al. (2020) emphasized that HOTS is central to improving educational quality. In OBEs, students are assessed not only on content knowledge but also on their ability to connect concepts, reorganize information, and demonstrate critical reasoning. Johnston and Rooney (2021) noted that open-book formats promote deeper conceptual understanding when questions are well-structured, aligning with 21st-century educational goals.

Despite a strong emphasis on open-book examinations and HOTS, the successful implementation of these approaches largely depends on instructors' readiness, understanding, and assessment practices. They play a significant role in constructing the questions that align with the program and course learning outcomes. However, previous studies show consistency in limited training and uncertainty in aligning with OBE principles.

## Problem Statement

Previous studies have highlighted the significant integration of HOTS in assessments. Despite this, Zaiful Shah and Zakaria (2024) found that teachers' use of Bloom's Taxonomy remains limited, with a reliance on LOTS and HOTS tasks depending on student ability. Persistent misconceptions among students (Aziz et al., 2023; Shafeei et al., 2020) may reflect instructors' lack of preparation. Asmawi and Nasir (2025) identified the design of varied, comprehensive questions across cognitive levels as a major challenge. Without proper training, instructors may struggle to create valid HOTS assessments. Hong et al. (2023) further stressed that open-book exams must be supported by well-structured questions to promote deeper learning. This suggests that this type of assessment is encouraged to be implemented in the future. However, the line between its concepts and application must be clear.

Despite growing support for open-book examinations and the integration of HOTS, many instructors still struggle with crafting high-quality, cognitively demanding questions. This gap is often attributed to limited training, misconceptions, and inconsistent classroom practices. As a result, the integration of OBE may fall short of its intended purposes in promoting deep learning and critical thinking. Therefore, it is essential to investigate instructors' views and practices related to open-book examinations and to examine the readiness of instructors to set quality examination questions (that assess higher-level thinking skills).

## Research Objectives

### The objectives of this study are as follows:

1. To investigate instructors' views related to open-book examinations.
2. To investigate instructors' practices related to open-book examinations.
3. To examine the readiness of instructors to set quality examination questions (that assess higher-level thinking skills).

## Research Questions

### The research questions of this study are as follows:

1. What are instructors' views related to open-book examinations?
2. What are instructors' practices related to open-book examinations?
3. How ready are the instructors in setting quality examination questions (that assess higher-level thinking skills)?

## Significance of Study

Since this study focuses on assessment and testing in the education field, it aims to identify aspects that are vital to further enhance, particularly for instructors of higher education levels, regarding the implementation and outcome of open-book examinations. The study provides valuable insights into key areas that require

improvement to enhance the effectiveness of such assessment methods. The findings serve as a practical guideline for instructors by focusing on the importance of clearly communicating the purpose, expectations, and implications to students. Ensuring that students have a thorough understanding of the implications of open-book examinations can be helpful in fostering better and higher-quality teaching and learning experiences.

At the institutional level, the study highlights the importance of providing strong support structures, including formal training sessions on creating questions, particularly HOTS questions. There is a significant need for collaborative efforts, such as giving and receiving support, as well as taking initiatives to ensure effectiveness in assessment and testing. In relation to this, it continuously sharpens instructors' professional development, particularly in the question construction that incorporates HOTS. The emphasis on formal training and assessment literacy has significant positive implications for improving the quality, validity, and alignment of assessment practices with intended program and course learning outcomes.

## Scope and Limitation of Study

This study is limited in that it only focuses on instructors' perspectives, without considering students' perspectives. The findings may not fully represent how OBEs function in practice from a holistic assessment perspective. In addition, as the study involved a limited number of university instructors and the respondents are from various backgrounds and fields, the findings may not be generalized to all higher education institutions or disciplines. Despite these limitations, the study provides valuable input into instructors' readiness and practices in implementing open-book examinations and highlights the need for targeted training and institutional support.

## LITERATURE REVIEW

### Open-Book and Closed-Book Examinations

Open-book examinations (OBEs) promote deeper learning and higher-order thinking skills by allowing students to access external materials such as textbooks and lecture notes, shifting the focus from memorization to knowledge application and integration (Tao & Li, 2024). This aligns with the demands of 21st-century learning, which emphasizes the development of essential skills (Widana, 2017). However, students often misjudge OBEs as easier, leading to poor preparation, ineffective strategies, and time mismanagement (Flanagan et al., 2022). In contrast, closed-book exams (CBEs) are seen as better for long-term retention and discipline, though they fall short in fostering creativity and critical thinking (Spiegel & Nivette, 2021).

### Instructors' Views and Practices for Open-Book Examinations and Higher-Order Thinking Skills

Recent studies on instructors' views towards open-book examinations (OBEs) indicate a growing recognition of their potential to foster higher-order thinking skills. According to Flanagan et al. (2022), many instructors view OBEs as a tool to promote active engagement, idea synthesis, and real-world language that is aligned with HOTS. Similarly, Wiyaka et al. (2020) noted that educators value OBEs for assessing conceptual clarity and linguistic problem-solving, and they also mirror authentic communicative scenarios, encouraging creative language use. Astrid et al. (2022) emphasized the need for language assessments to move beyond recall, targeting Bloom's higher levels. However, challenges remain in ensuring fairness in large or under-resourced classes (Rehman et al., 2022). In light of practicality, studies have shown that some educators have begun designing tasks that emphasize application, analysis, and evaluation (Johansson, 2020). Even collaborative OBE formats have been adopted to engage in peer discussion while solving complex tasks (Arefian & Esfandiari, 2024). These practices reflect a shift in pedagogical design, where OBEs are not merely testing tools but means to foster language learning. To sum up, these findings suggest that while instructors acknowledge the significance of OBEs for promoting HOTS, practical challenges often hinder their full adoption in higher education.

### Instructors' Readiness in Setting Quality Examination Questions

In tertiary education, developing and evaluating higher-order thinking skills is a growing priority in education reform. To ensure assessment effectiveness, the implementation of Bloom's Taxonomy has been the primary framework as it provides a structured approach for defining and categorizing learning outcomes at various levels (Rao et al., 2020). According to Sucipto et al. (2025), many instructors are aware of HOTS, but only a few can accurately apply or design questions without targeted training or resources. Instructors often struggle with

choosing appropriate wording and aligning questions with higher cognitive levels in Bloom's Taxonomy (Suhendro et al., 2021). Similarly, even when instructors are skilled at constructing HOTS questions, they find it difficult to integrate them authentically into assessments and classroom practice (Musliha et al., 2021). The classroom's environment is dominated by lower-order questions as instructors report difficulties in constructing contextual HOTS items for students. This signals a need for professional training regarding the implementation of HOTS in OBEs, as readiness is strongly linked to instructors' educational background, certification, and prior experience in creating HOTS assessments (Pisriwati et al., 2024). Hence, professional development, institutional support, and gradual scaffolding are critical to bridge the gap between OBE goals and effective practical implementation in HOTS-based assessments.

## THEORETICAL FRAMEWORK

This study will utilize two theoretical frameworks to help the researcher achieve the research objectives. The two frameworks are as follows:

### 1. Jean Piaget's Constructivism Theory (1973)

### 2. Bloom's Revised Taxonomy (2001)

Constructivism, pioneered by Jean Piaget, highlights that learners actively build knowledge through experiences and social interaction (Piaget, 1973; Schunk, 2020). This theory aligns with open-book examinations as they promote critical thinking, application, and real-world problem-solving rather than rote memorization. This is closely linked to Bloom's revised taxonomy, which encourages assessments across higher-order cognitive domains (Anderson & Krathwohl, 2001). Constructivism not only informs how students learn but also how educators should design assessments. Instructors who embrace constructivist beliefs are more likely to view OBEs as a meaningful tool to develop higher-order thinking. However, effective application is essential, and if poorly constructed, it may fail to engage students meaningfully.

Thus, instructors' readiness, including their pedagogical beliefs, assessment literacy, and institutional support, plays a vital role in ensuring OBEs align with the constructivist principle (Barrett & Moore, 2020).

## METHODOLOGY

Qualitative methods were applied using in-depth interviews to address the research questions. The target population consisted of university instructors. University lecturers were selected due to their direct involvement in designing and conducting assessments, as well as integrating higher-order thinking skills at the tertiary level, including open-book examinations. Using purposive sampling, eight lecturers from various universities were selected: seven from Malaysian universities and one based overseas, based on their relevant knowledge and experience.

### Data Collection and Analysis

Data were obtained via Google Meet interviews for approximately 40 to 45 minutes using open-ended questions to allow participants to express their views in depth. This also enabled the researcher to explore emerging themes. To ensure content validity, the interview protocol was reviewed by two experts in the field of educational assessment and TESL. Based on their feedback, minor revisions were made, including refining the wording of certain items and improving the logical flow of the questions.

For data analysis, thematic analysis, as described by Braun and Clarke (2006), was employed to capture and represent participants' perceptions accurately. Interviews were transcribed, and data were coded line-by-line to generate themes and sub-themes. These were developed based on recurring patterns and insights from respondents.

## FINDINGS AND DISCUSSION

This section presents the findings of the study based on data collected through in-depth interviews from a total of eight university instructors.

### Demographic Profile

This study involved eight university lecturers with diverse academic backgrounds and teaching experiences. Of the respondents, six were female (75%), and two were male (25%). The majority were Malay (88%), with one respondent being British (12%). In terms of academic qualification, 50% of the respondents held a PhD (n=4), while the remaining 50% held a Master's degree (n=4). The respondents' lecturing experience ranged from 9 to 25 years, with an average of approximately 17 years' experience in higher education. The mix of gender, ethnicity, qualification, and years of service provides an insightful range of perspectives across various levels of academic maturity and institutional exposure.

### Research Question 1: What are the instructors' views related to open-book examinations?

Three interrelated themes emerged from the instructors' views on open-book examinations (OBEs): preferences for examination format, perceived test quality, and ease of examination administration. Together, these themes reflect a tension between the pedagogical benefits of OBEs and the practical challenges of implementing them.

#### Theme 1: Preferences for Examination Format

Most instructors expressed a preference for closed-book examinations (CBEs), citing practicality and confidence in assessment outcomes. Those who favoured CBEs perceived them as more efficient to mark and more reliable in measuring students' actual understanding without reliance on reference materials. One interviewee noted greater confidence in CBEs as they reflect students' knowledge "during that time, during the test" (Interviewee 6). In contrast, a smaller number of instructors viewed OBEs more positively, emphasising their potential to encourage students to think beyond memorisation and apply knowledge in more meaningful ways. As one interviewee explained, open-book examinations allow students to "explore beyond the classroom" through subjective and application-based questions (Interviewee 5).

Overall, instructors' preferences appeared to be influenced less by pedagogical beliefs alone and more by considerations of workload, familiarity, and perceived assessment authenticity. Below are two excerpts from interviewees who preferred CBE and OBE.

Prefer OBE (Views)	"So, for me provide them by, by giving them subjective question using open book examination allowed them actually to explore beyond the classroom." (Interviewee 5)
Prefer CBE (Views)	"I think the traditional form of assessment is good enough because when you say examination, it really measures your understanding, your knowledge, your own capacity or capability during that time, during the test" (Interviewee 6)

#### Theme 2: Perceived Test Quality

Despite their general preference for CBEs, many instructors acknowledge that OBEs can enhance test quality when carefully designed. OBEs were perceived to allow a wider range of acceptable answers, promote deeper understanding, and encourage higher-order thinking skills rather than rote memorisation. Several interviewees highlighted that designing effective OBE questions requires them to be more deliberate and creative, as questions must prevent students from simply finding answers in reference materials (Interviewees 3 and 4).

However, not all instructors shared the same view. One questioned whether OBEs genuinely improve test quality, suggesting that a high-quality assessment should be effective regardless of format. This suggests that perceptions of test quality are closely tied to instructors' beliefs about assessment design rather than the examination format itself. Below are two excerpts from the interviewees that support this theme:

Improve Test quality (Views)	“Yes. I think it improves the quality of the questions because, the lecturer itself has to really think, you know, like how can we, we create questions without having the, uh, without giving them the opportunity to directly find the answers from the book. We don't want them to find answers in the book. We just want them to use it as a reference.” (Interviewee 3)
	“Okay. Yes. I am highly agreeing, uh, with that. Yeah. The test quality will be improved with this format, actually. Okay. We can test the student performance to be more critical in answering the question, not just memorizing the fact.” (Interviewee 4)

### Theme 3: Ease of Examination Administration

Views on the ease of administering examinations further highlight the practical concerns influencing instructors' preferences. Some instructors perceived OBEs as easier to manage due to reduced concerns about cheating and less need for strict invigilation. As one interviewee noted, open-book examinations reduce the burden of constant monitoring during the test (Interviewee 7). Conversely, other instructors found CBEs easier to administer because of clearer time constraints and more straightforward marking processes (Interviewee 8). These views suggest that administrative convenience plays a significant role in shaping instructors' acceptance of OBEs. Below are two excerpts from the interviewees that support this theme:

OBE is easier to administer (Views)	“Open is easier lah, we don't need to— we don't, you know, make sure they are not cheating” (Interviewee 7)
CBE is easier to administer (Views)	“Closed test because easier means, uh, we check within the timeframe given.” (Interviewee 8)

All in all, the findings show that while instructors acknowledge the pedagogical value of open-book examinations, such as fostering critical thinking and improving test quality, practical considerations remain a major barrier to their wider adoption. Concerns related to grading workload, assessment design, and administrative efficiency often outweigh the perceived benefits of OBEs. This suggests that for OBEs to gain wider acceptance, institutions must provide support in terms of design training and workload management, as the issue is not rooted in opposition to student-centered learning. Ultimately, the successful implementation of OBEs may depend less on their theoretical advantages and more on how effectively these challenges are addressed in practice.

### Research Question 2: What are instructors' practices related to open-book examinations?

Three interrelated themes emerged regarding instructors' practices with open-book examinations (OBEs): experience in conducting OBEs, challenges encountered, and initiatives adopted to address these challenges. Collectively, these themes illustrate how instructors' practical experiences shape their engagement with OBE implementation.

#### Theme 1: Experience in Conducting OBEs

Most instructors reported having direct experience conducting open-book examinations in their courses. Those with experience described OBEs as requiring a different approach to assessment design and evaluation compared to traditional closed-book formats. In contrast, a small number of instructors indicated that they had only served as invigilators for OBEs and had not implemented them personally, primarily due to the nature of the courses they taught, which did not require final examinations.

This variation in experience suggests differing levels of familiarity and confidence with OBE practices among instructors, which may influence how they perceive and manage related challenges. Below is an excerpt from one of the interviewees that reflects this challenge:

Difficulty in constructing questions (Practices)	“Uh, the most difficult part is to create the subjective question. Okay. We need to construct the question in which the answer couldn't be taken straight from the book or the lecture notes.” (Interviewee 4)”
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## Theme 2: Challenges in Conducting OBEs

Instructors who had conducted OBEs highlighted several interconnected challenges, most of which stemmed from assessment design and student responses. A key difficulty involved constructing higher-order thinking questions that could not be answered directly from textbooks, lecture notes, or online sources. As one interviewee explained, designing subjective questions that genuinely assess understanding requires considerable effort and careful planning (Interviewee 4).

In addition to question design, instructors reported challenges related to students' ability to respond effectively to OBE questions. Some instructors observed that students struggled to identify relevant information or articulate their understanding, particularly when questions did not have fixed or definitive answers. This difficulty often led students to rely heavily on online materials.

Consequently, plagiarism emerged as a significant concern among several instructors. Participants noted that students sometimes copied content directly from textbooks, notes, or Internet sources, undermining the credibility of the assessment and the intended purpose of OBEs in promoting higher-order thinking (Interviewees 5 and 8).

Another challenge raised was the marking process. One instructor described marking OBE scripts as repetitive and mentally exhausting, as responses were lengthy and required extended periods of on-screen evaluation (Interviewee 2). Although less frequently mentioned, this issue highlights the increased workload associated with OBE implementation. Below are several excerpts from the interviews that support these themes:

Dealing with plagiarism (Practices)	<p>"I think student always have a problem because if, for example they do not really understand the objective of the subject. They are going to struggle to look up for the answers because open examination there's no definite answer that is expected." (Interviewee 5)</p> <p>"I face a problem where, uh, students simply answer, students simply, uh, uh, put the, or, or, or copy okay the answers from the, uh, textbook or form notes or from the, uh, uh, the materials" (Interviewee 8)</p>
Marking becomes repetitive (Practices)	<p>"But marking becomes quite a boring, repetitive, annoying, um, procedure. It becomes really fairly annoying. And if you are forced to be on a computer the whole time. Then that can be annoying." (Interviewee 2)</p>

## Theme 3: Initiatives to Address Challenges

Despite these challenges, instructors described several initiatives aimed at improving their OBE practices. One key strategy involved obtaining proper training, particularly in designing questions that assess both lower-order and higher-order thinking skills. Instructors believed that structured training would enable them to construct more effective questions and better prepare students for OBE formats (Interviewee 6).

Other initiatives included implementing stricter monitoring during examinations to minimise academic dishonesty and designing questions that test application and analytical skills rather than factual recall. These strategies reflect instructors' efforts to align assessment practices with the intended learning outcomes of OBEs while maintaining assessment integrity. Below is an excerpt from one interviewee under the sub-theme "Getting proper training."

Get proper training (Practices)	"I think the main thing is LOTS and HOTS. I think lecturers in the education faculty should go for training to know all about the subjects, etc." (Interviewee 6)
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Regarding their practices, the findings indicate that while most instructors have experience conducting open-book examinations, their practices are shaped by recurring challenges related to question design, student

preparedness, academic integrity, and marking workload. Although all eight instructors are experienced university lecturers, their initiatives are often individual rather than systematically supported. The findings highlight a gap between the conceptual benefits of OBE and the support system currently in place to implement it effectively. Institutions must go beyond policy endorsement and provide concrete support to empower educators to make more informed choices about assessment formats and foster authentic professional skills.

Although instructors acknowledge the pedagogical value of open-book examinations in promoting critical thinking and improving assessment quality, most still favour closed-book formats. This reflects a tension between pedagogical ideals and practical realities, as this preference may be attributed to familiarity, perceived ease of control, and longstanding institutional norms that favour traditional assessment methods (Kruger, 2019). Some instructors expressed confidence in CBEs as a more reliable way to gauge students' understanding without the influence of external sources, viewing OBEs as more suitable for exploratory or reflective learning tasks. This contrast in preferences mirrors findings by Ye et al. (2024), who observed that while OBEs encourage broader thinking, many educators remain hesitant due to concerns about control, assessment consistency, and academic integrity. Conversely, those who favoured OBEs believed they better supported student autonomy and deeper cognitive engagement.

In practice, it is reported that the main challenges include designing higher-order thinking questions, managing plagiarism, and dealing with laborious marking. These findings align with Eldeeb and Sharakumari (2021) and Aziz et al. (2023), who argue that without strong assessment literacy, OBEs risk becoming ineffective. Kang and Lam (2024) further added that it also encompasses knowing how to interpret student responses and provide feedback to ensure effectiveness. Despite being experienced educators, the instructors expressed a need for training to improve their practices with OBEs. This highlights that transitioning to more meaningful assessment methods require not just willingness, but structured support and institutional investment (Shafeei et al., 2020).

### **Research Question 3: How ready are the instructors in setting quality examination questions (that assess higher-level thinking skills)?**

To further address research question 3, three interrelated themes emerged regarding instructors' readiness to design quality examination questions that assess higher-order thinking skills (HOTS): preparation and training, experience in setting HOTS questions, and anticipated challenges in implementation. Together, these themes reflect how instructors' readiness is shaped by both formal support and experiential learning.

#### **Theme 1: Preparation and Training in Setting Quality Examination Questions**

Instructors reported varying levels of formal preparation for designing quality examination questions that assess HOTS. Some had received structured training provided by the university or faculty, which exposed them to approaches for constructing HOTS-based questions and aligning them with learning outcomes (Interviewee 8). Others indicated that training opportunities were limited or infrequent, often described as general rather than assessment-specific (Interviewee 1). Several instructors reported having received no formal training at all (Interviewees 2 and 5).

In the absence of formal training, some instructors relied on alternative forms of preparation, such as informal discussions with colleagues and adapting existing examination questions. While these approaches provided some support, instructors acknowledged that structured training would be beneficial in enhancing their confidence and consistency in designing quality examination items. Below are several excerpts from the interviewees' transcriptions that support the first sub-theme:

Received trainings	“Our university, especially our faculty provide training for lecturers to apply this, what I call this, either HOTS approach in the questions. So, they give us exposure how to conduct, how to prepare the questions.” (Interviewee 8)
Seldomly received training	“Yes, we did, but not as often as it should. I think. And the one I attended was more general. I think it involves all faculties. ... technical non-technical, things like that. (Interviewee 1)
No training	“I never actually do any training.” (Interviewee 5)

“Essentially there is and was no training.” (Interviewee 2)

## Theme 2: Experience in Designing HOTS-Based Examination Questions

All instructors agreed that teaching experience played a significant role in developing their ability to construct quality examination questions that assess higher-order thinking skills. Several interviewees reflected that, during their early years of teaching, they lacked a clear understanding of what constituted a well-designed HOTS question. Over time, through trial, reflection, and accumulated experience, they gradually refined their skills and became more confident in designing effective questions for both closed-book and open-book examinations (Interviewees 1, 3, and 4).

Instructors also emphasised the importance of continuous improvement, noting that simply reusing past examination questions without revision limits the development of assessment quality. This suggests that experience functions as a key source of readiness, compensating for gaps in formal training. Below are several excerpts from the interviewees that support this theme:

Experience prepared them in setting higher quality exam questions (HOTS)	“Yes, definitely. Years of teaching. Yes. Because, when I was just starting etc., I definitely do not know what the good question looked like.” (Interview 1)
	“Yes, I do find it- The experience helped me a lot in drafting the questions. Yeah, I would say that my experience in the industry helped me a lot in teaching the subject as well as in preparing quality exam question.” (Interview 3)
	“Gradually, it will improve yeah, okay. Step by step slowly, to construct a very quality question exam for this level of HOTS and for this format of exam and open exam.” (Interviewee 4)

## Theme 3: Anticipated Challenges in Designing HOTS-Based OBE Questions

Despite demonstrating confidence and experience, instructors anticipated several challenges in designing quality HOTS-based examination questions. A major concern involved aligning question difficulty with students' capabilities. Many instructors highlighted the need to ensure that HOTS questions remain achievable and are framed in clear, accessible language to avoid disadvantaging students (Interviewees 2, 6, and 7). Below are several excerpts that support this finding:

Students' capabilities	“Well, you want to make sure that the questions are achievable for the students. And so, it's important to make sure that you've got questions that you think your students, um, have the chance of being able to answer when you consider a new question or a style of question, you've got to ask yourself the question, is this something the candidates are able to answer? Have they been, have they been exposed to this line of questioning?” (Interviewee 2)
	“Even its HOTS question, we have to give simple, plain language... Not, you know, complicated terms or not complicated English, the high-level English” (Interviewee 7)
	“I think it's to come up with the questions okay. Sometimes it's like composing, where it's easy to create a HOTS question for a certain topic, but then sometimes some topics would be hard.” (Interviewee 6)

Concerns about academic dishonesty were also raised. Some instructors expressed uncertainty over students' reliance on external sources during open-book examinations, acknowledging that, despite clear instructions, plagiarism remains difficult to control (Interviewee 4). Below is an excerpt that supports the third theme:

Dishonesty in answering	“Yeah, we cannot control them to, to get the answer from the Google. Even though we already tell them ‘Don’t get the answer from the Google, just refer to my lecture note, just refer to...’ So yeah. Based on the honesty right.” (Interviewee 4)
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Another anticipated challenge involved time allocation. Instructors reported difficulty balancing question complexity with institutional requirements for examination duration, particularly when extended timeframes are mandated. This requires careful calibration to ensure that questions remain fair and appropriately challenging (Interviewees 3 and 5). Below are excerpts that support this theme:

Allocation of time	“The question and the answer. Setting the question is- setting the question within the right time, ... let’s say, how much time you want to give students to answer the questions. Because we have the rule. If I can set the question in one hour, then I need to give student three hours basically, to settle the questions.” (Interviewee 3)
	“I must make sure that the answer or the duration for them to answer the question has to be within that certain period of time.” (Interviewee 5)

All in all, the findings show that most instructors are experienced in conducting open-book examinations that incorporate higher-order thinking skills. Their accumulated teaching experiences, together with the challenges they have encountered, appear to have contributed to a reasonable level of readiness and enhanced ability to anticipate potential difficulties. Instructors’ previous challenges, such as designing questions within time and mark constraints, managing student dishonesty, and aligning items with students’ capabilities, have strengthened their capacity to foresee and respond to similar challenges in future implementations. This aligns with Chen (2024), who argues that overcoming practical-assessment issues can foster greater resilience and innovation among educators. However, it is vital to recognize that this form of learning is largely reactive rather than proactive. Without formal guidance, instructors risk developing inconsistent or suboptimal assessment practices. Although most instructors were able to transition to OBE relatively smoothly despite limited formal training, this reliance on experiential learning highlights both their pedagogical adaptability and a potential gap in institutional support.

While the instructors demonstrated readiness and confidence in integrating HOTS-based questions, this competence predominantly developed through self-directed learning and experiential adaptation rather than from formal training. Reliance on informal and individualized learning may perpetuate inconsistencies in assessment quality and does not necessarily ensure sustained effectiveness. Aziz et al. (2023) note that even experienced educators may face struggles to consistently design assessment items that target higher-order thinking skills without ongoing professional development. Similarly, Pastore (2023) observes that with unstructured assessment literacy, instructors’ interpretations may vary, which results in unstandardized application of Bloom’s Taxonomy and question formats across programmes or courses. Hussain (2024) further highlights that instructors who primarily rely on experiential knowledge often encounter challenges in multiple aspects, including ensuring alignment between assessment tasks, learning outcomes, and marking rubrics, which may compromise validity and fairness. In line with this, Kang and Lam (2024) argue that limited engagement in formal test planning and item analysis weakens the coherence of HOTS-based assessments, resulting in uneven standards and student confusion. Overall, to ensure the quality and consistency of HOTS-based assessments, the findings underscore the need for institutions to provide structured training and to foster a culture of shared practice and continuous improvement.

## CONCLUSION

In conclusion, this study highlights a disconnect between the pedagogical potential of open-book examinations (OBEs) and their practical implementation in higher education. Instructors recognize the potential of OBEs to promote higher-order thinking skills, yet practical challenges and limited formal training persist. Experience has enabled instructors to develop readiness in designing HOTS-based questions, with prior exposure to practical challenges enhancing their adaptability and foresight. However, the perceived ‘readiness’ was primarily derived

from self-directed and experiential learning rather than formal professional learning. This is a risky approach because it can result in inconsistencies in question quality and application of Bloom's Taxonomy. Institutional investment in readiness and assessment literacy is essential to transform instructors' experiential adaptability into sustainable and high-quality HOTS-based assessment. Bridging the gap between theory and practice requires a dual focus on leveraging instructors' resilience while establishing systematic support to maximize the educational potential of OBEs.

Nonetheless, this study is exploratory and not generalizable to a larger population. This study covered a surface-level exploration of the topic. Future research should explore scalable training models and examine students' perspectives to ensure OBEs truly align with the constructivist goals in diverse contexts.

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