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Loliwe, Thando

DOI:  
[10.28945/5402](https://doi.org/10.28945/5402)

Publication date:  
2024

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Document Version  
Publisher's PDF, also known as Version of record

[Link to publication in Discovery Research Portal](#)

*Citation for published version (APA):*  
Loliwe, T. (2024). International Students' Assessment Expectations and Experiences Between Handwritten and Typed E-Assessments Conducted Through the ExamOnline Platform. *Journal of Information Technology Education: Research*, 23, Article 029. <https://doi.org/10.28945/5402>

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Volume 23, 2024

## INTERNATIONAL STUDENTS' ASSESSMENT EXPECTATIONS AND EXPERIENCES BETWEEN HANDWRITTEN AND TYPED E-ASSESSMENTS CONDUCTED THROUGH THE EXAMONLINE PLATFORM

Thando Loliwe

School of Business, University of  
Dundee, Dundee, United Kingdom

[tloliwe001@dundee.ac.uk](mailto:tloliwe001@dundee.ac.uk)

### ABSTRACT

Aim/Purpose	This study examined the experiences of international students writing a typed e-assessment at the on-campus computer lab on the ExamOnline system.
Background	After a typed summative computer-based examination was introduced for one of the MSc degree's modules in a UK university, it was critical to ascertain its inclusivity. The context is that departments in universities select criteria to service their diverse students, which oblige students to adapt or request assistance that can accommodate their academic needs.
Methodology	Through both questionnaires and interviews, the data was collected from 16 international students who enrolled in the master's module in the 2023/24 academic year. Therefore, this study collected data using mixed methods within a case study framework.
Contribution	This study provides an understanding of international students' characteristics and other factors that may likely influence them to desire individualized assessments when typed e-assessments are used in a higher education institution.
Findings	The students had positive experiences writing a typed e-assessment in the on-campus computer lab. This was due to students' academic and social characteristics, such as aspirations, learning gained, ability to manage their emotions, typing proficiency, meta-cognition, amount of studying done, [not or] finishing the exams, traveling to and from the campus, and acoustics. Also, the good thing is that some students adapted to this typed e-assessment. However, some students expected support for their weak computer skills and modifications, including an option to use familiar computer keyboards and repeated practice sessions.

Accepting Editor Kay Fielden | Received: July 21, 2024 | Revised: November 13, November 14, 2024 |  
Accepted: November 19, 2024.

Cite as: Loliwe, T. (2024). International students' assessment expectations and experiences between handwritten and typed e-assessments conducted through the ExamOnline platform. *Journal of Information Technology Education: Research*, 23, Article 29. <https://doi.org/10.28945/5402>

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Recommendations for Practitioners	To support international students' adaptation to e-assessments, typing proficiency tests, practice sessions, and modifications, such as early communication of assessment modes, must be introduced to improve their ability to write typed e-assessments. Therefore, this may have implications for the institution where this study was conducted and other universities that administer typed assessments through the ExamOnline platform.
Recommendations for Researchers	Researchers must always be vigilant so that they can detect discriminatory practices and policies that may complicate student learning and achievement in higher education. This is because inclusive education also means inclusive and fair assessment methods.
Impact on Society	E-assessments must not be adopted because they benefit instructors in terms of their ease of marking and are an accepted norm. They must also be in the students' best interest. This research demonstrates how to align typed e-assessments and the skills students use to complete them through inclusive approaches to e-assessments.
Future Research	Future research must examine whether this study's findings can be generalized to students who are novices at writing typed timed e-assessments on the ExamOnline system in various subjects and levels of study. Also, further research could help understand the effect of this study's proposed changes on the inclusiveness of typed e-assessments according to the international students enrolled in this module.
Keywords	international students, computer-based assessment, e-assessment, inclusive assessment, ExamOnline

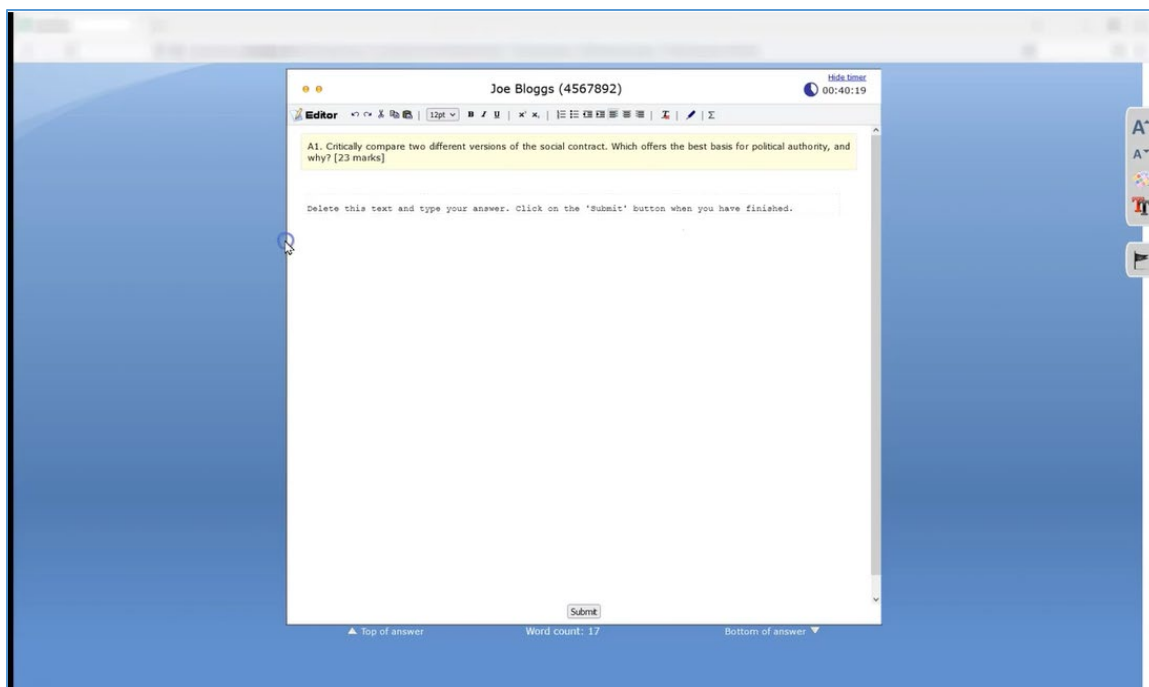
## INTRODUCTION

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The implementation of e-assessments in higher education institutions (HEIs) is on the rise because of COVID-19 shutdowns in 2020 and 2021, and advancements in HEI technologies (Appiah & van Tonder, 2018; Somerville, 2022; Winter et al., 2021). E-assessment, also known as computer-based and online assessments, is defined as using electronic technologies to conduct assessments (Ridgway et al., 2004). Gale and Parker (2014) have revealed that transitioning to e-assessments may complicate students' adjustment to higher education. Consequently, diversity and inclusivity initiatives are used to ensure all students succeed and continue to prioritize higher education (Weller, 2019).

In the first semester of 2023/24, the summative handwritten exams for the master's degree auditing module at a UK university were replaced with a computer-based system called ExamOnline (Figure 1). ExamOnline is an e-assessment system developed by Intelligent Assessment Technologies. The targeted university uses it to deliver summative essay-style questions, even though it can be used for different types of questions, such as multiple choice. This system is designed for in-person assessments in dedicated venues rather than in a remote setting (Intelligent Assessment Technologies, n.d.). Therefore, the invigilated examination now takes place in a computer lab and lasts 3 hours and 15 minutes. In previous years, the examinations for this module were handwritten in exam halls. The announcement for the e-assessment was made in the 6th week of a 12-week semester, and a demonstration class on how to use the relevant e-assessment system was presented to students in the tenth week. This module was unique in that (1) 2023/24 was the first time its summative examination was written on this system as an invigilated computer lab-based examination (ICLBE), and (2) it consisted mainly of international students in the UK. Therefore, the transition to ICLBEs may not fully align with student-centered approaches and create inefficiencies using generalized assessment techniques. For instance, Grant et al. (2009) and Moge et al. (2010) found that delivering e-assessments

to students with low computer skills or who lack experience with a specific technology can significantly disadvantage them, which may impact their grades. Hence, Lestari (2024) suggests that students must be offered the choice between handwritten and typed assessments and time to familiarize themselves with the e-assessment system. This study aimed to ascertain the students' experiences of writing a timed ICLBE for the above-mentioned master's program. Thereafter, the study asked why international students are more likely to desire individualized assessments when typed ICLBEs are used than when assessments are handwritten. The latter requires the use of pens and paper, while typed assessments require the use of electronic devices such as computers, keyboards, or microphones (Sperl et al., 2024).



**Figure 1. Screenshot of the ExamOnline system (Intelligent Assessment Technologies, n.d.)**

The literature on e-assessments focuses on the tools and technologies used for the delivery of e-assessments (Bukie, 2014), defining concepts, reasons and strategies for the implementation of e-assessments (Appiah & van Tonder, 2018; Mottiar et al., 2024; Stöddberg, 2012), the effects, advantages and disadvantages of using e-assessments as per the students' and instructors' views, experiences, abilities and performance (Alruwais et al., 2018; Babo et al., 2020), and environmental factors, such as rules and principles that could make e-assessments flawless including proctoring (Nigam et al., 2021).

Using a qualitative case study method that embedded a questionnaire for descriptive data, the findings show that the students had positive experiences writing a typed ICLBE. The most influential attributes of their experiences included students' characteristics, academic and social factors, such as aspirations, learning gained, ability to manage their emotions, typing proficiency, meta-cognition, amount of studying done, [not or] finishing the exams, traveling to and from the campus, and acoustics. Following up on Mogey et al. (2010) and Lestari's (2024) suggestions, this study also finds that international students who are more likely to expect individualized assessments from a university that uses typed summative e-assessments are those with low proficiency in typing or who did not have numerous practice sessions. Therefore, this study extends the existing literature by providing experiences of postgraduate international students sitting for a typed e-assessment, attributes that may have

influenced their experiences, and considerations required to make typed e-assessments inclusive for these students.

The rest of this article is organized as follows. First, the existing literature is reviewed. Next, the research methods and findings of this study are presented. Last, the discussion and conclusions are presented together.

## LITERATURE REVIEW

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The literature presented here covers international students' experiences and contributions to the host institution and e-assessments.

### *INTERNATIONAL STUDENTS*

The practice in UK HEIs has been to source a significant number of students (i.e., around 25%) from foreign countries (Ecochard & Fotheringham, 2017), which generates income for these institutions. Marginson (2013) contends that while universities promote access and quality, their underlying agenda is the commercialization of higher education. Furthermore, international students are a strategic requirement for UK HEIs to attain global status (Wihlborg & Robson, 2017).

International students consider various factors before arriving in the host country to further their studies. Cubillo et al. (2006) identify personal reasons (such as employment prospects and family advice), the perceived image of the host country, the reputation of the chosen institution (often influenced by the city's image), and the perceived quality of the program of study, as some of those factors. Recently, Guo and Guo (2017) examined international students' experiences at a Canadian university and found that, despite differences in their expectations, students enjoyed their studies.

On the other hand, Islam and Mercer-Mapstone (2021) investigated Muslim students' experiences of studying in UK HEIs and found that religious integration was lacking due to insufficient religious provisions and consideration. Therefore, it is possible that this lack of inclusion also occurs in academic activities, such as assessments. Consequently, the concept of inclusive assessment is defined as "a fair way of assessing for learning that achieves the learning objective of measuring the learning outcomes of a course and awarding grades while recognizing student diversity and different learning styles" (Waterfield & West, 2010, p. 12).

Researchers have studied the benefits of hosting international students from intercultural, economic, and globalization perspectives (Ploner, 2017). Similarly, interactions with international students about their views and experiences in sitting for e-assessments can assist in understanding the challenges they encounter and provide opportunities to set up inclusive e-assessments. However, it has been found that international students require institutional support to enhance their academic adaptation and performance (San & Guo, 2023). On the contrary, Jones (2017) argues that excessive concessions to international students may negatively impact domestic students. Jones' perspective reflects a conservative approach that maintains existing structures, potentially overlooking disparities experienced by students.

International students contribute diverse perspectives to UK universities, including varying psychomotor skills, religious backgrounds, socioeconomic statuses, educational experiences, self-concept, engagement, motivation, and age (Brennan & Osborne, 2008; Hattie, 2009). These can also affect their academic achievement. Psychomotor skills are the physical skills used to complete a task successfully (Simpson, 1972). Psychomotor skills are mainly discussed in hard sciences, such as health and sports, but were relevant in this study because students use their eyes, hands, and posture when writing e-assessments (Changiz et al., 2021). Therefore, differences in proficient typing, which relies on keyboard use, can be a differentiator in international students' views and experiences of sitting for ICLBEs.

## *E-ASSESSMENTS*

The number and varying purposes of assessments mean that there are different types of assessments HEIs are delivering, including computer-based multiple-choice questions (Babo et al., 2020). Therefore, several authors suggest treating HEIs as complex, dynamic organizations with systems that evolve over time (Bleiklie & Kogan, 2007; Manning, 2017). Klocek et al. (2024) point out that it is only possible to make sense of the complexity of higher education by separately studying the parts of its system, such as students and academic programs and policies, or by simplifying the relationships between them. Regarding the assessments, HEIs must have assessment plans and communicate, approve, and file them through existing hierarchical structures, policies, and systems (Checkland, 2000; Stephens et al., 2010).

Assessments in higher education serve as a valuable tool for certifying student achievement and promoting learning (Bloxham, 2014). An earlier study by Reeves (2000) highlights that most assessments in HEIs focus on retention and the application of knowledge through handwritten examinations. Changes in these traditional assessment methods require consideration of disciplinary culture, professional bodies' readiness, employer perspectives, and societal shifts (Shulman, 2005). In the case of the institution under examination, changes to assessments and the introduction of new assessments to existing modules are deemed significant changes. Therefore, such changes are approved by dedicated faculty-based quality and academic standards committees before they are formally implemented, after considering factors such as their reasons, effective dates, implications, alignment with module outcomes, and teaching (Biggs et al., 2022).

The implementation of e-assessments can be categorized into two distinct groups: e-assessments in distance learning settings and e-assessments in university settings. In both settings, students prefer e-assessments over paper-based examinations and the face-to-face alternative (Aristeidou et al., 2023; Butler-Henderson & Crawford, 2020). Furthermore, Butler-Henderson and Crawford (2020, p. 7) also found that "the interface of a system impacts on whether a person perceives the environment to be an enabler or barrier for" their favorable experience. Hence, support and training on e-assessment systems must be provided (Winter et al., 2021). Students with negative reactions to e-assessment were worried about their abilities to use the chosen e-assessment technology (Huda et al., 2020). Panc et al. (2012) argue that self-efficacy is a key protective factor against psychological stress because it may fortify a self-belief in one's abilities to complete various tasks.

Therefore, moving traditional assessments to online platforms improves the presentation of information and secures various assessment processes, for instance, in terms of the implementation of usernames and passwords (Alruwais et al., 2018). Furthermore, there is considerable agreement in assessment literature that e-assessments motivate students to learn and lead to positive student experiences (Deutsch et al., 2012; Holmes, 2015). However, the implementation of e-assessments is not without its challenges. Research by Ridgway et al. (2004) and Mottiar et al. (2024) shows that some of the e-assessments increase the cases of student cheating and difficulty of marking. In response to these challenges, researchers such as Rawashdeh and Rawashdeh (2023), Awidi (2024), and Obot et al. (2024) propose rule-based proctoring frameworks, where examiners must input customized rules that will be evaluated by proctoring software to detect student cheating and use of AI for marking. Despite these innovative solutions, online proctoring and automated marking present different challenges, including falsely accusing students of dishonesty, inaccurate marking, and requiring high costs (Doğan et al., 2020; Nigam et al., 2021). These are not relevant to this study because the ICLBE was invigilated and held on campus, on computers that are blocked from opening web browsers (or the internet), and the marking was carried out the same way as in handwritten exams.

In general, e-assessment tools used by universities are not neutral and can discriminate against some students and reward others when HEIs adopt a one-size-fits-all perspective to diversity (Crozier et al., 2008; Weller, 2019). In this case, e-assessments, often presented as egalitarian, assume all students are equal and have the same opportunities to pass their modules (or social costs for their decisions)

(Wolff, 1998). Hence, Schwartz et al. (2010) emphasize the need for inclusive changes to accommodate a diverse and engaged academic community. The approaches to inclusivity are worth using: the modifications, individualistic approach, and acculturation, for exploring and aligning the experiences and attributes of international students with the physical skills required for writing ICLBEs.

### **Modifications**

HEIs' systems and policies are designed to provide extra support to students, such as students with disabilities, which can require changes in materials, spaces, or procedures to ensure equity and fairness (Hockings, 2011; Thurlow, 2014). However, students' diversity extends beyond physical differences to gender identity, learning needs, living conditions, cultural background, language, and cognitive abilities (Brennan & Osborne, 2008).

### **Individualistic approach**

The individual perspective of inclusion is tailoring learning to meet the individual needs of students (Tomlinson, 2000). Consequently, institutions and "teachers are asked to develop and differentiate lessons both for students with disabilities and those who are not fluent in" critical aspects of learning, research, and assessments (Joyce et al., 2020, p. 181). Importantly, students must be actively involved in developing their abilities to achieve the required learning (Piaget, 1952). However, critics argue that this approach can lead to overreliance on external support (Kloss, 1994).

### **Acculturation and assimilation**

Wu and Hammond (2011) found that international students often experience a significant reduction in skills deficits after a semester in their host country. This finding aligns with the process of acculturation, which usually occurs in stages that include expectations and elation, emotional and interpersonal turmoil, adjustment and academic achievement, and academic confidence (Major, 2005; Quan et al., 2016). Acculturation, as defined by Thurnwald (1932), is a continuous process of adapting to new environments and involves ongoing adjustments rather than a singular event. This process can include culture shock, which can negatively impact physical, social, mental, and emotional well-being (Bai, 2016; Ecochard & Fotheringham, 2017; Teske & Nelson, 1974). In contrast, successful adaptation or assimilation leads to acculturation, where students integrate new experiences and perspectives at the host university (Park & Burgess, 1924, p. 735).

To sum up, to the researcher's knowledge, none of these studies examine the views and experiences of postgraduate international students for sitting for ICLBE. Therefore, an important gap this study wishes to fill is in showing how universities can use the approaches to inclusivity to increase postgraduate international students' preparedness for writing e-assessments. To this end, three research questions were explored:

- What are the experiences of international students of sitting for typed e-assessments?
- Which of their attributes may have influenced their experiences?
- Why are international students more likely to desire individualized assessments when typed ICLBEs are used than when assessments are handwritten?

## **METHODS**

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This study addressed these research questions: How are the international students' experiences of sitting for a typed e-assessment on the ExamOnline system? Which attributes may have influenced their experiences? Why are international students more likely to desire individualized assessments when typed ICLBEs are used than when assessments are handwritten? These questions led me to apply phenomenology research. Phenomenology was deemed appropriate for this study because its aim was to ascertain international students' lived experiences and attributes in writing ICLBEs (Leedy & Ormrod, 2014), which were collected with questionnaires and interviews.

## ***POPULATION AND SAMPLE***

The participants in this study were MSc degree students in the auditing module. This study interviewed 16 of the 26 students who sat for the ICLBE, as some had left the university or opted out of participation. This sample size is similar to previous studies conducted by Mahmud (2024), Julien and Dookwah (2020), and Islam and Mercer-Mapstone (2021), who interviewed 14, 15, and 19 students, respectively. Table 1 shows that the participants, aged 18–50 years, were from China, India, Nigeria, Pakistan, and Sri Lanka, and that 10 (53.8%) were women and six (46.2%) were men. They also self-reported their self-efficacy using eight items on a five-point Likert scale, which is based on Chen et al.'s (2001) general self-efficacy scale, with a Cronbach's alpha of 0.939 and previous e-assessment experiences.

**Table 1. Student characteristics**

<b>Pseudonym</b>	<b>Gender</b>	<b>Age</b>	<b>Self-efficacy</b>	<b>Country</b>	<b>Previous e-assessment experience</b>
Abby	Male	26–35	High	India	No
Bertie	Female	36–50	Very high	Nigeria	Yes
Collins	Male	36–50	High	Nigeria	No
Dorothy	Female	36–50	Very high	Sri Lanka	Yes
Eric	Male	26–35	High	Pakistan	Yes
Freda	Female	26–35	High	China	No
Geraldine	Female	36–50	High	Nigeria	No
Hakeem	Male	26–35	High	India	Yes
Ingrid	Female	18–25	High	India	Yes
Jessica	Female	26–35	Moderate	China	No
Kemen	Male	26–35	Very high	Sri Lanka	Yes
Leiko	Female	26–35	High	Sri Lanka	Yes
Mahi	Female	26–35	High	India	No
Nancy	Female	18–25	High	India	Yes
Oros	Male	26–35	Very high	Nigeria	Yes
Patricia	Female	26–35	Very high	Sri Lanka	Yes

## ***DATA COLLECTION AND ANALYSIS***

First, data were collected using a questionnaire with 23 questions about participants' demographics, their prior e-assessment experiences, self-efficacy, and the support provided. Second, semi-structured interviews were conducted to understand participants' views and experiences of sitting for the ICLBE (Martin, 2014). The participants were recruited through their university email addresses, as the names appear in the targeted module's matriculation list, and the Ethics Committee in the affected institution approved this study.

The data analysis method used for the questionnaires included grouping similar categories to prepare descriptive statistics. Microsoft Teams was used to conduct the interviews and provide the transcripts for analysis. The transcripts and questionnaire data were first analyzed in Excel using a two-level approach. On the first level, the key consideration was students' views on the university providing assessments that meet individual students' preferences, which led to the classification in Figure 2. Figure 2 shows the participants' responses regarding whether universities should cater to diverse student assessment preferences. Of the 16 participants, two were against individualistic assessments, while eight supported the idea of individualized assessments. Six students did not comment on the question about individualized assessments. On the second level, student satisfaction, student performance, the perceived difficulty of writing the ICLBE, the type of academic support required,



and student expectations were considered. Thus, see Figure 3, and the arrows show the reassignment of participants to the four inclusivity approaches.

Furthermore, NVivo was used to code the transcripts under several themes after the data were cleaned. Then, this study employed an inductive strategy to work through the data to identify features that explain the student groupings in Figure 3. At the base of the diagram in Figure 3, an egalitarian approach is presented as standard assessments being delivered. The blocks above the one for egalitarian assessment have to do with students' assessment preferences. For instance, the second one is for individualistic assessments. The third block from the bottom is for assessments with modifications, and the top block is for assessments that can be provided to students who have acculturated and assimilated to e-assessments. Regarding the validity of data and findings, the researcher reviewed the transcripts for errors and made corrections where necessary before they were loaded to NVivo. Also, the participants were asked to review the findings (incl. data collected through the questionnaire) for anonymity, accuracy, and validity.

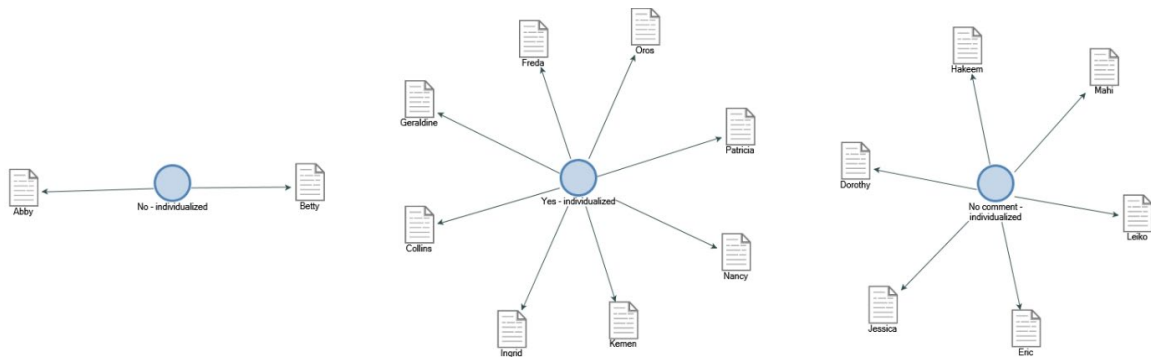


Figure 2. Students' preferences for individualized assessments

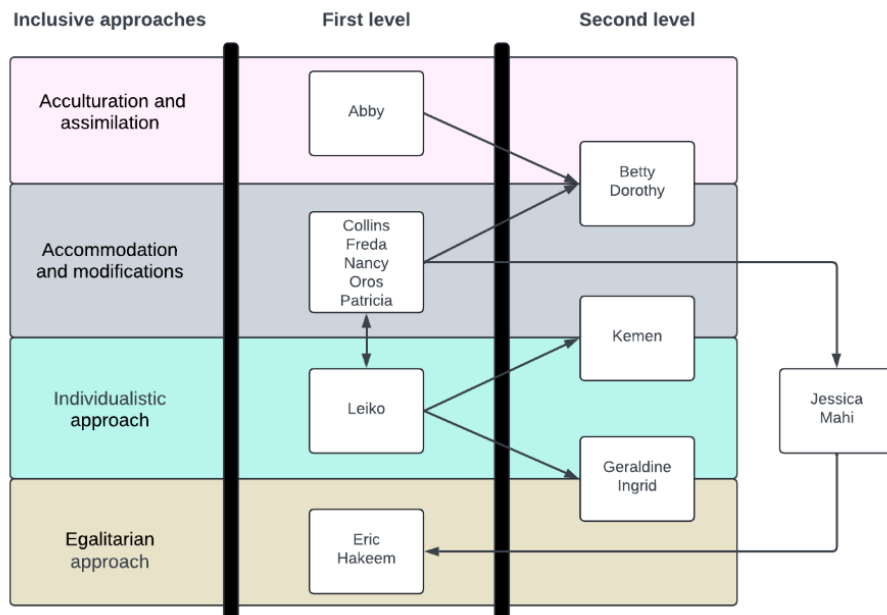


Figure 3. Categorizing students against inclusivity approaches

## FINDINGS

The first research question was to establish the experiences of international students of sitting for typed e-assessments. The results showed that nine students reported positive experiences with the ICLBE (Figure 4).

This finding supports Deutsch et al.'s (2012) finding regarding student satisfaction with e-assessments. However, the students with a very high self-efficacy (Table 1) indicated that other assessments are easy compared to the ICLBE.

*Other exam types are easy in the sense that I'm used to writing things down, and computer lab-based exams, on the other hand, are somehow difficult because that was my first time writing an exam in that format. Keyboard noise, correction of mistakes, keeping tabs on time, etcetera, are what contributed to computer lab-based examination difficulties. (Oros)*

This contradicts Ingrid's statement that "the difficulty usually depends on the level of questions and less on whether the exam is online or offline." Also, Figure 5 shows that the students' responses were split on whether the ICLBE evaluated their auditing knowledge better than other modes of assessment.

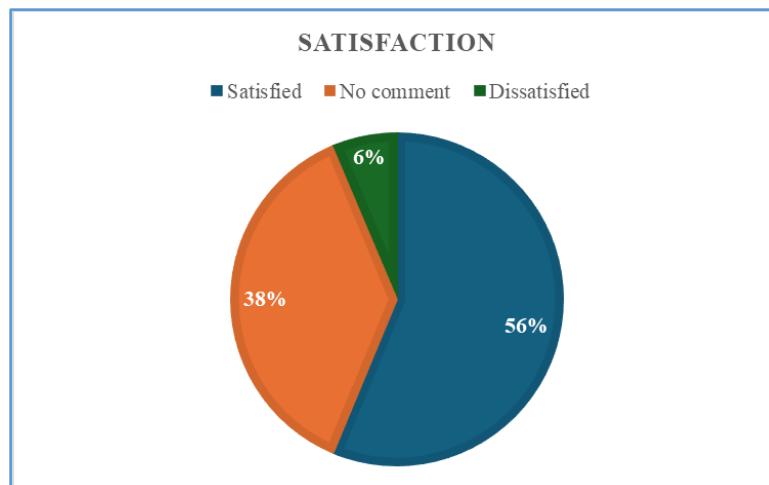


Figure 4. Students' satisfactions with writing the ICLBE

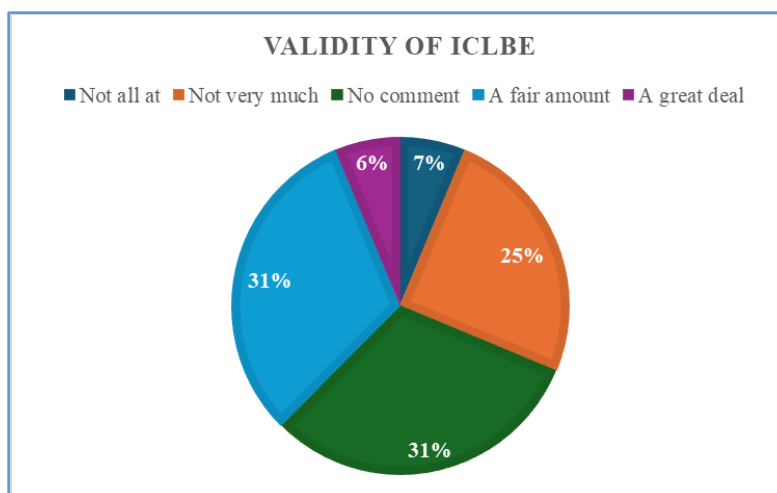


Figure 5. Students' perceptions about the validity of the ICLBE

The second research question was to identify the attributes related to international students who may have influenced their experiences. Therefore, the data showed two major themes for their reflections on (a) their enrolment and (b) writing the ICLBE that influenced their ICLBE experiences. The latter is presented in line with the proposed approaches and their self-reported e-assessment skills.

### ***THEME 1: REFLECTION ON THEIR ENROLMENT***

Participants were asked why they chose to do their master's degree in Goodwood (i.e., pseudonymized town and university name) and what skills or knowledge they intended to improve (see Appendix B). Most participants answered that the MSc degree in Goodwood provides exemptions for nine subjects on the Association of Chartered Certified Accountants (ACCA) qualification. In addition, Dorothy and Hakeem considered the comparative costs with other UK universities and league rankings. Participants expressed a desire to update their accounting knowledge and learn about UK taxation, which may lead to UK jobs. Hence, they described their learning gains as follows:

*We studied the IFRSs [International Financial Reporting Standards], so that kind of helped to refresh my brain and improve my knowledge. (Betty)*

*Now I got theoretical knowledge ... each subject helped a lot. (Patricia)*

At the program level, these quotes indicate that the participants were satisfied with their choice of institution, particularly because of the personal benefits and institution image this MSc degree provides, such as knowledge updates, employment prospects, the status of having studied abroad, and program accreditation. These factors influencing participant experiences are consistent with the expectations of international students for studying abroad, as identified by Cubillo et al. (2006). However, Collins complained of local companies' lack of interest in employing international students because of stringent working visa requirements and lack of internship/job placement offers in Goodwood. This appeared to negatively impact the gains their degree provides.

Despite these views, this study wanted to know whether the implementation of the e-assessment spooked the students. Participants were asked how knowing beforehand that they would have to sit for the ICLBE would have influenced their decision to study at Goodwood and their subsequent study preparation. Some of the participants said the following:

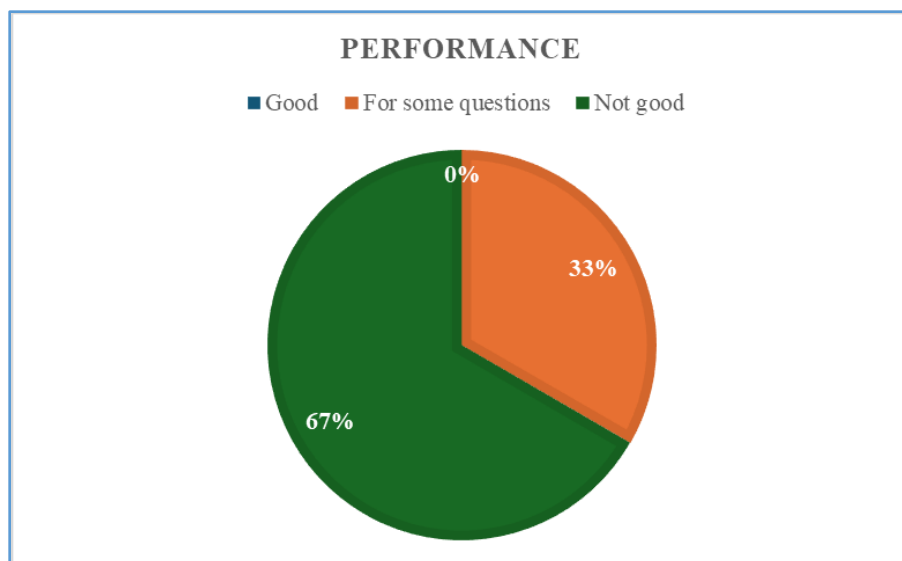
*It would have helped me to prepare my mind. ... I would have started earlier ... when I was doing my readings, instead of jotting down with paper and pen, ... I'll be typing with the computer so I can get accustomed to it. (Betty)*

*No, it wouldn't have changed my decision. (Collins)*

*It's not like I wasn't convinced enough already, but knowing that would have made my conviction to go for Goodwood even stronger ... It would have been a testament to the fact that Goodwood is forward-looking. (Hakeem)*

### ***THEME 2: REFLECTION ON THE E-ASSESSMENT***

Prior to sitting for the ICLBE at Goodwood University, most participants reported that their experiences with e-assessments were with multiple-choice questions (Table 1). Hence, they could not downplay their inadequate computer skills concerning the typed ICLBE, which may have caused anxiety and required more mental and physical effort to pass that exam (Butler-Henderson & Crawford, 2020). Then, participants were asked about their performance on the ICLBE, specifically whether they achieved good grades. Five students indicated that they did well in some parts of the exam. However, the other respondents were unhappy with their performance (Figure 6), which they mainly blamed on insufficient preparation, personal reasons including injuries and pressure, typing speed, and errors.



**Figure 6. Students' views on their ICLBE performance**

The students were also asked whether they finished the examination within the scheduled time, and ten students said they did not:

*For that computer lab-based exam, one needs good typing speed; otherwise, they will not finish answering within the given time. I managed to finish it in the given time and thus got satisfactory grades for some questions. (Ingrid)*

*[We] did not have enough practice, and the exam was confusing. (Leiko)*

The above highlights the importance of typing skills and the lack of preparation that contributed to students' performance on the ICLBE. This finding supports Grant et al. (2009) and Moge et al.'s (2010) findings that show typing skills and inexperience in using a specific technology have positive relationships with student grades.

Furthermore, some participants showed self-reproach, prompting the researcher to ask about the adequacy of the support and communication provided to them. They stated that they were happy with the support provided, except for a few concerns about the timing of the announcement that they will be writing the ICLBE, access to resources, heavy workload, and the provision of practice sessions (Figure 7). They said the following:

*Before last year's exams, I wasn't well. So, it was difficult to prepare for the ... I got my wrist fractured, which has impacted my typing speed. (Nancy)*

*It was my own shortcomings. Should have studied harder. (Hakeem)*

Last, all the participants supported the university's decision to implement ICLBEs. This finding is consistent with the existing literature that students prefer e-assessments over paper-based examinations (Aristeidou et al., 2023; Butler-Henderson & Crawford, 2020). Although Goodwood has online materials and videos to guide students in using this e-assessment system, the participants wanted more training and time to prepare in the future. This means that staff did not do enough to scaffold participants' adaptation (San & Guo, 2023). Regardless, when asked about the benefits of the ICLBE, one participant said that 'it will help in preparing for professional exams,' and another said, 'learned to be very accurate and fast when typing.'

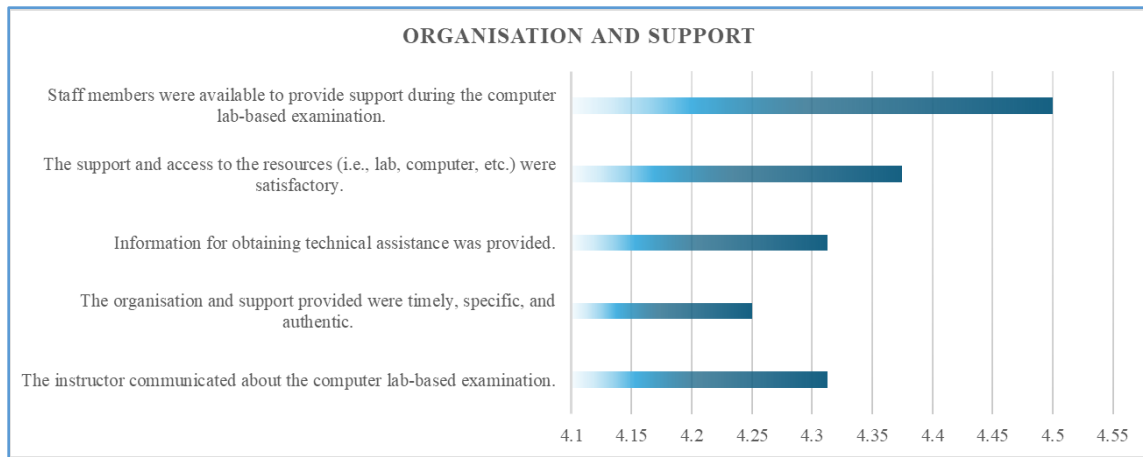


Figure 7. Students' ranking of the support provided (mean)

### Further findings

To answer the third research question, which focused on identifying the factors that may explain international students' preference for individualized assessments when typed ICLBEs are administered, this study first categorized students based on their adaptation levels to ICLBEs using approaches to inclusive e-assessments. The results showed that participants classified under the modifications and egalitarian approaches expressed overlapping experiences with those in the other three categories (Figure 8). Conversely, no shared features were observed among participants classified under the acculturation and individualistic approaches, which is consistent with Weller's (2019) observation.

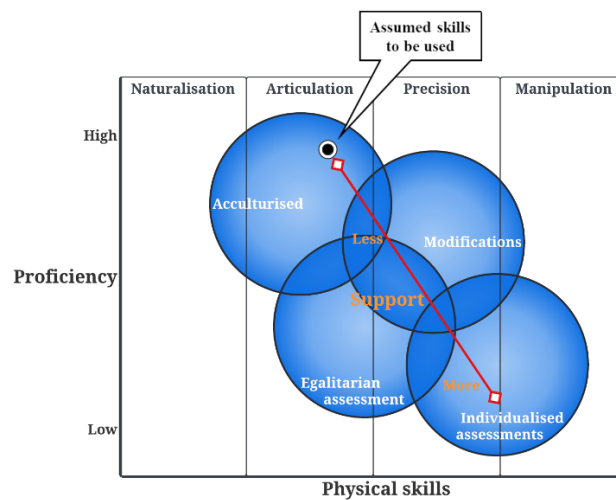


Figure 8. Presenting a framework aligning inclusivity approaches and students' physical skills as the function of their presumed typing proficiency levels

**Acculturation and assimilation:** Abby was classified as being acculturated because he was against the individualistic approach to inclusive assessment, stating the following:

*I think that universities should consider students' perspectives, but this may not be practical in terms of catering to all students' preferences ... No, I was not worried but rather excited to take exams on the computer. We are moving towards computer-based tests in almost every professional examination. (Abby)*

Table 1 shows that Abby was confident in his ability to write and pass the ICLBE, meaning he has embraced and adapted to the ICLBE, which underlined his acculturation (Berry, 1997; Lewis, 2021; Teske & Nelson, 1974).

**In-between acculturation and modifications:** One of the participants was against the individualistic approach, and another did not comment on the issue of individualized assessments. The former could have been classified in the above category of acculturation, but she could not finish the ICLBE and required help with the following:

*I was busy trying to correct some spelling errors and ensure that my sentences were making sense. Second, for a computer lab-based exam, Question 1 was very long. Hence, I ran out of time. (Bertie)*

The second participant reported the following:

*Universities are judged by general standards and quality. If Goodwood starts catering to everyone's preferences, the quality of its programs will be compromised, and module content should match the requirements of the job market; otherwise, after students complete their degrees, they would be jobless, and their time and money would be wasted. (Dorothy)*

The two participants were mature female students with prior experience with e-assessments but found the ICLBE challenging. Hence, they expressed their views boldly, disregarding that universities are the dominant parties in deciding the mode of assessments they implement (Teske & Nelson, 1974).

**Modifications:** Five participants were classified under this category because they supported the idea of individualized assessments but raised issues of time management and external challenges. They made constructive suggestions to support their e-assessment transition, though their suggestions were driven by personal factors, such as health conditions and social factors.

*It was tough for me because, somehow, factors outside academics that later worked against me academically ... Seriously, it wasn't the assessment mode that made me perform badly ... I was traveling from Edinburgh and back. (Collins)*

*When compared with other results, this is the lowest grade I received. Maybe I felt stressed in the exam period because of spelling correction, the flow of typing, and typing speed. I'm not good at typing, therefore, it took more time for typing than expected. (Patricia)*

These quotes show that it is difficult to separate direct academic-related factors from indirect factors when dealing with international students' transition to a new environment or mode of learning (Gale & Parker, 2014). Hence, the slightest change in pedagogies can isolate students. According to the systems theory, it is worth trying to ease the pressure on international students, although support may not be feasible in certain cases (Jung & Vakharia, 2019).

**In-between modification and egalitarianism:** The two participants in this group did not obtain good grades and had negative sentiments towards the ICLBE. Mahi stated that 'we didn't get to practice before the exam,' and Jessica said that 'it's [an individualized assessment is] okay if it depends on the students. Simultaneously, they were undecided on the relevance of individualized assessments for them, but they will accept modifications to the ICLBE in terms of practice sessions even though they completed the ICLBE within the scheduled time and were therefore not rewarded nor disadvantaged by the ICLBE (Crozier et al., 2008).

**In-between modification and individualistic approach:** Kemen was classified as between modification and individualistic approach because he selected individualized assessments as his preferred approach and required modifications, including the word correcting option and practice exams. As he stated the following:

*There should be an option to select the type of assessment ... I was not able to manage time because my typing speed is very slow. Hence, I provided short answers to all the questions ... I have been using a laptop for over 10 years, but the keys in the desktop computer are not familiar to me. (Kemen)*

This student should have been allowed to use a keyboard with which he is familiar. This modification would have resolved one of his challenges. This is consistent with the normal practice in remote e-assessments, where students complete their assessments using their personal devices, such as desktops or laptops (Sperl et al., 2024).

**Egalitarian approach:** Two participants were classified under the egalitarian approach because they ranked the ICLBE's level of difficulty as the same as handwritten exams and finished the exam within the scheduled time. It appears that these students were advantaged by writing this ICLBE. They stated the following:

*... it [ICLBE] might be a bit out of many students' comfort zone ... once they get the hang of it, it'll be beneficial for them. ... I believe the university should continue with these computer-based exams. (Hakeem)*

*I finished the exam because my typing speed is good. (Eric)*

They were clearly satisfied with the ICLBE, regardless of their grades. For instance, Hakeem said that his performance 'was not good. It was my own shortcomings. I should have studied harder.' So, the lower grades are the cost of spending less time studying auditing (Wolff, 1998). Furthermore, these two participants are among the nine (56%) participants who were satisfied in Figure 4. Also, they did not choose individualized assessments, which may be seen as accepting the homogenous perspective on e-assessments.

**In-between egalitarian and individualistic approaches:** Students in this group wanted individualized assessments. However, they highlighted the difficulties of implementing individualized assessments, showing their preparedness to follow a homogenous approach. They said the following:

*I have issues with light. It's something I experience every time when I work on the computer. If it gets too bright, I must adjust the light to suit my eyes. I can easily adjust my own laptop, but when I work on a public desktop, it's not the same thing. (Geraldine)*

*Assessing all students based on their desired preferences would look informal or like there's no standard by which people are being examined. But again, I know that there are people who want degrees, not to use them to gain professional qualifications with professional bodies. (Geraldine)*

*The university should consider the preferences of the majority of the students. (Ingrid)*

These students appear to be uncertain about the possibility of having individualized assessments, and consequently, they see the one-size-fits-all perspective as fair (Weller, 2019).

**Individualistic approach:** Leiko was very confident about the ICLBE but found it very difficult and did not finish. He said the following:

*Even in some questions, I knew the answers; I couldn't organize my answers orderly compared to handwritten exams, and I found it difficult to remember some points. (Leiko)*

Despite his lack of typing skills, the student could not decide whether he preferred individualized assessments. However, it was clear that this student required specific attention to meet his learning needs and improve his typing ability (Tomlinson, 2000).

## DISCUSSION AND CONCLUSIONS

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The international students had positive experiences writing the ICLBE because they felt the new knowledge and the ICLBE experience would help them complete their ACCA certification. However, the findings showed that international students require early communication regarding the as-

assessment mode, access to appropriate IT tools, reduced course workload, and several practice sessions to familiarize themselves with the ICLBE. These hindered their adaptation to mastering the e-assessment system, potentially leading to lower grades, inadequate mental preparation, feelings of guilt, heightened exam stress, and increased mental and physical effort to pass. These issues exemplify the negative effects of culture shock and lack of preparation discussed by Teske and Nelson (1974), Grant et al. (2009), Moge et al. (2010), Bai (2016), and Ecochard and Fotheringham (2017). Therefore, this study recommends that there should be early communication of the assessment mode and regular practice sessions to positively affect student adaptation, views about workload, and grades, resulting in inclusive assessments.

This study also explored the attributes of international students that contributed to their experiences. Therefore, the evidence suggests that student characteristics, such as aspirations, learning gained, health conditions, ability to manage their emotions, being a novice at writing ICLBEs, and typing proficiency; academic factors, such as meta-cognition, amount of studying done, [not or] finishing the exams, module management, and complexity of the subject; and social factors, such as traveling to and from the campus, and acoustics; contributed to their experiences. Similar to Hattie (2009), students' motivations and other factors greatly affect their achievement. For instance, one motivation for studying in the UK is to find employment there (Binsardi & Ekwulugo, 2003). Also, the evidence in this study demonstrates that some of the participants found it challenging to find employment after obtaining their degrees because local accounting and auditing firms are hesitant to employ people with study visas. This anticlimax is not an ICLBE problem, but instead, the goal of getting employment might have motivated these students to sit and pass this ICLBE.

The findings of the third research question showed that (1) some participants were happy with the current practice; this suggests that some participants were able to adapt to e-assessments, while others said they would adapt using their own coping strategies (Jiang et al., 2023; Wu & Hammond, 2011). Others (2) expected early announcements and opportunities to prepare for e-assessments to support their characteristics, talents, and imported factors to increase their adaptation, and (3) some preferred individualized assessments. The question remains whether universities should allow students to automatically adjust to new conditions or should scaffold students' adjustment. Implementing different assessment modes for every student with skills deficits may be challenging (Jones, 2017), but helping students master typing through several mock assessments under exam conditions may bridge this gap. Following that, the physical attributes and abilities of students were among the factors that were linked with their ICLBE experiences. Since the ICLBE requires students to apply computer skills, which can be more challenging than when examinations are handwritten (Yang & Koszalka, 2016), these skills include keyboard and mouse manipulation while relying on visual input to complete the ICLBE.

The development and mastery of physical skills required from students to sit for e-assessments falls under the psychomotor domain of learning (Dave, 1970; Harrow, 1972). This domain consists of five levels in a hierarchical order: imitation, manipulation, precision, articulation, and naturalization (Krathwohl, 2002). While some may argue that the problems with writing e-assessments should not exist because students are imitating their usual paper-based exam writing process in a computerized environment (i.e., the first level of Dave's hierarchy), the proficiency level required for typing increases when knowledge assessment and presentation are added. Hence, students' typing must be precise and align with the third level of Dave's hierarchy. The precision level can easily brim over to the articulation level. Suppose typing skills are considered comparable to handwriting and not as separate learning outcomes for modules with typed e-assessments. The problem with this thinking is that writing is synonymous with attending school; therefore, writing is not differentiated from cognitive knowledge (Tolchinsky, 2006). Conversely, the ICLBE may create a mismatch between the expectations of this assessment and students' skills, potentially resulting in increased anxiety and pressure during its writing, making modifications for international students with skills deficits seem fair and increasing student engagement.



Consequently, the third research question was answered with a diagram in Figure 8. In that diagram, four perspectives of inclusivity are mapped to participants' typing proficiencies along the y-axis, and the four expected levels of physical skills are on the x-axis. Race (2014) argues that it is important to ignore taxonomies and focus on whether a skill is relevant for a module and on the evidence that demonstrates a skill is achieved. Figure 8 shows that for students to complete tasks that require skills at the articulation level depending on their assumed typing proficiency levels, an e-assessment that conforms to the egalitarian approach should be presented with slight modifications to scaffold students categorized under egalitarian and modification approaches to complete it with minimum challenges. Therefore, students with low typing proficiency categorized under an individualistic approach may require significant interventions, including individualized assessments, to support their diversity and promote inclusive assessments (Tai et al., 2023).

Drawing from Krathwohl (2002), without making typing skills a learning outcome in modules with e-assessments, the following question must be asked: What are the physical skills and senses students are expected to use to complete the task? Care must be taken not to set a lower level of physical skills than required to complete the task. For example, learners may be required to be able to articulately type so they can demonstrate a detailed understanding of the subject matter and apply their knowledge (Figure 8). Inclusive assessments can be achieved by starting with the assumption that there are students with the egalitarian approach and by asking the following question: Which approach to inclusivity is suitable to help international students who cannot cope with the egalitarian approach articulately type so that they can complete the task?

Students with advanced psychomotor skills would qualify to be assessed as if they have mastered the physical skill and can display their cognitive knowledge as they would have acculturated to using the e-assessment system (Changiz et al., 2021, Figure 8). However, there is a risk of overlooking students with features that fall in more than one approach because they might have been actively participating during learning or showing signs of intellectual adaptation (Grant et al., 2009). Hence, a diagnostic test is necessary to establish students' psychomotor skills at the beginning of the semester to reduce the above risk, and it will allow for the provision of correct accommodations (Smith & Myers, 2024). As a conclusion to the third research question, this study found that international students who are more likely to expect individualized assessments from a university that uses typed summative e-assessments are those with low proficiency in typing or who did not have numerous practice sessions.

This study's implications are that the implementation of typed e-assessments in HEIs may present challenges for some postgraduate international students. The findings showed a discrepancy between assessment expectations and student typing skills, highlighting the need to prepare these students and improve their proficiency to write typed e-assessments, regardless of their positive views towards this assessment. Regarding systems theory, this study suggests that academic staff should announce the assessment mode well in advance to allow students adequate time to mentally prepare and provide mock assessments and regular practice sessions to help students familiarize themselves with the e-assessment platform and build confidence. After establishing students' typing skills, universities should offer modifications, such as diverse formats, devices, and individualized e-assessments, for international students with skills deficits. Notably, implementing these measures to others may be viewed as creating biases, but the qualitative nature of this study requires the analysis of all the collected data, and some literature has suggested these before (e.g., Lestari, 2024; Tomlinson, 2000). The last suggestion is that universities must ensure there is an appropriate alignment between module and assessment outcomes and the specific skills required to complete e-assessments. These suggestions will allow students to finish writing the ICLBE within the scheduled exam time, feel less anxiety, and de-emphasize differences between e-assessments and handwritten examinations. This study's limitation was that the sample was too small to generalize the findings to the whole student population in Goodwood.

## ACKNOWLEDGEMENTS

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The author gratefully acknowledges Karien Hurter for her editorial assistance, Alison Fordyce and the anonymous reviewers for their valuable comments and suggestions, and the students who generously contributed their time and experiences to this research.

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## APPENDICES

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### APPENDIX A: QUESTIONNAIRE

1. Full name \_\_\_\_\_

2. Gender

Female		Male		Non-binary		Prefer not to say	
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3. Age

< 18 years	
18–25 years	
26–35 years	
36–50 years	
over 50 years	

4. Highest education level

Doctoral/PhD	
Masters	
Honors	
Degree (with no honors)	
Certificate/Diploma	

5. Are you a local (i.e., UK born) or international student?

Local		International		Dual citizenship	
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International Students' Assessment Expectations and Experiences

6. From the following list, please select which of the types of assessments are provided to you by your institution here in Goodwood:

Multiple choice or quiz	
Oral exam	
Online exam	
Computer-based exam on campus	
Handwritten exam on campus	
Project-based exam	
Game-based assessment	
Skills test	
Portfolio	
Other	

7. Before enrolling/studying for the master's degree here in Goodwood, did you write any summative assessment as a timed invigilated exam on a PC at a computer lab?

Yes		No		Maybe	
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8. If you selected yes in Question 7, what type of examination was it (e.g., MCQ, typed exam, essays, etc.)?

Multiple choice or quiz	
Oral exam	
Online exam	
Computer-based exam on campus	
Project-based exam	
Game-based assessment	
Skills test	
Portfolio	
Other	

9. Explain where and when you wrote them (refer to Question 8). \_\_\_\_\_

10. Select the response that matches how you regard your education and ability to write exams.

	Strongly agree	Agree	No comment	Disagree	Strongly disagree
I am able to achieve most of the goals I have set for myself.					
When facing difficult tasks, I am certain that I will accomplish them.					
In general, I think I can obtain results that are important to me.					



	Strongly agree	Agree	No comment	Disagree	Strongly disagree
I believe I can succeed at almost any module to which I set my mind.					
I am able to successfully pass many exams.					
I am confident that I can perform effectively on many different tasks.					
Compared to other people, I can do most tasks very well.					
Even when exams are tough, I can perform quite well.					

11. Regardless of your answer to Question 10, do you agree that universities should cater to the assessment preferences of all students?

Strongly agree	Agree	No comment	Disagree	Strongly disagree

12. Why do you think this (refer to Question 11)? \_\_\_\_\_

13. During your master's degree here in Goodwood, how many exams did you write at \_\_\_?

	0	1	2	3	4 and more
Computer lab (on a PC)					
Exam hall (using a standard exam booklet)					

14. You have written different types of exams in your academic life. How do you compare the degree of difficulty between the assessments, taking into consideration that lab-based examinations were used in several modules in this master's program?

	Very difficult	Difficult	No comment	Easy	Very easy
Other types of examinations					
Computer lab-based (or typed) examinations					

15. Explain your reasons for your answers in Question 14. \_\_\_\_\_



International Students' Assessment Expectations and Experiences

16. Please rate the following statements.

	Strongly agree	Agree	No comment	Disagree	Strongly disagree
The instructor communicated about the computer lab-based examination.					
The organization and support provided were timely, specific, and authentic.					
Information for obtaining technical assistance was provided.					
The support and access to the resources (i.e., lab, computer, etc.) were satisfactory.					
Staff members were available to provide support during the computer lab-based examination.					

17. For the summative assessments you wrote at the computer lab, did you get good grades?

Yes		For some		No	
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18. What could have led to your grades (refer to Question 17)? \_\_\_\_\_

19. Were you able to complete writing (and submit) your examination within the scheduled exam time during your computer lab-based exams?

Yes		For some		No	
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20. What is the reason for your answer in Question 19? \_\_\_\_\_

21. Please rate the following statements.

	Strongly agree	Agree	No comment	Disagree	Strongly disagree
The questions in the computer lab-based examinations were organized in such a manner that students could discern relationships between parts of the module/s.					
The assessment tasks in this unit evaluated my achievement of the learning outcomes.					

22. To what extent do you think assessments written on PCs in the computer lab evaluated student knowledge and skills better when compared to other assessments in those subjects?

Not at all	
Not very much	
No comment	
A fair amount	
A great deal	

23. Rank your satisfaction with writing some of your summative assessments on a PC in a computer lab.

Very satisfied	
Satisfied	
No comment	
Dissatisfied	
Very dissatisfied	

***APPENDIX B: INTERVIEW GUIDE***

I will ask the questions in the left column. So, each left-hand side cell question must be followed by the question on the right-hand side of the same row.

Questions	Interview questions
1. Why did you choose to study for your master's at Goodwood University? 2. What area will you best utilize your master's in?	To be specific, which knowledge or skills were you intending to improve (or which jobs were you intending to secure) by taking this degree?
3. What do you think about writing some of your summative assessments on a PC in a computer lab?	What are the positive things you can say about writing exams on a PC in a computer lab?  What are the negative things you can say about writing exams on a PC in a computer lab?
4. When did you first learn that you were going to write each of those exams on a PC at the computer lab? (i.e., before joining the university, at the beginning, or during the semester)? And how were you informed? 5. If you knew this situation earlier, how would knowing that some of your modules will have exams written on a PC at the computer lab have affected your decisions and actions?	Were you worried about writing your summative assessments on a PC in a computer lab?  How did the knowledge that you will write online or in the computer lab affect your studies/preparation?
6. Did you observe any anxiety, stress, panic, and pressure among your cohort in this auditing module compared to students doing other modules or programs?	Can you say something more about that?
7. From your own experiences, do you believe that writing your exams on a PC in a computer lab is a correct decision by the department/university?	Please explain your answer.
8. How will writing your summative assessments on a PC in a computer lab affect your future behavior and views about writing computer-based exams?  9. Which type of examinations would you most likely recommend to the school? Why?	Looking back, what is it that you think you could have done differently to help you achieve the most you could in this unit (both in terms of the unit concepts and skills, and in terms of personal growth)? How will you approach learning in the future?  Considering a subject with the same kind of content as those you wrote computer lab-based exams for, if you were given the opportunity to choose the type of assessments, which would you prefer? Why?
10. Do you have any further comments on the type of assessments (about what went well and wrong, what would you change)?	

*Thank you very much for making time for me. Your input is important because without students' opinions, we will not know how to improve this type of assessment.*

## AUTHOR

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**Thando Loliwe** is a lecturer in the School of Business, University of Dundee, United Kingdom. He holds a PhD in Finance from the University of Cape Town, South Africa, and a second master's degree in Information Technology from Deakin University, Australia. Prior to joining the University of Dundee, he taught accounting at the university level for ten years. His research interests include employee-related disclosures, financial reporting by unlisted companies, the internationalization of accounting standards, and issues that involve accounting education.