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# The AI Assessment Scale (AIAS) in action: A pilot implementation of GenAI-supported assessment

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The rapid adoption of generative artificial intelligence (GenAI) technologies in higher education has raised concerns about academic integrity, assessment practices and student learning. Banning or blocking GenAI tools has proven ineffective, and punitive approaches ignore the potential benefits of these technologies. As a result, assessment reform has become a pressing topic in the GenAI era. This paper presents the findings of a pilot study conducted at British University Vietnam exploring the implementation of the Artificial Intelligence Assessment Scale (AIAS), a flexible framework for incorporating GenAI into educational assessments. The AIAS consists of five levels, ranging from "no AI" to "full AI," enabling educators to design assessments that focus on areas requiring human input and critical thinking. The pilot study results indicate a significant reduction in academic misconduct cases related to GenAI and enhanced student engagement with GenAI technology. The AIAS facilitated a shift in pedagogical practices, with faculty members incorporating GenAI tools into their modules and students producing innovative multimodal submissions. The findings suggest that the AIAS can support the effective integration of GenAI in higher education, promoting academic integrity while leveraging technology's potential to enhance learning experiences.

*Implications for practice or policy:*
- Higher education institutions should adopt flexible frameworks like the AIAS to guide ethical integration of GenAI into assessment practices.
- Educators should design assessments that leverage GenAI capabilities, while supporting critical thinking and human input.
- Institutional policies related to GenAI should be developed in consultation with stakeholders and regularly updated to keep pace with technological advancements.
- Policymakers should prioritise research funding into the impacts of GenAI on higher education to inform evidence-based practices.

*Keywords:* generative artificial intelligence (GenAI), educational assessment, academic integrity, higher education, Artificial Intelligence Assessment Scale, higher education policy

## Introduction

The advancement of generative artificial intelligence (GenAI) technologies between 2021 and 2024 took the education sector by surprise, with the traditional labour of educational tasks such as note creation, report drafting, document editing, image and video creation, all now replicable, at least in part, by GenAI tools. Given the disruptive potential of GenAI-enabled output, a wave of media speculation and concern regarding the impact of the technology on society (Roe & Perkins, 2023) followed. One of the most notable of these GenAI applications, ChatGPT, became the fastest growing application in history, with studies showing that up to 50% of students are now familiar with it, raising questions regarding GenAI use in

education (Abdaljaleel et al., 2024). GenAI has many potential benefits in education contexts, such as personalised feedback, writing and language assistance, and research capabilities (Chan & Hu, 2023). Yet critics have highlighted risks, including copyright infringement, labour exploitation, environmental impact, bias, privacy and the deskilling of both students and educators (Caplan, 2024; Selwyn, 2022, 2024). Although the ethics of large language models have been called into question (Bender et al., 2021), and some in the education sector have viewed the technology as a threat to academic integrity (Cotton et al., 2023; Perkins, 2023), the technical capability of GenAI to enable traditional educational outputs has only increased since the release of ChatGPT. Students, in turn, are asking their institutions for advice on how to appropriately and ethically use these technologies (Chan & Hu, 2023; Freeman, 2024).

Higher education (HE) institutions face the challenge of ensuring the fair and transparent use of GenAI. However, the introduction of GenAI tools comes with other potential risks, including exacerbating existing inequalities for low-income students and non-native English speakers (Amano et al., 2023; Duah & McGivern, 2024) and safeguarding academic integrity. Although there are multiple calls to refocus assessment on areas in which humans excel, for example, evaluative judgement (Bearman et al., 2024), many current approaches to GenAI in HE often focus narrowly on academic misconduct, limiting opportunities for students to engage with the technology in meaningful ways. (Cotton et al., 2023; Perkins, 2023; Plata et al., 2023; Uzun, 2023). Unfortunately, student perspectives have also been largely absent from these discussions, despite students holding favourable views on using GenAI in their own learning (Chan & Hu, 2023; Chiu, 2024).

To address these challenges, we propose the Artificial Intelligence Assessment Scale (AIAS) as a flexible and adaptable framework for incorporating GenAI technologies into educational assessment (Perkins, Furze et al., 2024). The AIAS comprises five levels, ranging from '"no AI" to "full AI", enabling educators to design assessments which focus on areas requiring human input and critical thinking, while being cognisant of the potential for appropriate AI use. The scale was designed to support educators in selecting the appropriate level of AI use by students and providing greater clarity and transparency for students on how AI can and cannot be used in each task. It is also designed to be simple and adaptable, allowing for alignment with institutional policies and individual courses. The AIAS is a much-needed starting point in the context of HE, addressing a gap and allowing for a more nuanced discussion of AI beyond whether it is simply heating (Cotton et al., 2023).

In this paper, we present the findings of a pilot study conducted at British University Vietnam (BUV). The study explores the effects of implementing the AIAS on academic misconduct, student achievement and pedagogical practices involving GenAI. We begin with a literature review examining the current state of GenAI in HE, the limitations of existing approaches to its regulation and the need for a more comprehensive framework. Next, we introduce the five-point AIAS, ranging from "no AI" to "full AI," followed by a detailed case study of its implementation at BUV. We then present and discuss the results of the pilot study, highlighting the potential of the AIAS to support the ethical and effective integration of GenAI in educational assessment. Finally, we discuss the implications of this study for future research and practice.

## Literature

### Global responses to GenAI in HE

Initial reactions to GenAI in HE were conservative, with bans and restrictions common as institutions sought to safeguard academic integrity from tools that could increasingly replicate output used in study, assessment and research (Cotton et al., 2023; Perkins, 2023; Plata et al., 2023; Uzun, 2023). However, as the understanding of GenAI capabilities and ubiquity grew, institutions began to adopt more nuanced approaches (Fowler et al., 2023; Group of Eight Australia, 2023; Lodge et al., 2023; The Russell Group, 2024). The insufficiencies of GenAI text detection software (Perkins, Furze et al., 2024; Weber-Wulff et al., 2023) and their potential biases against English as a Second Language (ESL) students (Liang et al., 2023) also made a catch-and-punish technique for dealing with cases of GenAI-enabled misrepresentations of

authorship less practical. The limitations of GenAI text detection are now well known and public, with continual developments in GenAI technologies further reducing the accuracy of detectors. Although detectors are still a potentially useful diagnostic tool and learning resource for students and faculty, they do not offer results robust enough to make decisions that affect a student's educational outcomes (Perkins, Furze et al. 2024), for example, in establishing an academic misconduct violation.

Emerging themes in education institutional policy setting still focus on academic integrity but also acknowledge the need to support student learning and understand the ethical considerations of these technologies. Globally, a similar pattern of silence on the policies (Perkins & Roe, 2023), followed by outright bans, then eventually, more nuanced formal policies, has emerged. Across Asia, universities in Hong Kong (Cheung & Wong, 2023), Japan (Nagoya University, n.d.), South Korea, Singapore and India (Leung & Niazi, 2023) transitioned from banning GenAI and adapting their existing policies. Prominent universities in the United States of America followed similar trajectories, ultimately revising their policies to allow for some use of GenAI (Harvard University, n.d; Stanford University, 2023; Yale University, 2023).

## GenAI across academic disciplines

Studies have highlighted that GenAI has the potential to support students and enhance their learning experiences across most disciplines, including writing and composition-focused work (Cummings et al., 2024; Knowles, 2024), science, technology, engineering and mathematics fields (Amano et al., 2023; Cooper, 2023; Forero & Herrera-Suárez, 2023), creative disciplines (Bussell et al., 2023; Gozalo-Brizuela & Garrido-Merchan, 2023) and computer science (Liu et al., 2024). However, these studies have focused on the use of text-based models such as ChatGPT and have failed to address the many other capabilities of GenAI. As reflected in Yan et al.'s (2024) review of AI in education, the focus across disciplines has been on a narrow range of uses, such as tutor-chatbots, low-stakes resource creation (e.g., quizzes) and error correction. Integrating GenAI effectively requires careful consideration of authentic assessment design and the need to balance human and AI contributions (Miao & Holmes, 2023).

## Limitations of current approaches

Given the recency of the technology, the academic literature exploring GenAI in HE primarily originates from early 2023 and is limited by the rapid advances in the technology. Early speculative narratives regarding the potential of GenAI in HE discussed the potential for positive change but acknowledged the lack of empirical research and an inability to accurately predict the future trajectory of AI (Bozkurt, 2023; Bozkurt et al., 2023). This unpreparedness for the acceleration of GenAI since the release of ChatGPT was highlighted in early research agendas (Lodge et al., 2023), and even emerging models such as GPT-3.5 were acknowledged as being capable of strong performance in lower-order cognitive tasks, presenting challenges to established pedagogic practices in HE (Nguyen Thanh et al., 2023). However, despite recognition of the potential impact of GenAI in HE and the impossibility of knowing the exact trajectory of the technology, the practical application of policies and student support has largely focused on a narrow range of issues.

Although there has been a shift towards more inclusive stances on GenAI since the early bans, current approaches often overemphasise academic misconduct, neglecting the potential benefits of the technologies (Birks & Clare, 2023; Luo, 2024). Knight et al.'s (2023) analysis of submissions to the Australian parliamentary inquiry into GenAI in education found a common theme in the need to prepare students to use GenAI; however, this has not yet been evidenced in the practical application of HE policies. Further, sufficient student support is not yet evident, and students report feeling unprepared to use GenAI (Freeman, 2024; Kelly et al., 2023).

One issue in supporting students to use GenAI tools is the limited scope in understanding capabilities beyond text-based applications, with policies and student guidelines, including those in prominent associations such as the Group of Eight Australia, treating GenAI as metonymical with ChatGPT (Australian National University, 2023a, 2023b; Monash University, 2023; University of Adelaide, 2023; University of Melbourne, 2023a, 2023b; UNSW, 2024). To ensure the authenticity of student work, some policies and

guidance for educators suggest methods for AI-proofing assessments, including analysis of videos and images or the use of recorded videos of students (Duah & McGivern, 2024; Rudolph et al., 2023). However, given recent advances in GenAI technology, which include image recognition (OpenAI, 2023), the ability to interpret video (Pichai & Hassabis, 2024), video generation (OpenAI, 2024) and 3D, virtual reality and augmented reality (Bussell et al., 2023; Gozalo-Brizuela & Garrido-Merchan, 2023) and deepfakes (Roe et al., 2024), these suggestions may be short-lived.

**Ethical implications of GenAI tools in education**

The integration of GenAI into education raises numerous ethical concerns that must be addressed to ensure responsible adoption and mitigate potential risks. One of the primary issues in GenAI systems is bias and fairness. The data sets used to train these models, such as ImageNet and The Pile, often reflect the biases and worldviews of the predominantly White, middle class and English-speaking males who contribute to them (Bender et al., 2021; Crawford, 2021). These biases can manifest in the output of GenAI tools, leading to discriminatory or offensive content (Sun et al., 2023). Attempts to filter such content can inadvertently result in further bias; for example, by flagging words with religious connotations or those more frequently used in LGBTI communities (European Union Agency for Fundamental RIghts , 2022).

Privacy and data security are also significant concerns in the context of GenAI in education. The use of AI technologies, including both predictive and GenAI, can contribute to the datafication of students, where data is collected from various aspects of their lives, often for profit (Eynon, 2022; Pangrazio & Sefton-Green, 2022). Intellectual property rights and copyright infringement are also areas of concern for GenAI. The use of copyrighted material in the data sets used to train GenAI models may constitute an unethical infringement of intellectual property rights (Perrotta et al., 2022). Although legal approaches vary internationally (Ozcan et al., 2023), this issue remains unresolved, with ongoing lawsuits related to the inclusion of copyrighted material in the GenAI tool data sets.

Addressing these ethical implications is not only a matter of responsible technology integration but also an educational imperative. As GenAI becomes increasingly prevalent in society, educators have an ethical duty to prepare students for an AI-enabled working world post-graduation. By prohibiting the use of GenAI tools or labelling their use as plagiarism and misconduct, educators may be doing a disservice to their students by failing to equip them with the skills needed for the future (Anson, 2022). The view that GenAI tools fundamentally threaten academic integrity and enable plagiarism is an oversimplification of this complex technology. Instead, institutions must develop policies that promote the ethical and transparent use of GenAI considering the multifaceted nature of these technologies and their potential to enhance learning experiences when used responsibly.

# The AIAS

We propose the AIAS to promote the transparency and ethical use of GenAI tools. The AIAS is designed to be flexible, clear for both educators and students with limited knowledge of new AI technologies and adaptable across a wide range of disciplines and contexts. The following is a summary of the five levels of the AIAS, with brief examples. The AIAS has been discussed in detail by Perkins, Furze et al. (2024).

**Level 1 – No AI**

Students complete assessments without any use of GenAI tools. This may be for practical reasons, for example, a practical task with no electronic devices which precludes the use of GenAI or for assessment security purposes, for example, invigilated, technology-free examinations. Tasks at this level may be discussions, debates or technology-free group activities, where the use of GenAI tools would either not be beneficial to the students' learning or would disguise whether learning objectives were being met.

### Level 2 – AI-assisted idea generation and structuring

AI is used for brainstorming and working with ideas or notes; however, the final submission must be free of any GenAI content. The task may permit, for example, the use of AI-assisted automatic speech recognition to transcribe notes, the use of GenAI to convert notes into outlines or to contribute to brainstorming or suggestions for improvement on already created work. Image generation technologies might be used to generate starting points for designs in art- or design-based subjects or tools used to explore possibilities to produce software in computer science subjects, but no GenAI-created content can be included in the final submissions.

### Level 3 – AI-assisted editing

AI can be used to edit student-generated work; however, the original work must be provided for comparison. This level permits the use of tools which can support rewriting and editing to clarify ideas created by students, the use of GenAI for editorial purposes or editing text captured with automatic speech recognition (e.g., verbally recorded drafts). In a multimodal context, AI-assisted editing tools could be permitted alongside documentation of the process.

### Level 4 – AI task completion, human evaluation

AI is used to complete major elements of the task, with students critiquing and reflecting on AI-generated content. At this level, students might create significant portions of the outcome with AI and then reflect on the quality, voracity, bias or overall quality of the AI-generated data. For example, AI may be used to create mock data sets in the sciences, entire written responses to literature or complete code. The core element of this level is that students are required to reflect on and assess these GenAI-created outputs and not just to use them to complete a set task.

### Level 5 – Full AI

AI is used throughout the assessment without the need to specifically acknowledge any AI-generated content. At this level, the use of any multimodal GenAI technology is either permitted for the completion of the task or required to be used to score highly, for example, requiring students to use AI avatars in the production of video content or to write responses using GenAI text editing tools alongside their written work. This level is particularly suitable when one of the learning objectives is related to the use of GenAI but it may be integrated into any assessment with the recognition that students will be expected to use these tools alongside their own work in future work environments.

The five-point AIAS is presented in Table 1.

Table 1
*The AIAS*

| 1 | NO AI | The assessment is completed entirely without AI assistance. This level ensures that students rely solely on their knowledge, understanding, and skills.<br><br>**AI must not be used at any point during the assessment.** |
|---|---|---|
| 2 | AI-ASSISTED IDEA GENERATION AND STRUCTURING | AI can be used in the assessment for brainstorming, creating structures, and generating ideas for improving work.<br><br>**No AI content is allowed in the final submission.** |
| 3 | AI-ASSISTED EDITING | AI can be used to make improvements to the clarity or quality of student created work to improve the final output, but no new content can be created using AI.<br><br>**AI can be used, but your original work with no AI content must be provided in an appendix.** |
| 4 | AI TASK COMPLETION, HUMAN EVALUATION | AI is used to complete certain elements of the task, with students providing discussion or commentary on the AI-generated content. This level requires critical engagement with AI generated content and evaluating its output.<br><br>**You will use AI to complete specified tasks in your assessment. Any AI created content must be cited.** |
| 5 | FULL AI | AI should be used as a "co-pilot" in order to meet the requirements of the assessment, allowing for a collaborative approach with AI and enhancing creativity.<br><br>**You may use AI throughout your assessment to support your own work and do not have to specify which content is AI generated.** |

## Case study: The AIAS at BUV

### Background

BUV is a private institution with approximately 2500 students and follows a United Kingdom-based HE curriculum with international accreditation through the United Kingdom Quality Assurance Agency. The language of instruction is English; however, most students are ESL learners. In early 2023, our discussions led to the adaptation of an initial AI assessment scale (Furze, 2023) into its current format, designed to support educators and students at BUV in developing assessment tasks and discussing the appropriate use of GenAI.

BUV's reaction to GenAI tools was shaped by a gradual increase in the institutional knowledge of this disruptive technology. Initially, the technology went unnoticed, and no policy adjustments were considered: it is likely that some students were using GenAI tools available from OpenAI prior to the release of ChatGPT, but BUV was unable to determine this. Next, there was a noticeable increase in papers being submitted with a higher level of written English than could be reasonably expected from some

students considering their demonstrated language skills in class. However, these submissions often contained odd choices of phrasing or errors with sources used that could not be identified, leading to a recognition of a potential problem and a consideration of potential actions to resolve this. Finally, the number of submissions that were suspected of being created using GenAI tools (and subsequent academic misconduct cases) became significant enough for changes in policy to be developed and introduced.

## GenAI policy adjustments

Prior to the introduction of any policy related to GenAI tools being introduced, BUV students argued during academic integrity discussions that no GenAI tools had been used but instead that translation or grammar improvement software had been used, explaining the high levels of language competency demonstrated. Although academic integrity panels were often not convinced by this argument, having seen the "word-salad" (Roe & Perkins, 2022, p. 5; Rogerson & McCarthy, 2017) that was the frequent result of some translation or automated paraphrasing tools, these cases were dealt with through the existing academic misconduct regulations of BUV, with students penalised, under the offence of misrepresentation of effort. Following the release of ChatGPT at the end of November 2022 (OpenAI, 2022), the number of cases where GenAI tool usage was suspected continued to grow.

In the January 2023 semester, students were informed that under the existing assessment regulations, the use of GenAI tools was not permitted in written work. This ban coincided with the launch of Turnitin's (2023) AI detect feature, which was enabled in BUV's existing account. Faculty were trained on the use of this feature, and research was conducted inside the university to explore the ability of faculty members to determine whether these tools were useful in identifying the potential misuse of GenAI tools, especially when GPT-4 was being used to generate text (Perkins & Roe, 2023) It was revealed that although academic staff members were able to see the supposed percentage of AI content, connecting this percentage use to a determinant of whether academic integrity policies had been violated was not something that faculty were confident in doing. However, at the time, the Turnitin's (2023) AI detect feature was considered by BUV administration a useful tool in highlighting to faculty where further investigation might be warranted and continued to be used as one piece of evidence in determining whether students had misused GenAI tools in their submissions.

During the assessment submissions for the January 2023 semester, over 77% of all reported violations of academic integrity were AI-related, and this increased to over 88% in the April 2023 semester (see Table 2). Numbering in the hundreds, the penalties applied to these cases drew the attention of the dean and deputy vice-chancellor. With a consideration of the global news storm on the pervasiveness of AI usage in society (Roe & Perkins, 2023), and with the recognition of emerging evidence revealing that these software tools were not as effective in detecting AI content as claimed by the developers (Anderson et al., 2023; Chaka, 2023, 2024; Elali & Rachid, 2023; Elkhatat et al., 2023; Liang et al., 2023; Orenstrakh et al., 2023; Perkins, Roe, Postma et al., 2024; Perkins, Roe, Vu et al., 2024; Weber-Wulff et al., 2023), BUV was faced with a dilemma: How could faculty maintain academic integrity in the age of GenAI, while still adequately preparing students for future industry applications? This led to an understanding that a more nuanced perspective on GenAI use in assessments was needed; an approach that addressed assessment integrity but also acknowledged the inevitability of GenAI's societal integration.

## Launch and implementation of the AIAS

Considering these factors, in August 2023, BUV leadership decided to accept the use of GenAI tools for some student submissions. They set up a team to incorporate AI into teaching, learning and assessment regulations with the following objectives:
  (1)  help educators consider how their assessments may need to be adjusted considering GenAI tools
  (2)  clarify to students how and where GenAI tools might be used in their work
  (3)  support students in completing assessments in line with the principles of academic integrity, thereby reducing the number of academic misconduct violations within BUV.

During an exploration of possible ideas related to the integration of AI into assessments, the team identified an initial version of the AIAS (Furze, 2023). Although faculty members believed that this idea could be something that would help achieve the required objectives, significant debate occurred regarding how granular any such scale needed to be. As a core objective of any framework was that students would be able to clearly understand to what extent GenAI tools were allowed to be used, some members of the team argued for a highly granular approach, emphasising the many possible use cases of GenAI tools. However, an alternative perspective was that any framework must be flexible and simple enough to encourage students to adapt and comply with a framework. As most BUV students are ESL students, this was an additional factor to consider. The result of the discussions was a minor variation of the AIAS that is presented in Table 1.

The scale was designed during August 2023 and was then approved by the Learning and Teaching Committee and the Academic Board of the University Senate in September 2023, accompanied by student-focused policy documentation and guidance explaining acceptable GenAI use in assessments. This policy focused on three core areas: ethics & transparency, security & privacy, and limitations & bias, with all training materials related to the AIAS being framed with these principles in mind. Policy documentation, training material and the AIAS were designed and implemented in October 2023 for the start of the new academic year, with an extensive internal campaign to educate students on the changes in assessment and to brief academic staff on how to apply the new scale and strategy to their assessments

The adoption of the AIAS led to significant changes in assessment design and instruction at BUV. Faculty were required to restrict Level 1 use to examinations, assessments set by professional bodies or activities requiring live demonstrations of competence. Level 2 was primarily restricted to English language programmes or required approval from discipline leaders, with the Level 3 becoming the new base standard for take-home assessments, as this level reduced the initial challenges for faculty in that assessments did not require full re-design at this stage. Recognising the potential future integration of GenAI, faculty were encouraged to consider setting assessments at Levels 4 and 5 to maximise learning opportunities for students while reducing the inherent risks of students misusing GenAI tools at the lower levels of the scale. Setting assessments at these higher levels was a more challenging task, as this required a more in-depth redesign of assessment strategies while maintaining alignment with existing module and programme level learning outcomes. Assessments at these levels are particularly useful for addressing higher order learning skills where students are asked to demonstrate skills of evaluation and creation. For example, at Level 4 of the AIAS, the evaluation and critique of AI-generated content is a major component, enabling students to engage critically with GenAI outputs. At Level 5, the AIAS facilitates a greater emphasis on the Create level of the revised version of Bloom's taxonomy (Armstrong, 2010) by encouraging students to incorporate multi-modal contributions into their work.

The centralised nature of assessment setting at BUV meant that no assessment papers were approved for release to students without being compliant with the new policies, limiting the risks of students receiving inaccurate information at the critical point of the introduction of the policies.

## Results

Following the October teaching semester and subsequent assessment period, the implementation of the AIAS showed initial signs of success in several key areas.

### Academic misconduct

Prior to the implementation of the AIAS and associated policies, AI-related academic misconduct was a serious concern. AI-related academic misconduct cases were raised to the centralised university academic misconduct panels, following reports made by academic staff based on the Turnitin AI Detect tool and their own judgement of the work. Any reductions in student grades by the panel were carried out following several stages of reviews of the student work and viva voce discussions with students.

January 2023 was the first semester in which the use of AI tools was formally banned by BUV, and despite the ban, 6.5% (112) of the student submissions during this semester received a GenAI-related academic misconduct penalty (see Table 2). During the April 2023 semester, the proportion misconduct cases that included AI misuse increased, but we saw an overall reduction in AI-related misconduct cases. We believe this was due to an increased awareness among the student body of the risks they faced when using GenAI tools in their assessment.

Table 2
*Academic misconduct results January 2023 – January 2024*

| Semester start date | Number of assignment submissions | Detected cases of misconduct | Misconduct cases as % of assignment submissions | AI-related misconduct cases | AI-related misconduct cases as % of misconduct cases | AI misconduct as % of assignment submissions |
|---|---|---|---|---|---|---|
| January 2023 | 1,722 | 145 | 8.42% | 112 | 77.24% | 6.50% |
| April 2023 | 5,255 | 99 | 11.57% | 86 | 86.87% | 1.64% |
| July 2023 | 1,576 | 7 | 3.46% | 4 | 57.14% | 0.25% |
| October 2023 | 3,,996 | 1 | 0.13% | 0 | 0.00% | 0.00% |
| January 2024 | 4159 | 24 | 0.67% | 4 | 16.67% | 0.10% |

The AIAS and associated policies were designed during the July 2023 semester, with the data showing a further reduction in the percentage of AI-related misconduct cases for assessments during this semester, again likely due to the increased awareness by students of the potential for penalties if inappropriate AI use was detected. Despite this reduction, more than 57% of misconduct cases involved AI, and we were still not supporting students in using these tools in an ethical manner.

Data from the October 2023 semester shows the positive impact of the AIAS on AI-related misconduct compared to previous semesters. Following the conclusion of the October 2023 semester, there was only one case of academic misconduct, and no cases of any AI-related academic misconduct. Despite an increase in the proportion of AI-related misconduct cases in the January 2024 semester, the overall impact of the AIAS and associated reduction in AI misconduct appears to be holding.

The reduces cases of AI-related academic misconduct reported following the implementation of the AIAS may be viewed with cautious optimism. Although it appears that the AIAS has decreased academic misconduct overall, it is important to factor in recent policy changes that permit wider use of GenAI and give academic staff more freedom to modify grades if these tools are misused. For instance, if the use of GenAI tools is permitted during an assessment but is exploited, such as using GenAI to generate the final text in a Level 3 assessment where the student's original work does not show that the ideas belong to the student, faculty members can now exercise their academic judgment and reduce the marks accordingly, without having to report the case as misconduct. This change in policy has likely contributed to the decrease in reported cases of AI-related misconduct, as actions that were previously considered as misconduct can now be addressed through grade adjustments at the discretion of the academic staff, allowing them to focus on determining how well students have met the learning outcomes of the assessment. However, this does not explain the overall reduction we have seen in other forms of academic misconduct, suggesting that allowing students access to using GenAI tools may have reduced more traditional forms of misconduct such as plagiarism.

We recognise that this reduction in traditional forms of misconduct may be due to the transfer of some student misconduct activity from engaging in direct copy-and-paste plagiarism to using AI-generated content, potentially hiding their use of AI. While Although the AIAS provides a framework for the acceptable use of GenAI tools, it is possible that some students may exploit these tools in ways that are difficult to detect, and that misconduct has switched to more challenging to detect "complex plagiarism" (Perkins et al., 2019, p. 2). Despite this potential limitation, the overall decrease in both AI-related and

traditional forms of academic misconduct following the implementation of the AIAS suggests that the scale has had a positive impact on promoting academic integrity.

### Improvements in student performance and engagement

Comparing mean grades for the October 2023 semester with those from the same semester in the previous year may provide additional insights into the effectiveness of these policy changes. Reviewing the grades achieved by students across all years and modules showed an increase of 5.9% between the October 2022 semester (the first semester in which GenAI tools had gained significant media attention) and the October 2023 semester. This rise in academic performance was accompanied by a 33.3% increase in overall module pass rates in the same period. Although improvements in module averages are modest, this could suggest that because of the introduction of the AIAS and the subsequent normalisation of GenAI tools, students are harnessing these more effectively for their studies. The significant increase in pass rates suggests that students for whom language skills may have been an impediment to expressing their ideas are now able to do so more effectively. Combined, these increases hint at these tools potentially aiding students in overcoming language barriers, suggesting that GenAI tools, when used within the framework of the AIAS, could enhance their overall educational experience.

### Changes in pedagogical practices

The impact of the AIAS also needs to be considered within the broader context of the changes made in pedagogical practices related to GenAI at BUV. Discipline leaders have reported positive shifts in pedagogical practices within their subjects, with many academic staff members choosing to incorporate GenAI tools into their modules. This aligns with the first aim of the AIAS intervention, which seeks to encourage educators to consider how assessments might be adjusted by considering GenAI capabilities. The innovative assessment designs that have emerged, particularly those that use GenAI as a "co-pilot", indicate a significant pedagogical shift towards embracing these technologies within the academic setting. The first semester of implementation also revealed instances of highly creative uses of GenAI in student submissions. This has been particularly notable at the higher end of the AI scale, where students have engaged with a broad spectrum of GenAI tools to create complex and sophisticated multimodal submissions.

AIAS implementation at BUV has led to an increase in student engagement, particularly in areas where the traditional emphasis on long-form writing may have been a hurdle for second-language speakers, and in doing so AI tools have offered an alternative support for students in expressing their knowledge and creativity. For instance, in courses where a module assessment may have previously been 100% based on an individual essay, providing students with the option to demonstrate their achievement of the learning outcomes in other formats, such as presentations aided by AI-generated visuals or summarising complex ideas with the help of AI, can help to level the playing field for those for whom English is not their first language. These outcomes suggest that the AIAS not only addresses concerns about academic integrity but also creates new avenues for student creativity and engagement.

Although the full impact of this initiative will become clearer as we continue to observe its long-term effects on academic standards and student learning outcomes, the initial introduction has demonstrated the potential for the AIAS to have a significant impact on supporting the ethical use of GenAI in assessments, while at the same time increasing engagement in new technology from both academic staff and students.

## Discussion

The AIAS serves as a valuable tool for faculty to align assessments with programme and course learning outcomes, while also contextualising them within the new reality of GenAI capabilities. As learning objectives do not always evolve as quickly as the tools themselves, the AIAS provides a flexible framework for adjusting assessments in a manner that allows learning outcomes to be met more appropriately.

The AIAS aims to address the issues highlighted in the Introduction, including supporting student learning, acknowledging the growing complexity of GenAI-based tools and supporting the ethical and transparent use of these tools in education. It sets clear expectations for academic integrity and conveys these guidelines through an accessible five-point scale. By having a clear, flexible and adaptable tool, the AIAS coherently addresses the current lack of a robust policy framework on GenAI use in HE (Luo, 2024) and enables assessments which emphasise authentic engagement with AI (Lodge et al., 2023). The AIAS is designed to embrace the full spectrum of GenAI capabilities at present, including text, image, audio, video and code generation. By equipping students to engage with advanced GenAI technologies, the AIAS empowers educators to shift their focus back to the human aspects of learning (Miao & Holmes, 2023) and to design assessments that are primarily meaningful for learning (Luo, 2024).

## Generative AI, academic integrity and assessment

To encourage practices in education which acknowledge the potential of GenAI and support students in all disciplines to use these technologies appropriately, the narrative surrounding GenAI in HE must shift beyond cheating. Concerns about academic dishonesty are not new, and misconduct in assessment tasks using GenAI can be seen as an extension of preexisting student behaviours (Birks & Clare, 2023). This shift in narrative is particularly important in the context of this case, as students from Asia studying in a second language have traditionally been perceived as passive and lacking autonomy; however, research has shown that these misconceptions do not accurately reflect students' willingness to engage in autonomous learning practices when provided with necessary support, guidance and tools (Roe & Perkins, 2020).

As with pre-AI discussions of academic integrity, it is important to recognise that students' misconduct is not equal across all assessment types; some forms lend themselves to academic dishonesty more than others (Bretag et al., 2019). Certain assessment types, particularly those conducted online and without supervision, are likely to create more opportunities for misconduct (Roe et al., 2023). As such, thoughtful assessment and curriculum design can reduce the temptation for students to commit academic misconduct (Sutherland-Smith & Dawson, 2022), while clearly articulating guidelines and regulations can reduce opportunities for AI-related academic dishonesty in ways which appeal to individuals' consciences (Birks & Clare, 2023). The AIAS, with its structured yet adaptable framework, could serve as a mechanism for this cultural shift. It not only delineates clear boundaries and expectations for GenAI use in academic tasks, but also encourages educators and students alike to explore the multifaceted capabilities of these technologies within an ethical framework. This contributes to transparent communication and collaboration, which have been identified as two of the most important points in developing an effective, trusting and caring academic culture (Luo, 2024).

It is also necessary to critique the emergent proliferation of GenAI detection tools and their roles in academic integrity conversations. Given the pace of change in technology and methods which can be used to produce more sophisticated and human-like texts (Cole & Kiss, 2000), the "arms race" (Roe & Perkins, 2022, p. 2) between GenAI tools and AI text detection software is likely to continue for some time. Although claims by software providers such as Turnitin and GPTZero that their software is accurate in detecting AI-generated content in student work (GPTZero, n.d; Walters, 2023), a growing body of empirical research has shown that these claims are not entirely accurate and that detection tools can be easily evaded (Anderson et al., 2023; Chaka, 2023; Chakraborty et al., 2023; Elkhatat et al., 2023; Perkins & Roe, 2023; Weber-Wulff et al., 2023), with the additional concern of potential false positives among non-native English speakers (Liang et al., 2023).

Finally, although the training of staff to identify GenAI-created texts is somewhat effective (Abd-Elaal et al., 2022), the continuing development of GenAI tools may render these approaches ineffective. The ongoing tension between advancements in GenAI and detection methodologies underscores the potential limitations of relying solely on technology to ensure academic integrity. This highlights the importance of developing robust educational strategies, such as the AIAS, that emphasise ethical use, critical engagement and creative incorporation of GenAI in learning and assessment, rather than focusing predominantly on detection and deterrence.

## Limitations

The initial findings from the AIAS pilot study offer promising insights into the potential integration of GenAI into HE assessment; however, these results are preliminary and have several limitations. The evidence base for the effectiveness of the AIAS is still in its infancy, and the pilot's scope within a single institution may not fully capture the scale's applicability across a range of educational contexts and disciplines. The positive outcomes reported require further validation through larger, more diverse studies to understand their generalisability. It is also necessary to acknowledge the AIAS has only been tested in a transnational educational environment rooted in a traditional Western academic cultural paradigm. Other forms of knowledge assessment and knowing may not translate well into the AIAS, representing an area for further study across different cultural contexts, pedagogies and educational spaces.

The rapid development of GenAI technologies poses a challenge to the long-term relevance and applicability of the AIAS. The current iteration of the scale may not fully account for future advancements in GenAI capabilities, which could introduce new ethical, pedagogical and assessment-related challenges not considered in the pilot study. However, the observed changes in pedagogical practices and increased student engagement with GenAI tools following the implementation of the AIAS suggest that the framework has the potential to foster a more inclusive and adaptive learning environment. Finally, the reduction in reported cases of academic misconduct following the implementation of the AIAS might be influenced by factors other than the scale's introduction, and without a control group or comparative analysis, attributing the decrease solely to the AIAS's influence remains speculative.

## Conclusion

The pilot implementation of the AIAS at BUV demonstrates a pragmatic approach to integrating GenAI into assessment strategies within an HE context in an ethical, transparent and effective manner. The AIAS offers a structured yet flexible approach that can adapt to the diverse needs of different disciplines and assessment types, providing clear guidelines for both students and educators regarding the appropriate use of GenAI tools. The positive outcomes observed in BUV, including a decrease in academic misconduct and improved student engagement and performance, suggest that when GenAI is used within well-defined ethical parameters, it can significantly enhance educational experiences and outcomes.

The pilot implementation at BUV has been instrumental in refining the AIAS. Real-world application revealed the need for greater flexibility and a more nuanced approach to AI integration across disciplines. These insights, combined with feedback from diverse stakeholders, have informed the scale's updates, including the restructuring of levels, the removal of the "traffic light" colours and the introduction of a new exploratory tier. These changes will be reflected in future versions of the AIAS (Furze, 2024).

Future research should focus on expanding the evidence base for the effectiveness of the AIAS, exploring its applicability across different educational contexts and refining the framework in response to the evolving capabilities of GenAI technologies. This will require a collaborative effort among educators, policymakers, and researchers to ensure that the integration of GenAI into HE is ethical and equitable and enhances the learning experience for all students. The AIAS offers a model for how institutions can address the challenges of academic integrity in the age of AI while leveraging technology to create more engaging and inclusive learning environments. As GenAI becomes an integral part of the professional and personal landscape, the AIAS can help HE institutions prepare students for success in an increasingly AI-driven world.

## AI usage disclaimer

This study used GenAI tools for revision and editorial purposes throughout the production of the manuscript. Models used were ChatGPT (GPT-4) and Claude 3 (Opus). The authors reviewed, edited and take responsibility for all outputs of the tools used in this study.

## Author contributions

**Leon Furze**: Conceptualisation, Writing – original draft, Writing – review and editing; **Mike Perkins:** Conceptualisation, Writing – original draft, Data curation, Investigation, Formal analysis, Writing – review and editing; **Jasper Roe**: Writing – original draft, Writing – review and editing; **Jason MacVaugh:** Writing – review and editing.

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