Student Perspectives on the Usage of Generative Artificial Intelligence (AI)

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Executive Summary

Students hold diverse views on the application of generative AI in education, showing a nuanced understanding of its implications. They generally agree that using AI to create entire essays for submission is inappropriate, but find its usage acceptable for tasks including code debugging and proofreading. Several areas, such as using generative AI as a personal assistant and even what this means in practice, are contested. Clear guidelines and periodic reviews are needed for appropriate AI use.

Regarding assessment, plagiarism detection software is just one tool that should be called upon to tackle AI misuse. Students suggested adapting and/or expanding assessment methods, such as introducing more field trips, interviews, or oral defences alongside written coursework, which many prefer over traditional exams.

The university's culture and approach to generative AI play a crucial role. While some students oppose AI literacy, there's a need to offer opportunities for those interested to learn. AI literacy courses could cover coding with ChatGPT, prompt engineering, proofreading, critically evaluating AI outputs, understanding AI mechanics, handling bias, plagiarism, and citation.

Dependence on AI should be discouraged in favour of promoting human involvement. Ongoing collaboration between students and the institution is essential. The complex landscape of generative AI in education calls for a balanced approach that respects student concerns while leveraging AI's potential to enhance teaching and learning.

Recommendations

1. UoW’s actions concerning generative AI should be evidence based and their effectiveness evaluated using robust methods and based on a comprehensive theory of change.

2. Schedule for regular reviews of UoW's Position Statement on AI and student guidance on generative AI. In the first instance, the review should consider the placement (i.e., under academic misconduct) of the student guidance on the institutional website, as well as regular communication about and signposting to the relevant pages.
3. Conduct a review of all assessments in light of the emergence of generative AI and, where appropriate, make adjustments to ensure they are authentic and meaningful.
4. If ChatGPT or other generative AI deemed beneficial to students is placed behind a paywall, the university should consider purchasing, if possible, a blanket subscription in order to tackle access inequalities.
5. Develop a suite of AI literacy resources for students and colleagues. Resources should be layered and tailored.
    a. For instance, there could be a mandatory beginner's layer for all students covering the fundamentals of appropriate generative AI usage, but optional intermediate and advanced layers for those who want to explore deeper.
    b. Some applications of generative AI may be course-specific. There should be sufficient flexibility for course leaders to develop their own AI literacy resources.
6. Consider the best format(s) for ongoing collection of student perspectives on generative AI. Consideration should also be given to when student views are collected, how they feed into institutional decision-making, as well as timelines for implementation.

Introduction

The dawn of generative AI has brought both opportunities and challenges to the Higher Education (HE) sector.[1] Tools such as ChatGPT have the potential to enhance productivity by completing repetitive or routine tasks; producing lesson plans; paraphrasing; alongside a range of other assistive functions. However, what happens when generative AI's usage goes beyond the assistive? What are the boundaries of assistance? When does assistance become

[1] For example, Enkelejda Kasneci, *et al*. "ChatGPT for good? On opportunities and challenges of large language models for education," *Learning and Individual Difference* 103 (2023); Cecilia Ka Yuk Chan, and Wenjie Hu, "Students' Voice on Generative AI: Perceptions, Benefits, and Challenges in Higher Education," (2023). https://arxiv.org/abs/2305.00290; Tareq Rasul, *et al*. "The role of ChatGPT in higher education: Benefits, challenges, and future research directions," *Journal of Applied Learning & Teaching* 6, no.1 (2023); and QAA, *Maintaining quality and standards in the ChatGPT era: QAA advice on the opportunities and challenges posed by Generative Artificial Intelligence*, (QAA, 2023), https://www.qaa.ac.uk/news-events/news/qaa-publishes-additional-advice-on-generative-artificial-intelligence-tools#.

dependence or intentional cheating? In order to provide answers to these and other questions, University of Westminster's (UoW) Institutional Research Team (IRT) carried out focus group discussions and interviews with current students to ascertain their perspectives on the usage of generative AI in HE. The qualitative findings from this project will add to existing quantitative research and inform UoW's evolving response to the "disruption" of generative AI.

Structurally, the paper first addresses means of data collection and data analysis, followed by a detailing of participant demographics. The remainder covers student perspectives on the usages of generative AI in HE. The first part of this section makes a case, despite some opposition and various ethical issues, for the necessity of adaptation to generative AI and AI literacy, or at the very least providing opportunities for interested students to build their knowledge and skills. The second part discusses student perspectives on appropriate and inappropriate usage of generative AI; the views expressed cover views on both student *and* teacher/staff usage. The third section looks at the future of assessment in the context of generative AI. An important sub-theme of this area is the need to steer conversation away from an exclusive focus on plagiarism and the need for greater balance; a topic raised in the fourth section concerned with the content of AI literacy. The fifth section concerns the topic of dialogue and regulation in determining where to draw the line on acceptable usage, making a case for institutional leadership in close and ongoing collaboration with students as key stakeholders.

Demographics and participant information

The analysis below was based on five focus groups and one one-to-one interview with students carried out in July 2023. During the registration process, students were asked to share their school, course title, study level, age range, gender, and whether they were a home or international student. All 12 schools were represented (Table 1), with the highest number coming from the School of Computer Science and Engineering (n=4). In terms of the study level split, there were 15 undergraduates, eight taught postgraduates, and one research postgraduate. 22 students gave their age range, with four 18-20, 14 21-30 and four 31-40. The gender split was 18 females to 6 males. And that for home to international was 11 to 13, respectively.

Table 1. Count of student by school

School	Count of Student Participants
School of Applied Management	1
School of Architecture and Cities	1
School of Computer Science and Engineering	4
School of Finance and Accounting	2
School of Humanities	3
School of Life Sciences	3
School of Management and Marketing	1
School of Organisations, Economy and Society	3
School of Social Sciences	3
Westminster Law School	2
Westminster School of Arts	1

Students were also given the option of sharing their self-reported familiarity with generative AI tools (Chart 1); their confidence using those same tools (Chart 2); their current usage of generative AI in education/learning (Chart 3); as well as their views on whether or not the university should teach generative AI skills (Chart 4).

Chart 1. Self-reported familiarity with generative AI tools

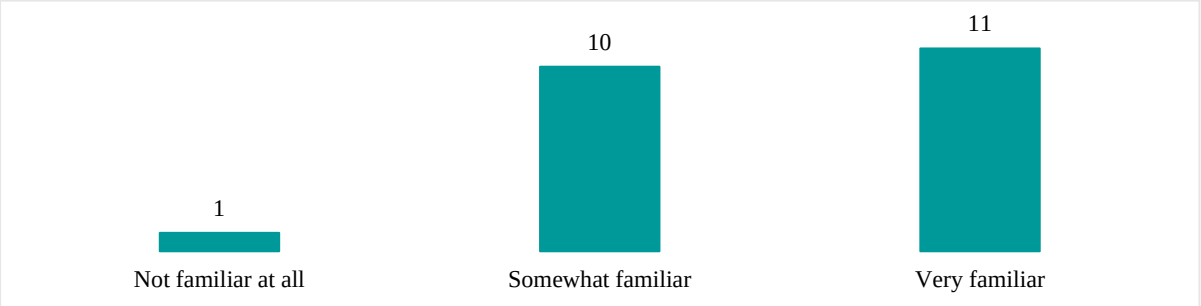

Chart 2. Self-reported confidence using generative AI tools

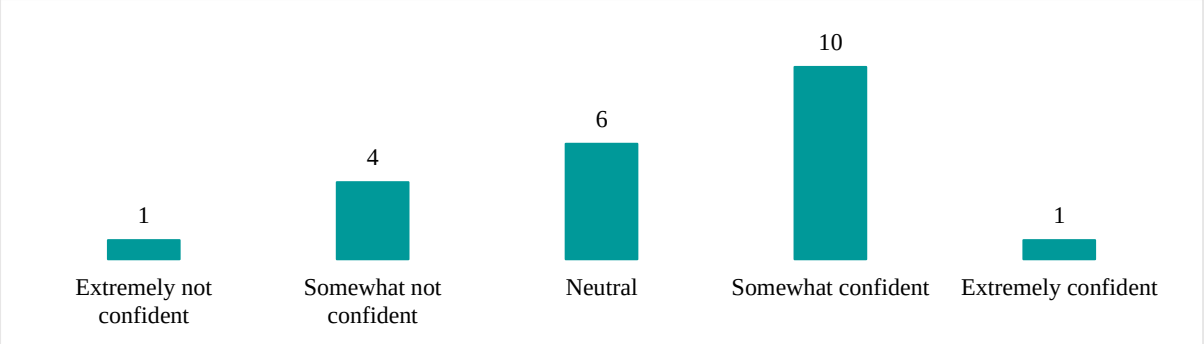

Chart 3. Self-reported usage of generative AI tools in education/learning (No, and I am not interested in trying it; No, but I am interested in trying it; Yes, but only occasionally; Yes, regularly)

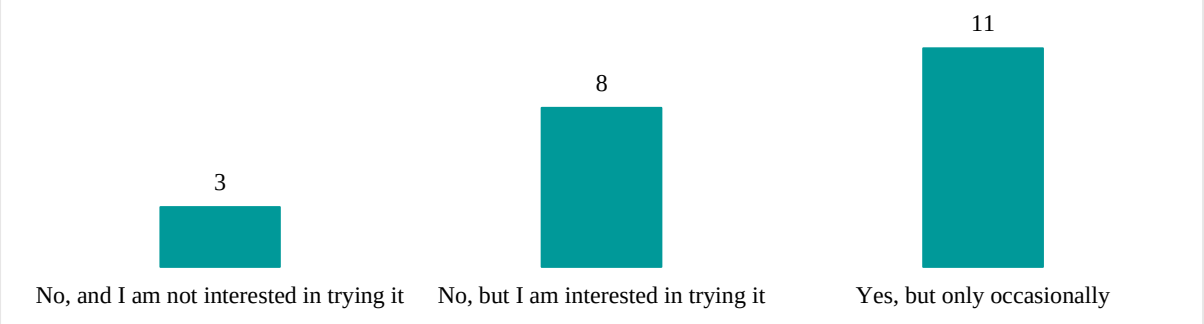

Chart 4. Should the university teach generative AI skills to students? (Yes; No; Not Sure)

"They can live in my new world, or they can die in their old one"

By way of introduction, each student was asked to distil their overall feelings regarding generative AI into a single word. The feedback was mixed, the ambiguity captured by Elon Musk's oxymoronic description of ChatGPT as 'scary good.' [2] Comments included,

[2] Elon Mush (@elonmusk). 2022. "ChatGPT is scary good. We are not far from dangerously strong AI." Twitter, December 3, 2022, 7:48PM. https://twitter.com/elonmusk/status/1599128577068650498?lang=en.

'interesting' [3] or 'intriguing;' [4] 'controversial,' [5] 'galvanising' and 'revolutionary;' [6] 'transformative,' in ways potentially good and bad;[7] as well as 'scary.'[8] Given the relative newness of the technology, some were unable to decide whether generative AI portended a positive or negative omen. [9] For others, generative AI was simply synonymous with 'ChatGPT.'[10]

Given the opportunity to develop their views, some opted to talk about the efficiency gains offered by generative AI, as well as its role as a confidence builder. Linked to the idea of using generative AI to explain new or challenging concepts, the potential for increased conceptual understanding following a query put to a generative AI tool could have a positive effect on student confidence.[11] Time-saving and efficiency were frequently cited as benefits of generative AI.[12] Generative AI opened up a range of opportunities, some of them striking at the structural foundations of undergraduate degrees:

> '[P]erhaps the question is, why can't we do that [i.e., use generative AI in assessments]? What's wrong with that? If we can save all of that time, why does a degree of that style need to be three years long? What if we could condense that into a year and a half? If we did that, would that degree therefore be more affordable? And would therefore also make it more possible for people who wish to go back to education and give them the opportunity to do so more accessible [sic]?'[13]

However, it was questioned whether understanding was being sacrificed for speed.[14] Therefore, generative AI was perceived as offering tangible and intangible benefits.

However, a future academia and wider working world with an exponentially increasing generative AI presence was not viewed with enthusiasm. Even students with, on balance, pro-generative AI views addressed fears of redundancy at the hands of generative AI. One student asked rhetorically: '[I]f a company can use ChatGPT to generate a copy for their products, why

[3] Student 19.
[4] Student 9.
[5] Student 21.
[6] Student 24.
[7] Student 10 and Student 20.
[8] Student 12 and Student 17.
[9] Student 10 and Student 19.
[10] Student 3 and Student 22.
[11] Student 4.
[12] Student 4, Student 5, Student 10 and Student 24.
[13] Student 10.
[14] Student 15.

should we pay you a monthly salary to do that?'[15] A PhD research student expressed concerns about generative AI 'replacing academics,' potentially putting early careers researchers out of employment.[16] However, others found reassurance in that there are things that generative AI (currently) cannot do, such as case studies based on private organisational data, information absent from the generative AI's training data.[17] From the offset, this should shatter any myths about all students holding favourable attitudes towards generative AI in the context of HE, or rubbing their hands at the prospect of using it to write their assignments.[18] If some students embrace the need to 'adapt' to this technology,[19] a further sub-population do so without much glee.[20] Some would prefer to resist its temptations *in most instances* and for the university to follow suit.[21]

Opposition to generative AI is driven to a considerable degree by ethical concerns. One such concern is fairness. If AI is being used to generate complete assignments and detection software is unable to accurately and consistently identify AI-generated work, then those students who have completed their work without AI assistance may feel aggrieved.[22] Issues with the biases ingrained within and the reliability of generative AI's output, as well as data privacy were also raised; though these could be effectively tackled via AI literacy efforts.[23] A further contention is that a growing reliance on generative AI may produce detrimental impacts on graduate quality due to its stifling effect on critical thinking skills and, by extension, the reputation of UoW amongst employers.[24] There is potential here for reputational damage to the institution, particularly as graduate employability constitutes an important part of UoW's work and mission, forming an integral part of the university's *Being Westminster 2022-2029* strategy.[25] Another is the danger generative AI presents to the purpose of education and

[15] Student 1.
[16] Student 21.
[17] Student 12.
[18] Kay Hack, "'Excited, concerned and curious': student perspectives on learning and working in the era of AI," *Advance HE*, February 21, 2023, https://www.advance-he.ac.uk/news-and-views/excited-concerned-and-curious-student-perspectives-learning-and-working-era-ai.
[19] Student 10, Student 16, Student 19 and Student 24.
[20] Student 17 and Student 12.
[21] Student 12 and Student 13.
[22] Student 3, Student 10, Student 13 and Student 22.
[23] Student 7, Student 10, Student 11, Student 13, Student 14, Student 19, Student 20 and Student 23.
[24] Student 3.
[25] UoW, *Being Westminster, 2022-2029*, (UoW), https://www.westminster.ac.uk/sites/default/public-files/prospectuses/Being-Westminster-2022-29.pdf

attending HE in the first place, as it takes away the opportunity to learn new skills;[26] as well its perceived equivalence with cheating:

> 'I think there's better things the university could pay for students to have access to than ChatGPT. I think if it went behind a paywall, maybe that would be a good thing in that there will be less temptation for students to use it, and it would fall more into the category of, you know, paying someone to write an essay for you…'[27]

Any investment or focus on the part of the university, they argue, should go on alternatives.[28]

Generative AI also poses questions concerning accessibility and inclusivity. At the time of writing, ChatGPT's GPT-3 is free of charge, however, those that wish to and have the means can pay a subscription fee for access to the more powerful GPT-4. Therefore, there is a risk that, rather than democratising learning, generative AIs reinforce the disparities between the haves and have-nots.[29] One potential remedy for this would be for the university to purchase a blanket subscription so that everyone has access to the latest generative AI tools.[30] This route is not perfect, there will be those willing and able to spend more on different tools, it is nevertheless a measure that does more to level the playing field rather than contributing to its imbalances.

Nevertheless, it appears that generative AI in its many guises is here to stay. To emphasise this point, one student quoted the output they received to a question put to ChatGPT, which had itself quoted Daenerys Targaryen from *Game of Thrones*: 'They can live in my new world, or they can die in their old one.' While this sounds ominous and, admittedly, a little 'threatening,' it does assert the reality of generative AI's presence and continuity, as well as the need to adapt to it.[31] Students that want to will use generative AI tools whether the university tries to regulate its use or not, and there are no guarantees that using it to write their essays will get flagged by detection software, an eventuality recognised by multiple focus group participants.[32] There is a risk that regulation that is too heavy-handed or an outright ban might be interpreted by some students as doing them a disservice, making them less competitive in and unprepared for a world of employment that has embraced, or least accepted,

[26] Student 1, Student 13 and Student 15.
[27] Student 12.
[28] Student 12 and Student 13.
[29] Student 8.
[30] Student 7.
[31] Student 10.
[32] Student 10.

AI.[33] This echoes the view of Michael Draper, a professor in legal education who has published on the issue of academic integrity: 'If we're preparing students for the outside world of work and if in the workplace this sort of technology is given to us, then I think we need to embrace it rather than ban it.'[34]

However, this should not be taken as license for an AI free-for-all, there remains important discussions to be had about precisely how the university approaches generative AI. Trying to balance resistance to generative AI with begrudging and enthusiastic acceptance of the need to adapt to it is challenging. A possible solution resides in creating the opportunities for those that want (or need) to learn more about it to learn about it, whilst simultaneously drawing clear lines in the sand about good and bad generative AI practice in HE. Moving towards resolution, it is helpful to understand student views on what they regard to be appropriate and inappropriate usages of generative AI.

Where do you draw the line?

So far, we have seen that students at UoW hold a range of views and ethical positions on generative AI. Students were asked for their opinions on what they deemed to be acceptable or unacceptable uses of generative AI in the context of teaching and learning at a HE institution. It is helpful to distinguish (dis)approved usages relating to learners and those relating to educators, beginning with the former.

Learners

In terms of unacceptable usages, the most frequently cited was using generative AI to produce a piece of work, in chunks, or in its entirety.[35] This view was held by students studying at all levels (i.e., undergraduate, postgraduate taught, and postgraduate research), and across both UK home and international students, as well as age, gender and school. Using such tools in this way was perceived as tantamount to plagiarism.[36] Relatedly, there was opposition to using generative AI for any aspect of academia involving "critical thinking" or "analysis."[37] Critical

[33] Student 1, Student 10 and Student 16.
[34] Sally Weale, "Lecturers urged to review assessments in UK amid concerns over new AI tool," *The Guardian*, January 13, 2023, https://www.theguardian.com/technology/2023/jan/13/end-of-the-essay-uk-lecturers-assessments-chatgpt-concerns-ai.
[35] Student 9, Student 10, Student 12, Student 13 and Student 21.
[36] Student 5 and Student 9.
[37] Student 2 and Student 6.

thinking was synonymous with "grey areas," questions that cannot be answered with a yes/no or black/white response, as well as pushing and challenging yourself to do well.[38] Using AI tools in such a way, it was felt, meant effectively doing yourself a disservice, leaving you unprepared for "the real world" of work.[39]

Nevertheless, discussions of using generative AI as a 24-hour personal research assistant, intersecting with the notion of critical thinking, produced a much more mixed response. Some students were confident that they could personally judge the line between acceptable and unacceptable usage; considered asking generative AI about the strength of argument in an essay as the equivalent of asking a class mate for the same, and thus acceptable; were happy to use AI to summarise research articles as an initial step in determining whether to allot time for further in-depth reading; others envisioned themselves utilising generative AI as an 'advisor' in future employment roles.[40]

However, others were either torn[41] or strongly opposed, arguing that asking ChatGPT for its opinion on the strength of a paragraph's argumentation would result in a loss of criticality: 'I mean, if you're gonna do that, you might as well have ChatGPT write the essay for you.'[42] Furthermore, one student felt uncomfortable about relying on generative AI for formative feedback, describing a move in this direction as 'risky' for 'both students and teachers.'[43] The 'risk' they foresaw was of students seeing generative AI as an equivalent replacement, in terms of expertise and knowledge, for academic staff, and of the latter believing that AI can adequately fulfil this role.[44] The conversation on "generative-AI-as-personal-assistant" highlighted how critical thinking and notions of (un)acceptability exist on a spectrum for students, further complicating the task of drawing a regulatory line on usage. It also raised the question of who gets to draw the line of (un)acceptable personal assistance. As this area develops, it is important that the university maintains a leading but not domineering role in its production of coherent and practicable policies on AI usage.

One student raised referencing and citation using generative AI as an unacceptable use: 'never use ChatGPT or any generative AI for any data, any kind of, like, referencing.'[45] The

[38] Student 2.
[39] Student 6.
[40] Student 6, Student 10, Student 12, Student 16 and Student 24.
[41] Student 17.
[42] Student 13.
[43] Student 9.
[44] Student 9 and Student 19.
[45] Student 11.

area of citation is a present limitation of tools like ChatGPT. However, this does not mean that this will always be the case. Google Bard, for example, is able to identify sources for its answers.[46] If ChatGPT develops the capability and reliability to produce references it would be interesting to put the question about (un)acceptable uses back to students, along with any guidance on referencing using generative AI being added to any literacy efforts.

For many students, generative AI's (un)acceptability in teaching and learning was course specific, echoing views about assessment (see below).[47] For client-facing courses and careers, using and reliance on generative AI was not seen as appropriate. Human problem-solving and practitioner-client relationships were more highly valued than relying on generative AI to provide an answer. One participant referred to a scenario, only half-jokingly, where a practitioner turns to their client before saying: "Oh, hang on a minute. I need to ask AI how to save you."[48] As this might suggest, courses such as biology, medicine, neuroscience and nursing were deemed as inappropriate spaces for generative AI application.[49] This might create the impression of a split between the sciences and the arts and humanities over the (un)acceptable application of generative AI. In some instances, this view is supported. One student, who described themselves as a 'writer,' said that no one really cares about originality.[50] A variation of this appears to imply that the right knowledge gained by whatever method is defensible – the generative AI means justifying the degree and employment ends.[51] However, this is not universally the case. There are concerns within creative courses that the pervasive use of generative AI will have a detrimental effect on originality:

> 'It's going to generate the same…posters, and I have seen so many of those. I think it was…an AI tool in which it was creating like a mock-up, but it was so similar to what's being produced already because it's just working on those patterns and there was no originality or…newness in those creative mock-ups. So, I feel like in the creative field, AI shouldn't be used as well.'[52]

There were several areas where generative AI's usage was deemed exclusively acceptable. Within this group were placed coding and debugging computer code;[53] as well as proofreading

[46] Barry Schwartz, "Google Bard adds genuine citations in responses and more concise summaries," https://searchengineland.com/google-bard-adds-genuine-citations-in-responses-and-more-concise-summaries-423143.
[47] Student 8, Student 10, Student 16 and Student 19.
[48] Student 21.
[49] Student 1, Student 8, Student 10, Student 21 and Student 24.
[50] Student 1.
[51] Student 15.
[52] Student 5.
[53] Student 9.

and grammar. ChatGPT was used in much the same way as Grammarly, to help with spelling and grammar, as well as writing in a more academic style.[54] Generative AI's assistance in this area of academia was raised by UK home and international students, however, a contention can certainly be made that the latter were, in certain instances, personally conscious of perceived limitations in their English thus justifying their use of ChatGPT for grammar checks: 'the most acceptable [way] to use AI, is using it to check the grammar. Because I'm an international student…English is not our first language, our English is not perfect.'[55]

Several further areas were principally considered to be acceptable uses. For instance, in the generation of ideas or to break through writer's block.[56] 'As a writer it's just easy for me to get a head-start with AI…It tells me so and so, it gives me a few lines, then I can build on that.'[57] In this instance, ChatGPT and similar tools act as triggers and stepping stones upon which students can build and improve their work. Within this category can also be placed understanding concepts and fact-finding.[58] Breaking this down, using generative AI to explain in simplified terms specialist and industry-specific language was seen to be acceptable; as was non-native English speakers using such tools to better understand academic language.[59] For some, this could extend to having generative AI summarise and explain research papers.[60]

In summary, students strongly disagree with generative AI being used to produce entire assignments, equating this with plagiarism and unfair practices in relation to those students that refrained from using AI. There was general agreement that generative AI should not be relied upon in courses with a significant client-facing element, such as medicine and nursing; though students in the arts and humanities are also wary of an AI free-for-all. Using generative AI to help in areas falling under the umbrella of critical thinking was more divisive and UoW will need to make its expectations of what is (un)acceptable clear. UoW will also need to monitor the referencing and citation space as it relates to generative AI and adjust its guidance accordingly. Areas where usage of generative AI was, on the whole, deemed acceptable included: debugging code, proofreading and grammar; understanding concepts, including for

[54] Student 2, Student 6, Student 11 and Student 12.
[55] Student 14. Also, Student 1, Student 18 and Student 24.
[56] Student 1, Student 5, Student 6, Student 18, Student 19 and Student 21.
[57] Student 1.
[58] Student 6, Student 12, Student 13, Student 17, Student 19, Student 23 and Student 24.
[59] Student 9.
[60] Student 22 and Student 23.

simplification as well as clarity; fact-finding; as well as generating ideas and helping to overcoming writers' block.

Teachers

Students were invited to share their views on generative AI's usage by academic staff. There were fewer inputs on this question compared to that for (un)acceptable student usages. Nevertheless, a few areas do stand out. Firstly, while two students were open to the idea of generative AI marking and grading their assignments alongside a human marker, on the grounds that AI could be fed a rubric of what to look for in each assignment and provide a more detached or impartial grade, and given the volume of research generative AI could potentially draw upon,[61] six students were strongly opposed.[62] For some, this was to do with a lack of expertise, or expertise in brackets, of generative AI. For others, it had more to do with fair treatment and equal effort on the part of students and educators – as one student put it, 'it's a two-way street.'[63] Taking this route also raises a potential existential threat to educators and HE more generally: 'I think if the staff start using ChatGPT to mark our essay[s] then why do we need them because we can just put our essay into ChatGPT, then we can get the feedback? Then there's no point we need them.'[64] Furthermore, two students argued that generative AI should not be used for 'practical' or 'hands-on' tasks, expert demonstration by practitioners being highly valued.[65] The question was not put to students, but it would be interesting if usage of augmented (AR) or virtual reality (VR) elicited the same response. A further three were opposed to teachers over-relying on generative AI to actually teach, [66] but recognised that academic staff are busy and were open to the idea of them using generative AI to plan lessons, enhance their teaching, and save time.[67]

Assessment

The conversation about assessment and generative AI produced responses that can be categorised in one of two ways: 1) cognition and the mental process of thinking about

[61] Student 2 and Student 24.
[62] Student 3, Student 11, Student 12, Student 13, Student 14 and Student 22
[63] Student 13.
[64] Student 14.
[65] Student 8 and Student 18.
[66] Student 18, Student 21 and Student 23.
[67] Student 8, Student 16 and Student 21.

assessment in the era of generative AI; and 2) assessment types more or less resistant to generative AI.

The first category is essentially one of institutional and student state of mind or thought processes related to generative AI. This links to the point made earlier about whether these tools should be resisted or adapted to. For example, asked whether the content of assessment should be reviewed in order to ensure students are assessed on topics they care about and find meaningful, one student responded that: 'I think that it wouldn't matter to me. I mean, I think it's kind of a principle, I wouldn't use AI for anything academic, whether it's formative or not.'[68] In a different focus group a contrary view was expressed, envisioning a university that 'embraced the idea of AI, [and] change[d] the way it assigns [sic] students.'[69]

The first category is interwoven with the second, how UoW thinks generative AI will affect the types of assessments it deems best suited to the current state of play. One route could be to introduce or expand forms of assessment perceived as comparatively more impervious to manipulation by generative AI than others, such as a shift back to invigilated exam hall type assessments;[70] combining written assignments or hands-on/practical assessment with an oral defence of student work, with students being selected at random;[71] on-campus or in-person exams, including computer-based exams where the institution can control access to certain websites.[72] Contrary to some who see generative AI as marking the end of the academic essay,[73] an alternative view is that ChatGPT's limitations with regard to generating references make referenced essays less open to misuse at the hands of generative AI.[74]

Relatedly, faith is placed in advances in plagiarism detection software.[75] On the other hand, some students were confident that they could make a few tweaks and flourishes to effectively make usage of generative AI undetectable.[76] The wider literature mirrors this divide. On one side, there is Turnitin claiming a high detection rate in terms of accuracy and consistency for AI-generated essays.[77] On the other hand, there is a body of literature that

[68] Student 13.
[69] Student 10.
[70] Student 7, Student 16 and Student 18.
[71] Student 3, Student 6, Student 7, Student 9, Student 13, Student 18 and Student 23.
[72] Student 18 and Student 23.
[73] Student 7 and Student 16.
[74] Student 3.
[75] Student 16, Student 19 and Student 23.
[76] Student 10.
[77] Chris Caren, "The launch of Turnitin's AI writing detector and the road ahead," *Turnitin*, April 4, 2023, https://www.turnitin.com/blog/the-launch-of-turnitins-ai-writing-detector-and-the-road-ahead.

questions the efficacy of plagiarism detectors.[78] As this snapshot intimates, there is a risk of an "arms race" developing between generative AI's looking to circumnavigate around plagiarism detection software, and developers of that software building tools to combat it. An advisable course of action may be to accept that plagiarism detection software is one tool UoW has at its disposal to identify generative AI written essays, but not a panacea for all academic integrity's ills.

There is a course-specific dimension to assessment type. Echoing views on (in)appropriate usages of generative AI, whilst neither medicine nor nursing are courses delivered at UoW, the assessment of both was raised on multiple occasions as archetypal examples where generative AI should be prohibited.[79] The existential threat of generative AI to the academic essay was not shared by all participants who maintained that there is value in learning the skills involved in producing a dissertation, including understanding of quantitative and qualitative research methods, and that assessment types, regardless of generative AI, should be designed in a way that is tailored to each course.[80]

Taking a more adaptive approach to assessment and generative AI, there is an acceptance among some students that such tools are part of, or will become part of, business-as-usual in HE, and place their focus on ways to devise assignments that are more 'creative and personal,' that students care about, and that allow for opportunities to demonstrate acquired knowledge in different ways.[81] One student commented that authentic learning and assessment was 'the best way to go:'

> 'Doing case studies on like organisations that the university has partnership with or are kind of more local as opposed to…all the big ones that we already know…like Amazon or Pepsi…that everyone can write about and read about online. I think authentic learning…it give[s] students more

[78] Nassim Dehouche, "Plagiarism in the age of massive Generative Pre-trained Transformers (GPT-3)," *Ethics in Science and Environmental Politics* 21 (2021), 19; Mohammad Khalil and Erkan Er, "Will ChatGPT get you caught? Rethinking of Plagiarism Detection," Preprint, https://doi.org/10.35542/osf.io/fnh48; Catherine A. Gao, Frederick M. Howard, Nikolay S. Markov, Emma C. Dyer, Siddhi Ramesh, Yuan Luo and Alexander T. Pearson, "Comparing scientific abstracts generated by ChatGPT to real abstracts with detectors and blinded human reviews," *Digital Medicine* (2023); Vinu Sankar Sadasvian, Aounon Kumar, Siriam Balasubramanian, Wenxiao Wang and Soheil Feizi, "Can AI-Generated Text be Reliably Detected?" Preprint, (2023), https://arxiv.org/abs/2303.11156; Michael Webb, "AI writing detectors – concepts and considerations," *Jisc – National Centre for AI*, March 17, 2023, https://nationalcentreforai.jiscinvolve.org/wp/2023/03/17/ai-writing-detectors/; Holly Else, "Abstracts written by ChatGPT fool scientists," *Nature*, January 12, 2023, https://www.nature.com/articles/d41586-023-00056-7.

[79] Student 10.

[80] Student 9.

[81] Student 3, Student 9, Student 10, Student 19 and Student 21.

> of an interest in what they are learning and allows them to …focus on the content more and see how they can apply it in a more…relevant scope of…SME, as opposed to…massive corporations.'[82]

For subjects that do not require the 'academic certainty' of medicine and nursing, an array of assessment possibilities emerge such as field trips; focus groups; interviews; ChatGPT forming part of assessments, with students critically evaluating its reliability; and/or community-based qualitative research.[83] The adaptive approach exists on a spectrum; for example, one student made the suggestion of assessing the prompts students put to generative AI. The underpinning rationale is that more creative prompts elicit higher quality returns from the AI, therefore critical faculties are being used to produce the most effective prompt(s).[84] Another suggested oral assessment as a test of understanding, even where generative AI was used extensively: 'even though, I don't know, 80% is done with AI they still need to prepare…and defend it.'[85] Finally, coursework remains popular as means for students express their knowledge and creativity without the pressure of an exam hall – keeping coursework may require some form of adaptation to generative AI.[86]

The two viewpoints start from different ontological assumptions about the nature (and threat) of generative AI. They also imply contrary views about essential attitudes and behaviours of students. The first seems to be inherently suspicious of students' academic integrity. One comment is particularly revealing. On the idea of an increase in oral examinations in combination with written coursework, a participant approved on the grounds that students might put more effort in as they were 'afraid' of 'getting caught.'[87] Should assessment types be chosen based on their fear-factor? The second is a confidence that the quality and authenticity of any assessment type will act as an effective countermeasure to generative AI's potential misuses and malignancies, as well as an opportunity to reflect on the meaning of education and assessment. A significant portion of the discussion about assessment type is one about institutional mentality and culture. The effects of this debate are already noticeable. One student spoke of the 'really scary' shift from coursework to hall-based exams

[82] Student 9.
[83] Student 2, Student 10 and Student 24.
[84] Student 1.
[85] Student 6.
[86] Student 12, Student 13, Student 17 and Student 23
[87] Student 23.

and having 'lecturers at uni tell me that that's the likely outcome of a lot of these courses.'[88] UoW will need to think about where it sits on this cultural fault-line.

Finally, there is no one-size-fits-all assessment adaptation that will suit everyone. There are serious access and inclusivity issues to bear in mind in the approach to generative AI and assessment. For example, a shift to oral examination alongside written assignments, in addition to being a resourcing issue, may favour some students but disadvantage others.[89] Meanwhile, an increase in traditional exam hall type assessments and concomitant decline in coursework is unlikely to be welcomed by all:[90]

> 'I personally work so much better at, like, working on a project on some coursework, working my way through it slowly. And I've loved this shift towards, like, that being the main source of assessing people, away from exams…I really don't agree with exams, like putting someone under pressure for, like, a year's study to then write it like an hour or two. I mean, I just think it's crazy, and I do horrendously in exams.'[91]

AI literacy

Generative AI has rapidly asserted itself on HE terrain and in the workplace. Banning such tools in HE may be short-sighted given the difficulties of enacting and enforcing any ban, as well as the prevalence generative AI in the world beyond university – a ban may be doing students a longer-term disservice. On the other hand, providing minimal or no instruction on expectations concerning generative AI usage, and how students can effectively use these tools effectively may be equally damaging.[92] Students acknowledge and can see the potential applications of this technology not just in academia but in the workplace.[93] The precise content, medium of delivery, whether it is compulsory or optional, part of every or selected courses; indeed, the very nature of AI literacy remains to be decided. What follows is a summary of student perspectives on these topics and a guide on what might be included.

Creating opportunities to learn about generative AI

[88] Student 17.
[89] Student 9, Student 11, Student 12, Student 13 and Student 22.
[90] Student 12, Student 13 and Student 23.
[91] Student 17.
[92] Student 10.
[93] Student 1, Student 10, Student 16 and Student 24.

Question five asked for student views on the following: "What generative AI tools and skills, if any, do you think it would be helpful for students to understand? These may be general, course or career specific." This sparked a debate about whether AI literacy should be taught at all by UoW, and whether usage of generative AI should be discouraged or encouraged.[94] UoW prides itself on being forward-thinking and progressive.[95] Generative AI is part of the present and, most likely, the future as well. It may not be relevant for every course or career path, but there will be some where it is and where AI literacy would be beneficial. Therefore, it seems sensible that students are educated about and have at least the *opportunity* to develop generative AI skills without explicitly encouraging or discouraging their use.[96]

Format

Contrasting opinions were expressed about appropriate formats of AI literacy. One method of delivery could be a (non-)subject specific introductory module teaching students how to use generative AI effectively.[97] There is also a case to be made for information to be layered in complexity from fundamentals or beginner to advanced.[98] Levelling the information in this way, and potentially having a mandatory beginner but optional intermediate and advanced courses, could be a way of ensuring that every student gains a basic understanding of generative AI tools.[99] It could also be incorporated into the Westminster Employability Awards and/or Engage platform.[100] Some students spoke of integrating AI literacy into existing course and module structures.[101] However, the same student spoke about existing modules being 'intense,' but said that lectures would be more suitable than seminars for the relay of information about generative AI.[102] There is also the option of producing short videos that students can watch at their leisure.[103] The format could be shaped by the intended use of generative AI. For instance, if it concerns how generative AI may be used in a particular course then it makes sense for any literacy to be built into the course. However, if the intended use is beyond the immediate course, then perhaps an AI literacy module is more appropriate.[104]

[94] Student 12, Student 16, Student 17 and Student 21.
[95] UoW, *Being Westminster*.
[96] Student 6.
[97] Student 3, Student 4, Student 12 and Student 24.
[98] Student 4.
[99] Student 18.
[100] Student 15.
[101] Student 4, Student 11, Student 23 and Student 24.
[102] Student 4.
[103] Student 11.
[104] Student 1.

Just as important as what is when. This may also have a bearing on the format(s) in which information is relayed. As an institution, UoW lists inclusion as one of its key priorities.[105] The challenges of adapting to, understanding and applying appropriate usage of generative AI may be acutely felt by First-in-Family to attend university students:[106]

> 'I feel like the most important part of this question is when it should be implemented…I didn't have family members that went to university or anything like that, so I feel like that's the crucial stage where it should be implemented. Because when we come into university, in our first few weeks, we don't have a blueprint on how things are, how things work. So, I feel like…that first month is the most crucial stage…when it should be discussed and…effectively told about how to use generative AI.'[107]

While this would require further research to fully understand its prevalence, the delivery of AI literacy and its timing are an important consideration.

Content

A range of views were expressed concerning what the content of AI literacy should be. Frequent mention was made of students being taught 'how to appropriately use AI,' or ethically.[108] However, precisely what constitutes the proper way varies from student to student.[109] Many of these were general in the sense they can be seen to cut across many courses, though some, such as student data scientists learning how to most effectively use ChatGPT to debug computer code, may be more specialised or course specific.[110] However, assumptions about the course specificity of generative AI skills may be inaccurate; one business student spoke about using ChatGPT to help with coding for the purposes of web design and app development.[111] At first appearance, coding ability may seem tangential to a degree in business, nevertheless the skill is valued. One recurring theme was prompts.[112] There are already

[105] UoW, *Being Westminster*.
[106] Student 16 and Student 18. This point may also be relevant for students experiencing digital poverty. For instance, should students loaned laptops be offered additional guidance and/or courses on Microsoft packages, AI literacy etc.
[107] Student 16.
[108] Student 2, Student 3, Student 11 and Student 16.
[109] Student 11.
[110] Student 3.
[111] Student 9
[112] Student 1, Student 10, Student 11 and Student 13.

multiple books listed on Amazon offering guidance on engineering effective prompts.[113] A good understanding of prompt writing could enable students to develop some of the things that students already familiar with these tools find helpful, such as creating personalised revision timetables and generally manage their time more effectively.[114] Instruction could also be provided on how to use generative to understand grammar; write in an academic style; or ways in which students who are not native English speakers could use generative AI to enhance their language learning.[115] Examples could also be provided of the latest technological developments in different industries and workplaces, and the applications of generative AI.[116]

Students should be taught and encouraged how to use generative AI's outputs critically. This includes checking the accuracy of any sources or references provided, as well as using other sources of information to verify facts or test the strengths of any opinions or argumentation.[117] Criticality could be further enhanced by instruction on the mechanics of generative AI.[118] Without going too much into the algorithms and mathematics, part of AI literacy could provide an overview of how tools like ChatGPT produce output. Understanding what generative AI is doing, how the output is only as good as the data it is trained on and the biases this might create; and how it does not actually understand what it is writing may encourage students to view what generative AI produces through a critical lens.[119]

Plagiarism and plagiarism detection were raised during discussions of (in)appropriate uses of generative AI as well as the state of play regarding assessment. Given the prominence of these themes any AI literacy offered should look to address them. UoW has already produced guidance for students on the usage of generative AI in their work.[120] However, there are areas where more information could be provided or expanded upon, such as how to appropriately cite or reference where generative AI has been used.[121] Echoing other work, there is confusion

[113] "ChatGPT prompts, "https://www.amazon.co.uk/s?k=chatgpt+prompts&crid=RP572MOAHJGK&sprefix=chatgpt+prompts%2Caps%2C156&ref=nb_sb_noss_1.
[114] Student 9.
[115] Student 18.
[116] Student 5, Student 6, Student 8, Student 10, Student 15 and Student 16.
[117] Student 2, Student 7, Student 11, Student 17, Student 20 and Student 23.
[118] Student 8.
[119] Student 7 and Student 20.
[120] UoW, "Guidance on the use of Generative AI systems (such as ChatGPT, Lumen and DALL-E)," (UoW), https://www.westminster.ac.uk/sites/default/public-files/general-documents/GenAI-guidance-for-students.pdf.
[121] Student 7 and Student 9.

about what constitutes plagiarism, something which the arrival of generative AI has only convoluted even further.[122]

Related to comments made about assessment, there is also an argument that the advent of generative AI presents an opportunity to revisit the concept of plagiarism, the tone of how messages about it are relayed and absorbed by students ('when teachers talk about plagiarism as a whole it's more like a warning'[123]),[124] and whether or not the current definition is fit for purpose.[125] In one focus group, discussion about the future of assessment quickly became a conversation about Turnitin and plagiarism detection. An almost instantaneous association was made between generative AI and plagiarism.[126] There is a case that UoW reinforces this association by placing its "Guidance on the acceptable use of Generative AI" under the "Academic Misconduct" section of the institutional website,[127] and referring to students using AI tools to create essays as the 'most immediate concern' in its position statement on AI.[128] There is a real risk, perhaps already realised, that ChatGPT becomes a by-word for plagiarism. UoW needs to (re)consider whether this is how they want generative AI in HE to be framed.

There is also the question of developing resources, as well as ongoing or real-time support pertaining to generative AI usage. Central development of resources, such as prompt engineering in ChatGPT, Google Bard and other generative AIs could be handled by library services. Delivery of initial information about using generative AI in academic pursuits could be handled by teaching staff, with a degree of decentralisation to allow for tailoring to the demands and expectations of particular courses.[129] There are areas that might benefit from a more centralised approach. For example, provision of support on proper referencing and citation when using generative AI, as well as information and explanation of institution-wide regulations could be assigned to library services.[130]

Avoiding dependence

[122] Student 4, Student 9 and Student 22. See also, Scott Rawlinson, "Academic and Practical Information Seeking Behaviours and Needs of International Students at Pre-arrival and Arrived (First Year) Stages," (2023). For more information please contact S.Rawlinson@westminster.ac.uk.
[123] Student 4.
[124] Student 11.
[125] Student 9.
[126] Focus group 4.
[127] UoW, "Guidance on the use of Generative AI systems (such as ChatGPT, Lumen and DALL-E)."
[128] UoW, "University of Westminster position statement on Generative AI (GenAI) tools and systems."
[129] Student 7.
[130] Student 21.

Providing opportunities for students needs to be balanced against dependence on generative AI. As a time-saving device and one that can carry out repetitive or mundane tasks, there is a temptation to ask generative AI to perform all sorts of procedures, with the attendant risk that doing so spirals to a point where it is asked to execute most or all tasks. Complete reliance on these tools is inimical to skill learning and development as they are effectively outsourced to AI.[131] Even where generative AI is deemed helpful, as with making corrections for grammar, we could ask whether in relying on AI tools for these tasks students are actually *learning* about that aspect of grammar.[132] In its delivery of AI literacy UoW can discourage overreliance on generative AI by emphasising its role as an *assistive* tool, as well as the risks of dependence on skill development and employability, however, exactly where students (and staff) draw the line is to a certain degree, and without guidance becoming burdensomely long, an ethical question.[133]

Alternatives

In addition to relaying the limitations of generative AI, students should also be informed of alternatives.[134] For example, conversations with students revealed that some are using ChatGPT in much the same way as they use grammar or paraphrasing tools like Grammarly or Quillbot.[135] In addition to informing students about the benefits and limitations of using generative AI for formative feedback, attention could also be drawn to tools such as Studiosity for human formative feedback.[136] One student in favour of resisting the encroachments of generative AI in HE, suggested making available Turnitin's draft-checker as an alternative to teaching students about AI.[137] However, it is not entirely clear how this would deter usage of generative AI. One unintended consequence might be students uploading AI-generated essays onto the draft checker, checking their similarity score, making some edits, then resubmitting. It is not only alternatives to generative AI that students should be informed about, but alternative generative AIs. Through the course of the focus groups and interviews, generative AI was largely synonymous with ChatGPT, however, others such as Google Bard and Copy.AI

[131] Student 3, Student 10, Student 11, Student 13, Student 21 and Student 23.
[132] Student 3 and Student 9.
[133] Student 2 and Student 21.
[134] Student 16.
[135] Student 13 and Student 14.
[136] Student 9 and Student 16.
[137] Student 13.

were mentioned in passing. The strengths and limitations of these tools should be explored and relayed to students.[138]

AI Literacy for teachers

AI literacy should not be reserved exclusively for students, educators could also benefit from a deeper understanding of generative AI tools and their usages. Students that raised the idea of AI literacy for teachers approached it from different angles. Firstly, the attitudes and mentalities of some teachers towards generative AI. There was a perception that a 'stigma' hangs over generative AI and its application in HE. Adjusting mindsets, establishing and building from a foundation of mutual teacher-student 'trust' could be expedited via AI literacy efforts such as an introductory training course for educators.[139] Secondly, one student felt it was important that teachers are kept up to date about the latest developments in generative AI related to their field(s) of expertise.[140] This could be achieved through the personal efforts of individual teachers, as well as regular horizon scanning pieces conducted by the IRT.

Emphasising humanity

It is equally important for students and staff to understand what ChatGPT and other generative AIs cannot or have difficulty replacing, such qualities as sentience and emotion.[141] How we emphasise and utilise these human assets should be at forefront of considerations concerning not only what AI literacy looks like, but what teaching and learning look like, too. Students are clear in the value that they place on the knowledge and expertise of teaching staff – this value should be harnessed.[142] Therefore, in addition to teaching hard skills related to generative AI, such as prompt construction, AI literacy should stress the worth of the human factor in education and learning. This is not only relevant for AI literacy, but also areas such as assessment which could be designed to allow for greater personal reflection or involve more face-to-face, human-to-human interaction.

Whose line is it anyway?

[138] Student 23.
[139] Student 11 and Student 24.
[140] Student 23.
[141] Student 1.
[142] Student 9, Student 11, Student 18, Student 19 and Student 22

Students are key stakeholders in UoW's response to generative AI and see themselves as such. While it is important that non-student university colleagues offer leadership in the response, they should avoid being too domineering.[143] To paraphrase slightly, Friere wrote about the importance of teachers not 'explaining to, but rather dialoguing with…[students]…about their actions.'[144] Students proposed different ways that ongoing and meaningful dialogue could be achieved. One route could be via the Students' Union as elected representatives of the student body; course and school representatives; or an opportunity via Talent Bank for students to be part of a board of student representatives on generative AI.[145] A student from the School of Humanities said the topic of generative AI could be discussed during the (bi)weekly group tutorials that take place.[146] Another raised the idea of focus group discussions;[147] pointing to the role that the IRT's Student Experience and Opinion Panel can play in informing UoW's ongoing response to generative AI. One student spoke about holding roundtable conversations with AI pioneers in London or Westminster alumni working in this area who could be invited to deliver TEDx-like shows on generative AI.[148] Lighter touch approaches mentioned included surveys, 'on-site sessions,' awareness-raising documentaries or short videos, as well as 'webinar[s].'[149] Getting the insight from as many stakeholders as possible is crucial. Whether one or a combination of platforms are used to gather student views, it is important that they are linked up to avoid a situation where students are, 'like headless chickens trying to figure out where to go because everyone's telling them different things,'[150] and linked into Directors of Learning and Teaching Quality and other decision-making bodies.

Timing is also important. The example was given of the timing of the National Student Survey. The complaint was that students do not get to experience any outcomes from their feedback, it disappears into an institutional black hole leaving students doubly detached, first in that they have likely left the institution before results are released or processed, second in that actions from the findings are enacted long after their departure. As such, there is a crossover with sense of belonging and the risk of institutional approaches to generative AI

[143] Student 8.
[144] Paulo Freire, *Pedagogy of the Oppressed* (Penguin, 2017), 27.
[145] Student 3, Student 8 and Student 11.
[146] Student 10.
[147] Student 3.
[148] Student 24.
[149] Student 11 and Student 22.
[150] Student 21.

being interpreted as being 'impersonal' or detached.[151] Therefore, in addition to student-institution interaction and collaboration the timing of the same needs to be considered.

Conclusion

Students hold a spectrum of views, neither overwhelmingly positive nor negative, on generative AI's application in teaching and learning and assessment, instead capturing the complexity and unknowns of what this technology means for HE. There was a consensus among students that having generative AI produce an entire essay, which was then submitted as one's own work, constituted an inappropriate usage of such tools. The consensus held for uses such as debugging computer code, proofreading and checking for grammar errors. However, there were a number of areas where the general consensus achieved over essay writing broke down as in discussions related to using generative AI as a "24-hour personal assistant." This highlights the need for clear policy and guidance, reviewed at scheduled times, concerning generative AI's (in)appropriate usage, as well as ongoing monitoring of developments in the area of generative AI. Students were not opposed to teaching staff using generative AI to help with lesson planning, enhance their teaching, or save time.

In terms of assessment, it was contended that UoW should not rely exclusively on plagiarism detection software to tackle misuse of generative AI. Not only has the efficacy of such software been questioned, but what it implies about how the university thinks about this technology and students using it is not necessarily an encouraging one. Various ways in which assessment could be adapted in light of generative AI were raised, including greater scope for field trips, focus groups, and interviews, among others. Written coursework was the preferred method of a number of students who were apprehensive about what they saw as a regressive step back to exam halls – the desire to retain coursework may mean that it has to be tweaked to accommodate generative AI, i.e., it is supplemented with viva-esque oral defences of work. Much of this debate is linked to the institutional mentality and culture that the university wants to nurture vis-à-vis generative AI.

It was argued that it was important to create opportunities for students who wish to learn about generative AI to learn about it, despite opposition from some students. AI literacy could be delivered in a single or mixed-method format; just as important as methods are

[151] Student 8.

questions of when any training or guidance is delivered. The exact content of AI literacy requires further discussion. However, it has been possible to offer suggestions about what to include in a general generative AI literacy course or module, such as: using ChatGPT for coding; prompt engineering; generative AI for proofreading, grammar and to improve academic writing style; how to critically evaluate generative AI outputs and methods of verification; as well as an introduction to the underlying mechanics of generative AIs, covering bias and reliability; guidance on what is considered plagiarism when using generative AI and when and how to cite an AI tool. It was also contended that dependence on AI should be discouraged, alternatives signposted to, and the human factor championed. Finally, the paramount importance of ongoing collaboration between university colleagues and students was stated, alongside suggestions of how student insight could be gathered and when.

Appendix 1. Participant demographics

Student ID	**Study level**	**School**	**Home OR International**	**Age Range**	**Gender**
Student 1	PGT	School of Humanities	International student	21-30	Female
Student 2	PGT	School of Architecture and Cities	International student	21-30	Female
Student 3	PGT	School of Life Sciences	International student	21-30	Female
Student 4	UG	Westminster Law School	UK student	21-30	Female
Student 5	UG	Westminster School of Arts	International student	21-30	Female
Student 6	UG	School of Applied Management	International student	21-30	Male
Student 7	UG	School of Computer Science and Engineering	UK student	21-30	Female
Student 8	UG	School of Social Sciences	UK student	21-30	Male
Student 9	UG	School of Organisations, Economy and Society	UK student	18-20	Female
Student 10	UG	School of Humanities	UK student	31-40	Male
Student 11	PGT	School of Life Sciences	International student	31-40	Female
Student 12	PGT	School of Organisations, Economy and Society	UK student	31-40	Female
Student 13	PGT	School of Organisations, Economy and Society	International student	31-40	Male
Student 14	UG	Westminster Law School	International student	21-30	Female
Student 15	UG	School of Finance and Accounting	UK student	21-30	Male
Student 16	UG	School of Social Sciences	UK student	18-20	Female
Student 17	UG	School of Humanities	UK student	21-30	Female
Student 18	UG	School of Social Sciences	International student	18-20	Female

Student 19	UG	School of Computer Science and Engineering	International student	21-30	Female
Student 20	UG	School of Management and Marketing	International student	18-20	Female
Student 21	PGR	School of Life Sciences	UK student	21-30	Female
Student 22	UG	School of Finance and Accounting	UK student	21-30	Female
Student 23	PGT	School of Computer Science and Engineering	International student	Unassigned	Female
Student 24	PGT	School of Computer Science and Engineering	International student	Unassigned	Male