Levelling the Playing Field: Using Artificial Intelligence to Make the Learning Experience More Accessible.

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Abstract.

This paper reflects on the potential use of AI in a higher education setting to support learners and provide a more equitable educational experience. Whilst much media discussion suggests that AI is a threat to higher education, we offer a different perspective and argue that AI can help students to overcome barriers to learning, such as language deficiencies, or specific learning difficulties such as dyslexia. With the premise that UDL is an approach that enhances accessibility, we contend that AI can be used effectively to create a more inclusive and equitable learning environment.

The authors also provide practical suggestions on including AI within teaching, learning and assessment, so that students use AI ethically, and in line with their institution's academic integrity policies. AI can help with grammar and spelling, identify suitable literature, summarise complex research articles, or provide structure for writing. However, attributing AI sources is imperative to maintain academic integrity and students need guidance and support from faculty about what is/is not acceptable within their discipline and their institution.

The reflection finishes with a call to action for educators, to engage with AI, to have a conversation with students about it and to discuss its pitfalls and potential as it relates to learning within their discipline.

Key words: Academic integrity; Accessibility; Artificial Intelligence; Equity in higher education; UDL.

1. Introduction.

This reflection arose out of a conversation about equity and more specifically, about the potential for artificial intelligence (AI) to support learners and provide a more equitable educational experience. Both authors are actively engaged in researching AI in higher education and so far, we have noted that although AI has significant potential, it is primarily regarded as a threat to higher education (Humble & Mozelius, 2022; Polaski & Brienza, 2023).

However, in this reflection we offer a different perspective and argue that AI can help students to overcome barriers to learning, such as language deficiencies, or specific learning difficulties such as dyslexia. We note that AI has already become part of our everyday lives and contend that extending the use of AI in a teaching and learning context can level the playing field for many students and alleviate some of the challenges faced by students.

We begin with an observation by one of the authors, which highlighted the potential of AI to break down barriers. It's about a young man with an intellectual disability who enjoys using his phone to communicate with friends and family, very often by text. For many, the ability to send a text message is taken for granted. However, for this young man (as for many others) the process of choosing the right word to communicate what he wanted to say and then ensuring that word was spelled correctly can be a daunting task. Yet with the help of auto- and next-word predictive text, both powered by AI, he was able to send messages with ease. Without the use of AI, he would struggle.

This brief observation provides one example of the potential of AI to create a more equitable society. Yet, this is at odds with much of the current literature on AI, which warns of risks to academic integrity, hallucinations, bias and copyright, both in terms of machine learning models and the use of AI in education. While we acknowledge these concerns and are working steadfastly to provide support and guidance for colleagues to address them, we also propose that AI can increase learner agency and engagement. Consider this statement about AI by a student with dyslexia and ADD, *"[...] it's like being colour blind and suddenly being able to see all the beautiful colours*" (Malmström et al, 2023). This qualitative comment is taken from a survey conducted by a Swedish university, which explored the views of 6000 students on AI. The authors noted that 79% of respondents had a positive attitude towards the use of AI language tools, with 65% believing that AI tools enhance their effectiveness as learners.

Another theme highlighted in the research is the value of using AI tools for students with

additional needs, such as dyslexia, ADD, ADHD and autism. "*Almost unanimously it seems, this group of students would appreciate greater integration of AI in higher education*" (Malmström et al, 2023, p.13). Similarly, Botchu et al. (2023) note that ChatGPT can be a "*game-changer*" (p.1) for students with dyslexia, if used to assist with language processing and writing. They argue that "*ChatGPT can revolutionise and support people with dyslexia, but one needs to ensure that it's a personalised, accessible, holistic learning tool with some empathy*" (p.2).

Digital technology, now so common place in the classroom and lecture halls, has resulted in more options for an inclusive approach to learning, teaching and assessment (Rogers-Shaw et al, 2017). This has provided an easier way to approach education through the lens of Universal Design for Learning (UDL). UDL offers a way to improve the learning opportunities available to our students and aims to develop a learning environment that is *"... usable by all people, to the greatest extent possible, without the need for adaptation or specialized design*" (United Nations, 2006). Whilst originally adopted to enhance learning for those with recognised disabilities, experience has shown that the application of UDL principles results in better learning opportunities for many as it creates a more inclusive and equitable learning environment, which is identified by the Higher Education Authority as a "*core national objective for the higher education system*" (HEA, 2015).

Garg & Sharam (2020) suggest that the potential of AI in supporting learners with special needs have already been identified as a positive impact on their learning. Research suggests that, while keeping in mind the limitations, it is possible that AI tools can be leveraged to enhance education by supporting learners and educators alike (Michel-Villarreal et al, 2023).

AI tools support multiple means of representation of learning materials offering text or media-based options, which increase options for perception of information (UDL Checkpoint 1) and comprehension (UDL Checkpoint 3) as students connect new and existing learning, and transfer knowledge to new areas of learning. Opportunities for students to interact with the topics being studied can be enhanced through the provision of multiple means of action and expression, AI tools can be used to offer options for physically engaging with learning (UDL Checkpoint 4) or exploring alternative ways of expression and communication in a learning environment (UDL Checkpoint 5). With AI, students can consider multiple means of engagement, making choices for individual learning that will help develop their autonomy in learning (UDL checkpoint 7) (CAST, 2018).

Inclusion should recognise all groups who may be challenged in a learning environment, such as international students, or students returning to education, as well as those with visible or recognised specific learning difficulties. The evolution of AI can be seen as a learning enhancement opportunity that we should grasp to increase accessibility and inclusion in higher education (HE).

But what would this look like for students? What would happen if we were to allow – and to encourage – students to use some of the very accessible AI tools that are now available? What impact would this have? A readily available tool such as a grammar-checking tool allows a writer to edit their work as they write. Grammar and spelling mistakes are identified, with suggestions for correction. Imagine the confidence that this would give a student who is hampered by spelling difficulties, or a student with dyslexia, or indeed a student whose first language is not English and who struggles with some of the puzzling rules of English grammar.

For some students, the challenge in writing an assignment is identifying a suitable structure to follow. They have access to the information they wish to include but putting it into an appropriate structure is difficult. Access to an AI tool that helps provide an outline for the assignment gives them the scaffold they need to put their research and ideas into a readable format. Think about a student struggling to start a paper, with lots of ideas of what they want to say but unable to put these into words. Enter Chat GPT. Once the student masters the skill of using the correct prompt, they have a starting point for their paper. The authorship of this content may be attributed to Chat GPT as a citation, or the content may provide a springboard for the student to craft the paper themselves.

Gathering information from a vast array of research articles can be daunting for those students who encounter difficulty in reading articles and identifying the main ideas. This skill is challenging to students with dyslexia, or for those who may lack proficiency in reading. Academic articles can be written in an inaccessible and formal tone, which presents difficulty to novice researchers. An AI tool that summarises the main ideas from research articles can help a student collate useful material, thus giving the student a starting point for their own research.

These examples may sound as if we are suggesting that the academic skills our students need will not be developed. But they demonstrate the potential asset AI can be to students who need support to succeed in the areas of research and academic writing. Of course, there

must be ethical guidelines provided to students in how they use AI. Decisions are needed regarding academic integrity. How should students acknowledge the use of AI in creating the assignment? Monash University (2024) offers some thoughts on how this can be achieved, such as including a list of the AI tools and prompts used and explaining the ways in which the outputs have been incorporated into the assignment. Competent use of AI tools and prompts depends on the development of new skills, something which should be taught and valued. However, academic integrity is key and must be upheld. We must teach our students to use AI ethically, and in line with their institution's academic integrity policies. Therefore, assessment tasks should be re-examined in light of the potential impact of AI.

So, how can assessment then incorporate AI in a meaningful way, and still *"[...] provide the student with an opportunity to demonstrate achievement of the intended learning outcomes of the module or programme, to the standard required*" (QQI, 2023, p.9). With AI, there is a need to adapt assessments so that they still provide this opportunity. As educators, we are challenged to change the narrative we have around assessment. What adaptations are needed so that with permitted use of AI, a student can still demonstrate learning achievement and provide a valid assessment? How do we ensure the student *"[...] submit[s] work that they have produced and acknowledge[s] the sources used, as well as paying close attention to the requirements of the task and policies on academic integrity*" (QQI, 2023, p.9)?

Perhaps an adaptation of the assessment task means assessing the skills used to create an output, with consideration of the ways in which AI has been applied. For example, let's consider an assessment where a student must create a literature review. The assessment could include the student providing an outline of the AI tools used, how they were applied, i.e. the prompts or instructions given, together with a comment on how they have used each tool. Alternatively, we could ask students to identify how they used AI in their learning. Table 1 below is an example of what this might look like:

Table 1: Example of AI tools used to complete a student assignment, with possible comments by students on their application of the AI tool.

AI TOOL	USE IN THE ASSIGNMENT	STUDENT EXPLANATION
Research Rabbit™	Gathering literature	Reviewed literature for currency, reliability, credibility.
Elicit™	Summary of papers	Reviewed summaries to choose those relevant to the assignment task. Grouped similar ideas together.
Chat GPT™	Provided an outline for structure Generated an introduction	Applied the structure to paraphrase literature summaries in my own words. Used AI generated introduction as a starting point for my own introduction.
Grammarly™	Spelling and grammar check	Accepted suggestions to improve writing.
AI for referencing tool	Created reference list	Checked list for accuracy.

To facilitate this approach, some changes to assessments would be necessary. An assessment is the evidence that a learner has shown competency in a specific learning outcome. Learning must be assessable, but can we also assess the processes and skills used to reach the output? Specifically incorporating instructions as to when AI can be used will be needed. It would be prudent to also ask the student to provide an outline of how the AI tool was applied. Built into the assessment rubric, recognition could be given to the skills that were used to generate the AI material - for example, a list of the prompts, and how/why they were refined for subsequent searches. Students might be required to include appendices of the original text generated, the prompts used and so on. At all times, adherence to academic integrity must underpin the use of AI in assessment tasks. Identifying how AI was used, and attributing AI sources is part of the ethical application of AI in an educational context.

This reflection set out to argue the case for the use of AI to remove barriers to learning and help students to complete work on an equitable platform with their peers. However, without guidance and support from faculty about what is / is not acceptable, student concerns about potential punitive measures are valid. We advocate a hands-on approach and encourage educators to engage with AI, to have a conversation with students about it and to discuss its pitfalls and potential as it relates to learning within their discipline. Debate the ethical use of AI and how to ensure academic integrity, but don't ban it. Change the narrative, push back against the doomsday predictions, become thought leaders and explore how we can use AI for good. Level the playing field and help students develop the skills they need to participate fully in their educational experience. As educators, isn't that what we do best?

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