



ENssentials Quick Guide: Artificial Intelligence, Student Learning & Assessment

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What's the problem?

Generative Artificial Intelligence (AI) tools, such as, but not limited to, ChatGPT, have developed to the point where they could be used by students to produce plausible texts or other media which they could submit as their own work for assessments.

AI tools work by 'learning' patterns in large data sets, in ChatGPT's case, from much of the open internet and some books. It generates text through predicting the most likely word to come next in a given context and can structure paragraphs or whole papers according to patterns it has 'learned'. It can also produce inaccurate information but in such a way that it looks plausible to most readers i.e., it states inaccuracies with confidence. However, it can learn and correct mistakes. The dynamic nature of its 'knowledge' means that it will not produce the same piece of text twice, making it difficult to match a student's text back to a 'source' in the way Turnitin detects original sources.

Though the text produced can be quite generic, it can look and feel like the work of a human and therefore can be difficult to identify as AI-generated. The data sets that tools such as ChatGPT are learning from are flawed, often containing limited, biased, or inaccurate information, so students who outsource (for whatever reason) their critical thinking and writing labour to such tools risk worse outcomes: in grade, in academic integrity, and, not least, in learning. The wider impact on society of graduates who may not be suitably qualified for their vocations is considerable.

As all areas of the education sector grapple with the consequences for student learning and assessment, there are no quick fixes and no easy answers. Instead, a thoughtful approach to appraising current assessment and learning opportunities against the risks and opportunities of generative AI will allow for a more sustained and impactful change in our curricula.

Why is it important?

AI such as ChatGPT present a user-friendly interface for anyone to generate human-like text which, in many cases, may be 'good enough' to pass an assessment. Additionally, a student can use AI-generated texts as a starting point for their work, edit it to better meet the assessment criteria, correct errors and insert appropriate referencing, or use multiple tools - such as paraphrasing tools - to re-work the text to make it look less like AI content. However, a submitted assessment mainly created by such means cannot be said to be an accurate representation of student learning. This is a threat to the validity and fairness of assessments, and the value of degree awards.

AI tools are improving and have advanced in imaging, video, and voice generation. More recent platforms, especially those with paid subscriptions, now include more up-to-date information and generate more accurate references to peer-reviewed literature, which brings with it a degree of inequality where students with means to access more sophisticated tools are less likely to be suspected of academic integrity.

From DLTE research conducted with students in the Spring of 2023, it is clear that:

- Many ENU students are accessing generative AI for use in their studies and assessments
- They value how it can help them speed up some processes, kick-start their thinking or refine their work, especially if they are disabled or do not have English as a first language
- In these cases, they see themselves as still doing the work and still learning
- These students do not view this use as 'cheating'
- They view anyone who copies and pastes from generative AI as 'cheating'
- They appreciate getting instantaneous feedback on their work from AI tools any time they want
- Students want to be taught how to use AI ethically for their studies and their future careers

What can we do?

The first action is to have an open and continuing conversation with our students. Be in no doubt that most students will already be aware of these tools. Those who are not aware may begin to experience

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a widening digital inequalities gap which, by not talking to them about generative AI, we are contributing towards. It is helpful to remind students regularly about what constitutes 'original work' and the value of fully engaging with the learning opportunities offered to them through conducting their own work. Additionally, it is important to tell them explicitly that the wholesale misrepresentation of AI-generated content as their own is academic misconduct. Direct students to the MyNapier Academic Integrity pages, which clearly states that their assessment submissions should be their own work.

Support students in their academic skills and assessment literacy. This helps students who might otherwise cheat either because they have lower levels of these skills or because situational/contextual factors make it feel like it is quicker or easier to cheat or use AI generated content. Advise students to seek advice first and remind students of the support and resources available from both their tutors and Academic Skills.

The following suggestions may be more suitable in some subject areas than others.

As far as possible, get to know your students. In larger groups, regular, class-based dialogue can be fostered through peer discussion, pair work, and classroom learning technologies, while allowing for accessible and inclusive interactions. Through setting aside time for active learning in place of 'transmission' of module content, you are demonstrating to them the value of the processes of their learning rather than a product.

When designing questions for essays or open book online exams:

- Ask students to write about something for which they have a deep interest or curiosity
- Keep away from 'generic' questions, give a specific dataset, scenario, or problem
- Provide student with a real-world artefact/example to interpret or evaluate
- Ask students to produce a design or plan to meet the needs of a client or community
- Ask questions that relate to their individual experiences e.g., where they live/are from, the University, their work/life knowledge, previous studies
- Ask students to take a side in a debate

Use Formative Assessment

One way to authenticate whether a student's summative work is their own is to trace the development of their thinking through formative work and feedback/forward opportunities.

In addition, a formative assessment could ask for an outline of their strategy for generative AI use. Ask for a representation of how they plan to use AI tools in the same way as you would document a search strategy for a systematic literature review. You would expect to see search terms (or prompts), results (or outputs), refined prompts, etc. and a justification what they included and excluded in their final work.

In the classroom

- In class set aside time for group/peer discussion of coursework.
- Take time in a timetabled session for a classroom exercise where students write in long hand, or using an assistive technology of their choice, to plan for a forthcoming submission which they hand in at the end of the class. The use of AI tools is not permitted during the exercise.

Using AI tools in the classroom

Note: Please do not share, and advise students not to share, personal data or business-sensitive information with an AI platform. For further details, see the Interim Guidance on the Responsible use of AI LLMs (Large Language Models) to Protect Personal and Corporate Information.

- Use an AI tool for assessment literacy e.g., ask students to critique and grade a piece of text produced by an AI tool using the rubric that their own work will be assessed against.
- Ask students to use an AI tool to produce an outline for their coursework.
- Use an AI tool as speaking partner during class 'think, pair, share' discussions.

There may be some grounds for caution in submitting work to an AI tool, both from an ethical and privacy perspective; open discussions with students about whether their input is training AI to the benefit of private companies can be a good starting point for developing critical thinking about digital technologies.

Permitting the use of AI tools in learning and assessment

As can be seen from DLTE's research, students value generative AI as a dialogue partner and for quick feedback. There is a delicate balance to be struck between allowing students to use these tools and disadvantaging students who may not wish to use generative AI for any reason. Mandating its use is not advised and providing alternative means – such as directing them to other tools – can be a stopgap until AI plug-ins are available in institutional tools such as Microsoft 365.

We advise that all assessments ask students for a declaration on whether or not they have used generative AI or writing assistance tools in their submission. A sample cover sheet declaration is available in Appendix 1.

Assessment Submissions

When it comes to assessment submissions, whether formative or summative, you may wish to ask students to supplement their submission with a short piece which can verify the authenticity of their learning. These could be written or in other formats such as video/audio:

- a) A reflective statement on what they have learned doing the assessment
- b) A personal statement on why they chose a topic or an approach
- c) A contextualising statement on how their work reflects where they are from, where they live, their interests, their hopes for the future, or their experiences at ENU
- d) A short personal statement about their learning during the module/coursework e.g., what they found challenging, what helped them learn, what surprised them
- e) A visual representation of their work e.g., infographic, drawing, video
- f) Evidence of their processes, such as an essay plan, track changes document, or rough work

In addition, you could conduct a short individual dialogue with students about their submission where they talk about the process of producing their submission.

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An example assessment coversheet for students to declare their use/non-use of generative-AI is in Appendix 1.

It is recommended that means of establishing the authenticity of student learning is established well before any assessment deadlines by asking to see their processes throughout a trimester. Portfolios can be both an authentic and processed-based way of tracing the development of student work. Offering choices of the types of artefacts which be saved in a portfolio allows students to engage through multiple means of expression, which is one principle of Universal Design for Learning. Students could include timestamped photos, screenshots, photos of handwritten notes, mindmaps of essay plans.

While wholesale redesign of assessments for the academic year 2023-24 is not feasible, a longer-term approach considering these issues may require revisiting modules' learning outcomes and assessments. Authentic assessment, which requires students to produce a personalised and original piece of work in response to a real-world prompt can be more difficult, but not impossible, for AI to produce. Similarly, generative AI has been found to produce plausible reflective writing, so caution is urged against rapid changes which may not be as reliable as hoped. It is notable that subjects which have seen the least amount of suspected use of generative AI are those with established authentic assessments which require students to make their work shareable with others beyond the module team e.g., peers, the university, or the wider world.

Looking to the future work environment for our students, it is likely that AI will play a role in many workplaces and learning with modules can be the means for students to develop skills to critique, verify, and refine AI-generated outputs. Shifting the focus of learning from the retention of knowledge to uniquely human skills, including as working with such tools, can help. Assessments which require creativity, original thinking, working across different media and in dialogue with others, whether peers or academics, will help ensure the authenticity of student learning and work.

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Further Reading:

Artificial Intelligence tools and your learning, MyNapier, Edinburgh Napier University Student Guidance, <https://my.napier.ac.uk/your-studies/improve-your-academic-and-study-skills/referencing-and-academic-integrity/artificial-intelligence-tools>

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Syllabi Policies for Generative AI, A list maintained by Lance Eaton. (Accessed 24th August 2023) <https://docs.google.com/spreadsheets/d/1IM6g4yveQMyWeUbEwBM6FZVxEWCLfvWDh1aWUEr-WWbQ/htmlview#>

The Russell Group. (2023), New Principles on use of AI in Education. <https://russellgroup.ac.uk/news/new-principles-on-use-of-ai-in-education/>

Any questions

Please get in touch with us at dlte@napier.ac.uk with any questions.

Appendix 1 Example declaration addition to assessment cover sheet

I declare, except where explicit reference is made to the contribution of others*, that this assignment is the result of my own work and has not been submitted for any module or programme degree at the Edinburgh Napier University or any other institution. This is in accordance with Edinburgh Napier University's Academic Integrity Regulations.

*IMPORTANT: Contribution of others may include use of Artificial Intelligence (AI) tools (details of which can be found in the Guidelines for Students on AI & Writing Assistant Tools. Please declare here whether you have used such tools, and to what extent:

NO, I have not used such tools

YES, I have used such tools and I have provided details below and included sample prompts and responses in an appendix.

If you answered YES here, please, in around 100 words, describe how (and at which points) you have used such tools to support your completion of this assessment:

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Notes

