

Artificial Intelligence Software and Academic Integrity

Guidance Document

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Introduction

Recent developments in generative artificial intelligence (gen-AI) software have seen the development of Large Language Models (LLMs), that can be accessed online, often free of charge via Chatbot (an often internet-based computer programme designed to simulate human conversation). The development of this technology in relation to academic integrity has been covered by the QAA [here](#). The most well-publicised of these developments is the ChatPGT tool, however DALLE-2, CoPilot, Bing Chat and Google Bard are examples of other similar software.

The University does recognise that the advent of gen-AI technology increases the opportunity for academic dishonesty, and will require the University to review and update its regulations to include specific guidelines and protocols related to the use of AI software, and in particular related to summative assessment. However, it is also noted here that used in the “appropriate” way these tools can be used pedagogically to support learning and academic development. This document has been written to advise staff on:

1. The University’s overall position on the use of gen-AI technology in assessment and associated longer-term strategy.
2. Guidance regarding teaching and learning and assessment design.

What is gen-AI technology?

Gen-AI describes algorithms that can be used to create a range of new content, including, but not limited to, text. Gen-AI models use analysis of patterns within existing data to generate new content based upon instructive prompts and criteria set by the user. The most well-known product is OpenAI’s ChatGPT language model, which launched in November 2022 and arguably initiated the debate on gen-AI in the HE sector and a change in approaches to teaching and learning in HE. Gen-AI, such as ChatGPT it is able to produce text that reads as though it has been written by a human, making it at times difficult to detect that the work has been generated by gen-AI. Depending upon the subject and the quality of the instructive information set by the user, gen-AI is capable of producing work of a good standard. A free, self-paced online short-course on gen-AI in HE is available [here](#).

OpenAI (ChatGPT’s creator) have an *overview for educators*, which can be found [here](#). One interesting point to note from OpenAI’s overview is that: “One example of why ChatGPT may not always provide accurate answers is that its training data cuts off in 2021. This means that it is unaware of current events, trends, or anything that happened after that point in time. It will not be able to respond appropriately to questions or topics that require up-to-date knowledge or information. For example, it may not know who the current president of the United States is or what day it is”. However, it should be noted that newer versions of gen-AI technology may have additional functionality.

It is also worthy of note, that a growing body of work has discussed issues around potential biases in relation to gen-AI technology, including those relating to race and gender ([Ferrara, 2023](#); [Newstead et al., 2023](#)) and through the potential of LLMs to under-represent some languages. However, in a positive context, gen-AI has been described as having the potential to improve inclusion for people with a disability (e.g. [Hemsley et al., 2023](#)) and/or those working through a second language.

General Guidance on gen-AI use in assessment

1. The use of gen-AI technology in assessment has the potential to contravene Bangor's [Academic Integrity Procedure](#) through breaching requirements for honesty and through representing an action that falls "...within the general definition of academic misconduct" (see point 4 below). It may in addition exemplify instances of plagiarism, contract cheating and/or use of an essay mill.
2. However, the **University's position** is that there is **not be an outright ban** on the use of gen-AI technology in teaching and assessment (but see point 4 below). This is based on the grounds that:
 - i. As gen-AI technology becomes an ever-increasing part of society and employment, it is important education embraces its use, where appropriate, whilst working to maintain academic integrity (Clarence-Smith, 2023).
 - ii. Gen-AI technology provides academic staff with an opportunity to create new innovative forms of assessment which may, in fact, benefit from the use of gen-AI technologies (Goh, 2023).
 - iii. As noted by the European University Association (EUA) (2023), "*it is clear that banning the use of AI tools and other new technologies would be futile. Consequently, the higher education sector must adapt its learning, teaching and assessment approaches in such a way that AI is used effectively and appropriately*".
 - iv. At present it is not possible to control the use of gen-AI through surveillance technology. Whilst there have been reports of apps that can detect the use of gen-AI are in development and Turnitin have stated that its software will learn to detect gen-AI generated work, the technology is likely to develop rapidly, exceeding the capabilities of detection software.
 - v. Gen-AI technology is becoming increasingly embedded within 'everyday' software (e.g. MS Word) and this will continue to increase. Therefore, attempts to 'ban' use of AI technology will become increasingly difficult and complex.
3. The requirements for specific, professionally accredited programmes may include a restriction on the use of AI technology in (some) assessment. Where this is the case, this must be **clearly communicated to students** with clear guidance on expectations.
4. The University appreciates the complexity of the issue and the potentially blurred boundaries involved. **A guiding principle** is that the content (e.g., the basic written expression, arguments, interpretations, conclusions etc.) of work submitted for assessment should be a student's own. Instances that go against this principle, whether relating to use of gen-AI technology or not (e.g. due to an instance of plagiarism) should be penalised under the University's Academic Integrity Procedure. Note: there may be instances where a validated assessment requires students to utilize gen-AI technology to produce specific content for assessment.
5. Moving forward, the **University's strategy** is that:
 - i. Gen-AI technologies will continue to develop at a rapid rate over the next few years, therefore we should embed their appropriate use into our module assessments to ensure that "*...graduates are equipped for labour markets that are changing due to digitalisation and new technologies, in particular artificial intelligence*" (EUA, [2021](#)).
 - ii. Assessment design should be reviewed and revised so that learning outcomes cannot be met solely through the use AI technology. Assessment design is potentially the most effective method of reducing the likelihood of the dishonest use of AI technology in assessment.
 - iii. We will work in partnership with students to develop and embed training in the responsible use of AI technology in curricula and training on academic integrity.

Guidance for teaching and learning and assessment design

1. As part of the annual Quality Assurance and Enhancement process, Schools should reflect on the possible uses of AI technology and decide how they wish to incorporate it into the teaching within their

- programmes and modules. As part of this, Schools should review and revise **assessment designs** so that assessments cannot be completed (and learning outcomes cannot be met) solely through the use of AI technology.
- i. This should be done according to the framework and timelines for module changes that are set out in the Code of Practice for [Programme Approval, Monitoring and Review](#).
 - ii. School Directors of Teaching and Learning, working with their respective Assessment Officers, should provide appropriate oversight of this process so as to ensure consistency and clarity of information.
2. Where necessary decisions should be informed by the requirements of any Professional Regulatory and Statutory Bodies.
- i. The professional or accreditation requirements of specific programmes may mean that it is necessary for Schools to establish uniform policy on the use of gen-AI technology across all of their degrees/modules, which may include a prohibition on their use. Where this is necessary, the details **must be clearly communicated to students**.
3. There are several ways in which **assessments can be designed** to reduce the potential for students to solely rely on gen-AI technology. The following article [here, and this resource from King's College London](#) provide some useful ideas and guidance, which could be considered along with the following:
- i. Employing forms of assessment that enables students to demonstrate their knowledge and subject skills in a non-text-based assignment e.g. oral presentation, panel discussion, poster presentation, creating a diagram.
 - ii. Employing forms of assessment that include students responding to feedback and/or reflecting on formative assessment activities.
 - iii. Appropriate use of in-person exam assessments, but considering the exam formats that move beyond solely 'closed-book' formats, for example, using open-book exams.
 - iv. Focusing the assignment on the most recent developments in your field, as this will limit the amount of information that is currently available about the topic online.
 - v. Focusing the assignment on pay-walled sources (but **only** those available to students via Bangor Library access) will reduce the ability of gen-AI to access the information.
 - vi. Basing assessments upon experiential activities, such as seminars, fieldwork, practicals or other in-class activity. Here student will need to work with information/data/content that has been gathered as part of an activity.
 - vii. The use of artefacts that are generated as part of teaching and learning activities, e.g. field and laboratory notebooks, compositions, multimedia products, reflective diaries.
 - viii. Requiring students to reflect on feedback as part of the assessment process or to critique a particular source. For example, it can be beneficial to create assignments that invite students to critically respond to an essay (or other) written by an AI Chatbot. This assignment would allow students to analyse and evaluate the work produced by an AI Chatbot assessing it for accuracy and offering alternative arguments/approaches to the topic being explored.
4. Assessments should continue to be designed to be inclusive for all students. If gen-AI technology is being used as part of a validated assessment, it should be ensured that the relevant software is accessible for all students completing the assessment.
5. Research suggests that students are less likely to engage in dishonest practices or use AI technology when they:
- i. Are able to recognise how completing an assignment will help them to meet the module/programme learning outcomes and strengthen their knowledge and skills that can be used across other modules.
 - ii. Have been provided with the opportunity to produce a draft of the assignment or preliminary work on the topic.
 - iii. Have a genuine interest in the topic that they are researching.

What could gen-AI technology be useful for?

- Organizing typed notes
- Helping provide explanations of concepts
- 'Clean-up' automatic transcripts from videos

- Translating text (e.g. from a research paper or text)
- Summarizing published sources
- Developing ideas or plans
- Helping to improve grammar
- Helping neurodiverse students overcome some challenges in assessment (e.g. as covered in this webinar from the University of Kent: [video link](#))

Limitations of gen-AI technology

OpenAI (ChatGPT's creator) have covered these in their *overview for educators*, which can be found [here](#). In summary:

- Factual accuracy cannot always be guaranteed.
- Gen-AI technology perform less well with respect to specialist or niche subjects.
- There is the potential for references to be fabricated.
- There is the potential that they are biased to Western perspectives and can perpetuate associated biases and stereotypes.
- Some languages are under-represented in LLMs

Key actions for academic staff

1. Provide clear instruction to students in your assessment briefs on assessment requirements. This should include if the requirements for the use of gen-AI technology differ from the University's guiding principle that the content (e.g. the basic written expression, arguments, interpretations, conclusions etc.) of work submitted for assessment should be a student's own.
2. Keep your assessments under review as part of the annual Quality Assurance and Enhancement process.
3. Try out [ChatGPT](#) (or other similar software), for example enter a past assessment title/question and see what is produced.
 - i. If the output produces work that partly or wholly achieve the learning outcomes for that assessment, then some adjustment needs to take place e.g. a change to the mark scheme. Change must always be in accordance with Bangor's Code of Practice.
4. Where you believe a piece of work does not meet this principle, report this to the Academic Integrity Officer in your School.

Further Reading

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