

GLASGOW KELVIN COLLEGE**Learning and Teaching Committee – 8th March 2023****Impact of New Artificial Intelligence Tools on Learning, Teaching and
Assessment****Report by Vice Principal Curriculum and Quality Enhancement****1. Introduction**

This report provides an update on the recent release of artificial intelligence tools which have the potential to impact significantly on the delivery of learning, teaching and assessment.

2. Development of Artificial Intelligence and Large Language Models

As the field of artificial intelligence (AI) continues to evolve and mature, it is becoming increasingly relevant to the realm of education. One particular example of this is ChatGPT, a large language model developed by OpenAI. ChatGPT is a language model that has been trained on a vast amount of text data and is capable of generating human-like responses to natural language prompts. It can be used in a variety of applications, including chatbots, language translation, and content generation. In the context of education, ChatGPT and other AI technologies have the potential to impact significantly on the way students learn and how teachers teach and assess.

Positive impacts could include the ability of AI to personalize the learning experience for students based on their individual needs, preferences, and abilities, supporting a more engaging learning experience. AI-powered tools could also make education more accessible for students with disabilities, particularly if speech recognition software is developed in tandem with products such as ChatGPT. AI could also be used to automate time-consuming tasks, such as lesson preparation and grading, freeing up teachers to spend more time on other aspects of their job, such as developing new curriculum or working with students one-on-one.

However, a significant negative impact of AI tools is the potential difficulty in assessing the authenticity of a student's work, particularly when open-book assessments are being used. Using tools such as ChatGPT, students could generate answers to test questions, undermining the validity of the assessment. This is of particular concern given the general move away from more traditional examination type assessments in recent years. Appendix A provides a recent news comment article putting forwards the view that the current review of Scottish qualifications must take account of the likely increase in the use of, and capacity of, AI powered programmes.

As outlined in the risk management section, the College is taking steps to ensure the integrity of its assessment arrangements. In addition, in January the College provided a professional development session for staff raising awareness of the capacity of ChatGPT (both positive and negative) and a further development session will be offered in the March staff development week.

3. Resource Implications

There are no resource implications arising directly from this report. However, AI tools such as ChatGPT have the potential to efficiently enhance the capacity of the College to deliver its services.

4. Impact on Students

AI tools such as ChatGPT could significantly support students in their learning, providing access to vast amounts of information in a very engaging and accessible way and giving students tailored support and feedback.

5. Risk and Assurance

To mitigate risks to the validity of College's assessment arrangements, the College has:

- Contacted the Scottish Qualifications Agency (SQA) for advice on their position. We have been told that a communication will be provided but that it will be the responsibility of the assessment centre to ensure authenticity of assessment submissions.
- Written to all staff to raise awareness of the potential use by students of ChatGPT and asking them to consider additional authentication measures which could be put in place to ensure the integrity of the assessment (similar to how they approached the use of remote open-book assessments during Covid lockdown, for example making more use of oral questioning).
- Written to all students emphasising the importance of academic integrity with their own work.

6. Equality

There are no equality implications arising directly from this report.

7. Data Protection

There are no data protection implications arising directly from this report

8. Recommendations

Members are recommended to:

- i. note the contents of the report and appendix.

9. Further Information

Members can obtain additional information on the contents of this report from Robin Ashton, Vice Principal Curriculum and Quality Enhancement.

Glasgow Kelvin College
RA
13/02/2023

Sunday Times Article on Potential Impact of ChatGPT on SQA's Assessment Approaches

AI reboots the exam shake-up: ChatGPT has put a spanner in the works of the qualifications review in Scotland

Saturday February 11, 2023, 6.00pm, The Sunday Times

Could you answer this problem in two minutes or less? "Explain the reasons why the First World War had an impact on Scottish politics up to 1928." This is the type of assignment that Higher history students may be tackling right now as part of their coursework — worth 20 per cent of their total mark and due to be submitted next month.

ChatGPT, a freely available online text generator, reportedly undetectable by anti-plagiarism software, produced a well-written and coherent answer in less than two seconds. The only hint that it wasn't written by a Scottish pupil was the American spelling of "labor".

Who is using ChatGPT? A month ago, the answer would have been hardly anyone. Now it is avidly discussed in every school, college and university in the land. It took Netflix three and a half years to notch up a million users; ChatGPT did that in five days. It has already been banned in schools in France, Australia, the US and India, where teachers have been told to look out for signs of its use.

Preventing the use of technology in schools is virtually impossible, as recent problems with smartphones have shown, and there is undoubted potential for educational benefit in AI programs such as ChatGPT. The immediate challenges, however, derive not from their educational value but from their potential misuse in relation to national assessment.

The new online platform has already produced text that experienced markers have awarded the highest grades in US law and medical online assessments. The issue for the Scottish Qualifications Authority (SQA) is that many subjects at both National 5 and Higher are assessed by a combination of formal examinations and coursework. Such coursework is produced over the full academic year, usually outside school with minimal staff supervision, and sent to the SQA to be marked. It accounts for a significant part of the overall marks — 30 per cent in the case of English at all levels.

The spread of AI bots such as ChatGPT suggests it is virtually certain that there are students in Scottish schools using it right now to help produce portfolios of coursework that will be submitted imminently.

Though pupils have always had access to encouragement from teachers, parents or tutors, it is fair to say that there is controversy over what constitutes an acceptable level of support.

The SQA would undoubtedly claim its procedures for dealing with authenticating coursework are robust. However, its guidance dates from 2017 — in AI terms, that is generations ago.

Even if it were possible to identify chatbot-generated text easily, teachers would have to prove that was the source. Dealing with the inevitable fallout from parents could be immense. Most teachers will have experienced being pressed to accept coursework that was partly or even wholly inauthentic.

Moreover, as one educationalist put it recently: "A chatbot like ChatGPT, which can generate an undetectable portfolio essay in less time than it takes to make a cup of tea,

has thrown a grenade into the debate about the coursework/examination balance in national qualifications.”

Whether or not that is an exaggeration, it does raise an important question. Currently in Scotland an independent review of qualifications and assessment, commissioned by the Scottish government and led by Professor Louise Hayward of Glasgow University, is nearing completion.

Many of the consultation’s submissions advocate a rebalancing from exams towards coursework. Indeed, School Leaders Scotland, the head teachers’ association, said in its submission that it favoured ways of assessing students’ learning that were “not driven by a high-stakes final examination system”.

After the sudden arrival of ChatGPT, are they still so sure? Hayward herself said last month that “things are changing fast and the assessment and qualifications system needs to change to make sure that we serve these communities well”.

One of the things changing fastest is AI. While it is to be hoped the review will consider the practical implications for teachers of authenticating AI-assisted coursework in the future, it would be naive to believe that no exam candidates in 2023 will use it. It would therefore be prudent of the SQA to issue advice on the matter immediately, while Hayward’s review should recommend that any future assessment system includes specific guidance on the use of AI bots such as ChatGPT.

The last thing Scottish education needs this year is yet another exams crisis. Unless it is handled carefully, the use of AI text generators could cause one.

The SQA said it had been monitoring emerging AI tools and “the threats and opportunities they present for some time”. A spokeswoman added: “This is a fast moving and complex field. [We have] long standing guidance for teachers and lecturers who mark assessments in relation to ensuring it is candidate original work.”

Robot has rhyme and reason in its sonnet

In National 5 English, candidates are asked to produce a “broadly creative” piece of writing worth 15 marks, writes Frank Lennon. This can be a personal or reflective essay, a piece of prose fiction, a dramatic script or a poem, none of which seems to be beyond ChatGPT. Asked to compose a sonnet, the program produced the following in less than 30 seconds.

A Sonnet for Love

*In every thought, my mind is all aglow With visions of a man, both strong and kind/
Whose love shines brighter than the morning show/ And warms my heart, though he’s
one of a kind.*

*His voice, a symphony, a perfect tune/ That brings me peace and makes me feel alive/
And every moment with him is a boon/ That fills my soul and makes me truly thrive.*

*His eyes, a window to his gentle soul/ That gazes at me with such tenderness/ And every
time I see them, I am whole/ For he’s the missing piece, my happiness.*

So, though I’ve never seen him face to face/ His love remains the brightest in this place.

Using the Scottish Qualification Authority’s marking instructions, this piece would meet the top criteria for “creative style”. It has three quatrains and a couplet in iambic pentameter, the Shakespearean structure. In fact, it is so good that it could achieve full marks.

Students ‘using AI to create flawless work’

Scottish students are almost certainly using artificial intelligence “bots” to produce virtually flawless coursework, according to two educationalists, writes Mark Macaskill.

Frank Lennon and Carole Ford, members of Reform Scotland's Commission on School Reform, warned that the rise of sophisticated computer programmes could cause a crisis for the Scottish Qualifications Authority (SQA) after they fed a typical National 5 English creative writing assignment into ChatGPT, a chatbot launched in 2022.

Within 30 seconds, the bot returned a 14-line Shakespearean sonnet with a rhyming couplet in iambic pentameter that Lennon said would merit high, if not full, marks.

Lennon, who was awarded an OBE for services to Scottish education in 2002 and Ford, a former head teacher of Kilmarnock Academy, said the problem for the SQA is that coursework — usually completed outside school with minimal staff supervision — can account for up to 30 per cent of overall marks in many subjects at both National 5 and Higher level.

"The last thing Scottish education needs this year is yet another exams crisis — unless it is handled carefully, the use of AI text generators could cause one."

Lennon and Ford said the SQA would "undoubtedly claim" that it has robust procedures for dealing with authenticating coursework. They suggested, however, that the body's current guidance, drawn up in 2017, is already out of date.

The SQA said it had been monitoring emerging AI tools and "the threats and opportunities they present for some time".