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RCSI guidance on the ethical use of artificial intelligence in learning, teaching and assessment

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Executive summary

This document, which has been produced by the AI in Education Working Group, serves as a guide for the ethical application of Artificial Intelligence (AI) and Generative AI (GenAI) in the processes of learning, teaching, and assessment (LTA) at RCSI. It outlines the potential benefits of AI for both students and educators, encompassing areas such as content creation, feedback provision, personalisation, accessibility, and career readiness.

The document also brings attention to the risks and ethical dilemmas associated with AI, including issues of reliability, data security, transparency, bias, unequal access, environmental impact, questionable development practices, and the effects on academic integrity and critical thinking.

To help mitigate these concerns, the document proposes 10 ethical principles for the use of AI in LTA at RCSI. These principles cover the following areas:

- Equity
- Complementarity
- Autonomy
- Pedagogy
- Academic Integrity
- Data Privacy
- AI Literacy
- Environmental Impact
- Transparency and Explainability
- Human Oversight

In addition, the document provides specific guidelines for the use of GenAI in LTA. It acknowledges that decisions about the suitability of GenAI in educational programmes, including assessment processes, are context-specific and should not be made on an institution-wide basis. Instead, a tiered approach is recommended, where the ethical principles outlined in this document should be used to guide the development of specific policies for individual schools. If necessary, more detailed guidance can be developed at the course or module level.

To assist in policy development, the document includes overarching guidelines on the use of GenAI in LTA for staff and students, as well as more specific guidance and suggestions related to assessment.

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Guidance on the Ethical Use of Artificial Intelligence in Learning, Teaching and Assessment

Introduction

This document aims to guide the ethical use of artificial intelligence (AI) in learning teaching, and assessment (LTA) processes in RCSI. It acknowledges the potential of AI to support LTA enhancement and prepare students for professional contexts into which AI will increasingly be integrated. It recognises that these benefits need to be balanced by an awareness of some problematic and potentially negative aspects of artificial intelligence, such as bias, data privacy, and potential for breaches of academic integrity.¹ It seeks to provide a framework within which RCSI faculty and students can engage productively with AI in ways that align with ethical use, data privacy, and RCSI values. It should be considered in conjunction with RCSI’s Academic Integrity, [Data Protection](#) and [Equality Diversity and Inclusion](#) policies and the RCSI: Learning, Teaching and Assessment Strategy 2023-2027. Whilst the guidance in this document pertains to AI in general, it is recognised that generative AI is the most widely used AI technology at present and as such will be focus of more specific guidelines within the document.

Definitions

1. **Artificial Intelligence (AI):** Artificial Intelligence refers to systems that “display intelligent behaviour by analysing their environment and taking actions – with some degree of autonomy - to achieve specific goals.”²
2. **Generative AI:** Generative AI (subsequently GenAI) is a subset of AI that “automatically generates content in response to prompts written in natural-language conversational interfaces”.³ This may include text, images, videos, music, and software code.
3. **Artificial neural network:** a type of machine learning that is inspired by the structure and functioning of the human brain (e.g. the synaptic connections between neurons).⁴

¹ Holmes, W., & Miao, F. (2023). [Guidance for generative AI in education and research](#). UNESCO Publishing.

² European Commission (2018) [Artificial Intelligence for Europe](#). European Commission. Brussels. 24 April, 2018.

³ Holmes, W., & Miao, F. (2023). [Guidance for generative AI in education and research](#). UNESCO Publishing.

⁴ Holmes, W., & Miao, F. (2023). [Guidance for generative AI in education and research](#). UNESCO Publishing

Background

Artificial Intelligence (AI) has been steadily making its way into the educational sector over the past few decades and now encompasses learning analytics, adaptive learning, and the automation of administrative functions, among other capabilities. Parallel to this there has been an increasing interest in the integration of AI into health professions education.⁵ More recently, the advent of generative AI (GenAI), and specifically the release of OpenAI's ChatGPT chatbot towards the end of 2022, has propelled it to the forefront of the education conversation.

ChatGPT was the first publicly facing GenAI platform that could produce coherent and convincing human-like text in response to natural language prompts. Since then, the range and functionality of GenAI platforms have been expanding at a rapid pace, and they are now capable of producing audio, code, images, text, simulations, 3D objects and videos. Moreover, AI tools are increasingly being integrated into day-to-day tools such as search engines, email platforms, word processing and presentation platforms. The widespread availability of GenAI and the speed at which it is evolving has left education institutions around the world struggling to keep pace.

Against this background, educators have expressed concerns about the use of AI in education, particularly in relation to privacy, the lack of transparency around the workings of AI models, and now given the increased use of GenAI, its capacity to undermine academic integrity, and perhaps even writing and critical thinking skills.⁶ However, AI also offers potential within education in terms of personalisation, feedback provision, and time efficiency, among other benefits. If harnessed effectively, the use of AI in learning, teaching and assessment could support a shift of focus from information retrieval to higher order thinking processes, such as critical analysis and creativity.

Undoubtedly, the evolution and integration of AI tools in various technologies will continue apace and will be used in a variety of healthcare environments. Nevertheless, the fundamental skills, knowledge, and values RCSI aims to instil in its students still hold paramount significance. Therefore, these guidelines seek to guide teaching staff in

⁵ Charow, R., Jeyakumar, T., Younus, S., Dolatabadi, E., Sahlia, M., Al-Mouaswas, D., & Wiljer, D. (2021). Artificial intelligence education programs for health care professionals: scoping review. *JMIR medical education*, 7(4), e31043.

⁶ Moorhouse, B. L., Yeo, M. A., & Wan, Y. (2023). Generative AI tools and assessment: Guidelines of the world's top-ranking universities. *Computers and Education Open*, 5, 100151.

establishing suitable boundaries for the use of AI tools, striking a balance between their usefulness and the educational needs of students.

AI opportunities

AI and GenAI offer a range of potential benefits to educators and learners when aligned with good practice in learning, teaching and assessment.⁷

For educators

- 1. Content creation:** AI can help lecturers produce well structured, concise lecture notes, study guides, and exam questions from draft materials that can speed up the process of preparation for teaching and assessment.⁸
- 2. Interactive teaching and learning:** AI can create lesson plans, case studies, and interactive scenarios that educators can adapt for their own uses to make the teaching and learning process more interactive.⁹ It also has the potential to facilitate the development of more immersive learning experiences when combined with technologies such as virtual or extended reality.
- 3. Feedback provision:** AI tools can support the provision of individualised feedback to students at a scale that would be almost impossible to achieve without its use.¹⁰
- 4. Research and analysis:** AI tools can provide summaries of research articles which can speed the screening process for literature reviews. It can also be used for initial analysis of large volumes of data, helping provide insights that can later be explored in greater depth.¹¹
- 5. Targeted learner support:** AI enabled adaptive learning platforms can enable educators to offer more targeted support to meet the needs of diverse groups of learners.¹²

⁷ Zhu, C., Sun, M., Luo, J., Li, T., & Wang, M. (2023). How to Harness the Potential of ChatGPT in Education? *Knowledge Management & E-Learning*, 15(2), 133-152.

⁸ Wu, J., Gan, W., Chen, Z., Wan, S., & Lin, H. (2023). Ai-generated content (AIGC): A survey. *arXiv preprint arXiv:2304.06632*.

⁹ Bai, S., Gonda, D. E., & Hew, K. F. (2024). Write-Curate-Verify: A Case Study of Leveraging Generative AI for Scenario Writing in Scenario-Based Learning. *IEEE Transactions on Learning Technologies*.

¹⁰ Zheng, L., Fan, Y., Chen, B., Huang, Z., LeiGao, & Long, M. (2023). An AI-enabled feedback-feedforward approach to promoting online collaborative learning. *Education and Information Technologies*, 1-22.

¹¹ [The best AI tools for research papers and academic research \(Literature review, grants, PDFs and more\) – Academia Insider](#)

¹² Bulathwela, S., Pérez-Ortiz, M., Holloway, C., & Shawe-Taylor, J. (2021). Could AI democratise education? Socio-technical imaginaries of an edtech revolution. *arXiv preprint arXiv:2112.02034*.

For students

- 1. Personalised learning:** AI can be used to tailor educational content to meet the unique needs of each student. It can generate additional exercises for students who are struggling with a particular topic or provide advanced materials for those who are ready to move ahead.
- 2. Writing and brainstorming:** GenAI can help students generate ideas in the initial brainstorming phase of a writing assignment. It can also help them structure their outputs, enabling them to articulate their thoughts and ideas more effectively.
- 3. Accessibility:** AI can be used to create captions for audio-visual content, which is particularly useful for hearing-impaired or English as an additional language (EAL) students. It can also be used to enhance drafts of written output from EAL students and translate materials into their native language.
- 4. Study aid:** AI can serve as a study aid, providing explanations and clarifications on complex topics and generating summaries and practice questions for revision.
- 5. Career readiness:** Learning to work with AI can enhance students' career prospects, as AI is increasingly used in healthcare and life sciences.

The above are just some examples of the ever-increasing uses to which AI may be put in a teaching and learning context. The utilisation of AI in ways that empowers rather than disempowers faculty and students requires thought, experimentation, awareness of limitations and careful consideration of pedagogical and ethical aspects and is likely to evolve over time.

AI concerns and risks

Decisions regarding the use of AI for education purposes should always account for its shortcomings. The EU's Artificial Intelligence Act, which is due to come into force over the next few months, has classified some uses of AI in education as high risk and emphasises the importance of human oversight of AI systems.¹³

The ethical use of AI requires an awareness of its

¹³ <https://artificialintelligenceact.eu/high-level-summary/>

1. Unreliability: GenAI tools may sometimes fabricate information (known as hallucination), which means they are not completely reliable sources. This may include inventing references.

2. Impact on learning and critical thinking: Uncritical use of GenAI tools may lead students to skip important learning steps creating a negative impact on their learning, creativity, and critical thinking. There is also a danger for both faculty and students that cognitive offloading to GenAI may increase reliance on it, which may result in disempowerment over time.

3. Impact on academic integrity: The ease with which GenAI can be used to generate content in a variety of formats leaves it open to misuse, including submission of work that is not one's own. This has significant implications for assessment validity and the academic publishing process.

4. Data privacy and security: Data inputted into GenAI platforms may not be secure. Uploading personally identifying, institutional, copyrighted or research-related data onto public GenAI platforms may be considered a breach of RCSI's data privacy protection policy. It is the user's responsibility to ensure that the necessary consents have been obtained in order to use any such data.

5. Transparency: AI tools, especially those that use artificial neural networks, are often seen as a "black box" due to their complexity, making it challenging even for experts to understand how they work. This is particularly concerning in areas such as healthcare, where explainability is critical.

6. Bias: AI can perpetuate or amplify biases present in the training data, leading to discriminatory outputs.

7. Unequal access: The most powerful GenAI tools are often behind a paywall and thus may not be equally accessible to all students.

8. Negative environmental impacts: Training the large-language models (LLMs), on which GenAI is based, requires significant computational resources, which can have a substantial negative environmental impact.¹⁴

¹⁴ [How much water does AI consume? The public deserves to know](#)

9. Questionable development practices:

- Copyright violations: GenAI models are trained on large volumes of data, very often appropriated from the Internet without the permission of the original creator. This may infringe upon copyrights and intellectual property rights.¹⁵
- Exploitative labour practices: the labelling and cleaning of data required to create the LLMs on which GenAI is built is often carried out by workers in the Global South who may be subjected to exploitation and poor working conditions.¹⁶

Ethical Principles

Considering the above, we propose the following ethical principles for the use of AI in learning, teaching and assessment processes in RCSI.

- **Equity:** AI use should be aligned with RCSI's Equality Diversity and Inclusion policy. It should be used to enhance and support learning in a way that promotes fairness and equality of opportunity and does not discriminate against any individuals or groups, through, for example, the use of profiling. Where the use of AI is permitted or encouraged, all students should be given access to institutionally approved AI tools.
- **Complementarity:** AI should be used to support, rather than replace, the role of educators.
- **Autonomy:** RCSI should respect the autonomy of educators in their choice of teaching methods and the autonomy of learners in their learning processes.
- **Pedagogy:** The use of AI should be driven by robust pedagogical rationales and aligned to RCSI's Learning Teaching and Assessment Strategy 2023-2027.
- **Academic integrity:** AI use should align with RCSI's Academic Integrity policy. Staff and students should adhere to the highest standards of academic integrity, including transparency regarding their use of GenAI in the preparation of materials.
- **Data privacy:** AI should be used in ways that respect the privacy and confidentiality of all users and should align with GDPR and RCSI's Data Protection policy. Personal or proprietary data should only be added to an AI platform, where the privacy of that data is guaranteed, and the explicit permission of the owner has been provided. It is the responsibility of the user to familiarise themselves with the data privacy policies and Terms of Use of any GenAI platform they intend using.

¹⁵ [Generative AI Lawsuits Timeline: Legal Cases vs. OpenAI, Microsoft, Anthropic, Nvidia and More](#)

¹⁶ [Behind the AI boom, an army of overseas workers in 'digital sweatshops'](#)

- **AI literacy:** Information and training should be provided to staff and students to support them to use AI in an informed and ethical way. Awareness of the workings and limitations of AI, including algorithmic bias, is a critical literacy for all those seeking to work in healthcare sectors in which AI will become increasingly ubiquitous.
- **Environmental impact:** Consideration should be given to how the environmental impact of generative AI might be limited, through measures such as using smaller, more task-specific, efficient AI models, when possible, and avoiding mindless use.
- **Transparency and explainability:** AI systems used to support decision making should be transparent and explainable. Users should be informed about how the AI works, what data it uses, and how decisions are made.
- **Human oversight:** AI-informed decision making should always be subject to human oversight.

Guidance on Generative AI

This section aims to provide more specific guidance on the responsible use of generative artificial intelligence (GenAI) in learning, teaching, and assessment (LTA) processes in RCSI.

What is Generative AI?

Generative AI (subsequently GenAI) is a subset of artificial intelligence that uses advanced machine learning models, often trained on vast datasets, to generate content “in response to prompts written in natural-language conversational interfaces”.¹⁷ Its outputs can include text, images, videos, music, and software code.

RCSI's position on GenAI

RCSI recognises the opportunities for both transformation and disruption that GenAI offers. As such it is committed to supporting staff and students to use GenAI tools effectively, ethically, and transparently. It recognises that decisions regarding the appropriateness or otherwise of the use of GenAI in education programmes, including assessment processes, are context specific and therefore should not be determined on a whole institution basis.

Rather, a tiered approach is needed wherein high-level university-wide guidance informs the development of specific policies for individual schools, and, where necessary, more specific

¹⁷ Holmes, W., & Miao, F. (2023). [Guidance for generative AI in education and research](#). UNESCO Publishing.

guidance is developed at course or module level. Ultimately, it should be the role of the relevant assessment creators within each academic unit to clearly articulate the constraints and possibilities of GenAI tools in relation to their own assessment task.

Overarching guidelines on the use of GenAI for students and staff

The guidelines below for students and staff serve as a practical guide for engaging with AI in context of learning, teaching, and assessment and should be considered in tandem with RCSI's Academic Integrity policy. They reinforce the university's commitment to innovation, integrity, and excellence, fostering a culture of responsible AI usage.

Original work

The responsible integration of GenAI into RCSI programmes requires adherence to principles of original work, proper citation, ethics, and academic integrity. These principles apply to both students and staff, reflecting the university's commitment to excellence and trustworthiness. Originality is a cornerstone of academic excellence, and the use of GenAI must align with this value. GenAI tools can provide support, insights, and enhancements, but the intellectual effort and creativity must come from the individual. Students and staff are encouraged, where permitted, to leverage GenAI responsibly, ensuring that their contributions remain unique and authentic. When GenAI is used, it is the responsibility of the user to review its output to ensure its veracity and quality.

Citing AI when used

When GenAI models or tools are used in academic work or research, proper citation is required. Acknowledging the role of GenAI not only ensures transparency but also contributes to the scholarly discourse. Clear guidelines and examples for citing GenAI are provided by the [RCSI Library](#) to assist students and staff.

Ethics and academic integrity

Ethical conduct and academic integrity are fundamental to the university's mission. Engaging with GenAI requires an understanding of potential biases, limitations, and ethical considerations. Students and staff must adhere to RCSI's Academic Integrity policy, codes of conduct, privacy regulations, and ethical guidelines, reflecting the university's values.

Addressing data privacy and security

The use of GenAI creates potential for data privacy breaches and the compromise of intellectual property. It is thus very important to be aware of the data privacy policies of any platforms you are considering using. At present, RCSI's licence with Microsoft offers commercial data protection to faculty students on the free browser-based Copilot platform.¹⁸ Notwithstanding this fact, it is important for both students and faculty to obtain permission before submitting content owned by another person to a GenAI platform.

General guidance for assessments

The use of GenAI tools may be permitted in assessments when its use does not compromise the ability to reliably determine whether students have attained the knowledge and skills to achieve the assessed learning outcomes. For example, the appropriate use of tools that influence only the form of an assessment is generally acceptable (e.g. proof readers, proofreading tools, spelling checkers, thesaurus). However, its use to generate content relating to the substantive aspect of the assessment would generally not be acceptable. Its use for activities such as brainstorming or outline generation would require consideration on a case-by-case basis.

1. To provide clarity for students, clear written guidance regarding what constitutes acceptable or unacceptable use of GenAI should accompany each assessment. In drafting such guidance, the AI assessment scale¹⁹ may prove a useful source (see Figure 1).
2. Assessments that prohibit or limit the use of GenAI should include a statement for students to declare, e.g. "I have read, understood and abided by the restrictions on the use of Gen AI for this assignment."²⁰
3. If the use of GenAI is permitted, there is a responsibility to ensure that students are made aware of its biases and limitations and are supported to engage critically with its outputs.
4. Where GenAI is used, students should include screen captures of both their prompts to and outputs from the GenAI tool as appendices in their submitted work to ensure transparency. Additionally, there should be in-text

¹⁸ [Expanding Microsoft Copilot access in education](#)

¹⁹ Perkins, M., Furze, L., Roe, J., & MacVaugh, J. (2024). The Artificial Intelligence Assessment Scale (AIAS): A Framework for Ethical Integration of Generative AI in Educational Assessment. *Journal of University Teaching and Learning Practice*, 21(06).

²⁰ [Using generative AI \(GenAI\) in learning and teaching](#)

acknowledgment of the GenAI tool used and the segment in which it was used in the completion of the assessment.

5. It is the student's responsibility to confirm that content acquired via GenAI tools is factually correct as these tools are not co-authors and cannot take responsibility for their output.
6. Any usage of GenAI tools in assessments outside what is explicitly permitted will, subject to investigation, be considered a breach of academic integrity, and may lead to disciplinary proceedings in line with RCSI's Academic Integrity policy.
7. It is not advisable to rely on AI detection tools to detect GenAI accurately or reliably.²¹ The operation of AI detectors can easily be bypassed by paraphrasing the AI outputs, including using other AI tools. Moreover, AI detection tools may mis-identify human-written text as AI-generated, leading to unfair accusations of plagiarism. This has been found to be particularly the case for non-native English speakers.²²

²¹ NAIN. (2023) Generative Artificial Intelligence: Guidelines for Educator.

²² Liang, W., Yuksekgonul, M., Mao, Y., Wu, E., & Zou, J. (2023). GPT detectors are biased against non-native English writers. *Patterns*, 4(7).

Figure 1

1	NO AI	<p>The assessment is completed entirely without AI assistance. This level ensures that students rely solely on their knowledge, understanding, and skills.</p> <p>AI must not be used at any point during the assessment.</p>
2	AI-ASSISTED IDEA GENERATION AND STRUCTURING	<p>AI can be used in the assessment for brainstorming, creating structures, and generating ideas for improving work.</p> <p>No AI content is allowed in the final submission.</p>
3	AI-ASSISTED EDITING	<p>AI can be used to make improvements to the clarity or quality of student created work to improve the final output, but no new content can be created using AI.</p> <p>AI can be used, but your original work with no AI content must be provided in an appendix.</p>
4	AI TASK COMPLETION, HUMAN EVALUATION	<p>AI is used to complete certain elements of the task, with students providing discussion or commentary on the AI-generated content. This level requires critical engagement with AI generated content and evaluating its output.</p> <p>You will use AI to complete specified tasks in your assessment. Any AI created content must be cited.</p>
5	FULL AI	<p>AI should be used as a 'co-pilot' in order to meet the requirements of the assessment, allowing for a collaborative approach with AI and enhancing creativity.</p> <p>You may use AI throughout your assessment to support your own work and do not have to specify which content is AI generated.</p>

Table 1 The AI Assessment Scale

Recommendations for redesigning asynchronous assessments

Asynchronous assessments including reflective assignments, laboratory reports, etc. are at a greater risk of unauthorised use of GenAI than synchronous assessments. To date, automated AI detectors carry a risk of producing false positives and can be evaded by paraphrasing. It is hence important to consider redesigning asynchronous assessments to ensure that learning outcomes can be reliably measured, regardless of whether GenAI is permitted or not. The following are suggestions that may aid with the redesign process:

1. Consider the pedagogical approach, the learning outcomes being assessed and whether the proposed assessment can validly incorporate the use of GenAI.
2. Where GenAI tool utilisation is not recommended by the assessor for a written asynchronous assignment consider:

- Designing the assignment question to require personalised, non-generic responses
- Focusing on the process as well as the product of assessment activity and using version histories to verify students' work²³
- Substituting written submissions for oral presentation and/or interactive oral assessments²⁴
- Employing follow-up oral examinations where academic integrity breaches are suspected
- Requiring learners to reference specific class learning materials, discussions or activities

3. Where Gen AI tool utilisation is encouraged, options for assessment redesign include:

- Asking students to work in groups to review and critique GenAI produced content with regard to aspects such as logic, consistency, accuracy, and bias, and to produce enhanced versions of the Gen AI output.
- Asking students to brainstorm and create outlines synchronously. This can then be followed by utilising generative AI tools to generate the body of an article. Finally, the student must critique and fact-check the output from the generative AI tool.
- Asking students to develop research proposals on a specific topic. AI could be used to help with the literature review by summarising relevant research articles. Students should then critically evaluate the sources, identify research gaps and propose original research contributions.

Support for staff and students

The fast-moving pace of developments in GenAI mean that policies and guidance will require continual monitoring and development. Education, training, and support should be made available for staff and students to ensure that the university community navigates the evolving landscape of AI with confidence. Recommendations include the development of a centralised online space to provide access to resources and training, supplemented by guest speakers and workshops focused on areas such as AI literacy and ethics, academic integrity, and assessment redesign; the creation of online learning resource for staff and

²³ [A simple hack to ChatGPT-proof assignments using Google Drive](#)

²⁴ [Interactive Oral Assessment](#)

students; and the development of a community of practice to learn together and share good practice with colleagues.

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