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Policy Guidance on the Use of Generative Artificial Intelligence in UK Higher Education

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Subject

This paper describes the discussions, contentions, and arguments for and against the use of generative artificial intelligence (GenAI) in Higher Education (HE). It includes an overview of artificial intelligence, synthesises the guidelines and policies on the use of GenAI, and investigates the opportunities to optimise the application of GenAI tools in HE. We suggest that while there is uncertainty surrounding such tools it is important to look at their potential utility and efficacy.

Preface

This White Paper delves into the evolving landscape of GenAI within HE, examining the opportunities and challenges surrounding its integration in the context of the United Kingdom (UK). GenAI, with its capacity to generate content from vast data sources, is increasingly influencing teaching, learning, and assessment practices. UK government initiatives, including workshops and pilot programmes like the AI Upskilling Fund, are driving awareness and skill development in GenAI for both educators and students. This report synthesises key arguments, policies, and debates from academic research, government guidelines, and industry perspectives to present an impact-directed policy synthesis.

Descriptions of issues such as the impact of GenAI on academic integrity, accessibility, and ethical considerations are also detailed in this White Paper. The objective is to provide a balanced overview of GenAI's potential to enhance educational outcomes while identifying best practices and frameworks for responsible use. Ultimately, this document guides HE Institutions in supporting an informed and adaptive approach to GenAI in HE.

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Introduction

Artificial Intelligence (AI), or the ability for a man-made machine to have its own human-like capacity to solve problems, is not a new concept. We have been using AI products in several industries for years and AI tools have been integrated into our smart devices, such as on phones and laptops, in the form of virtual personal assistants.

AI has become a topic of discussion and contention today due to the introduction of Generative Artificial Intelligence (GenAI). These are tools that are based on large language models (LLMs) and have been programmed to function by using top-down and bottom-up data, i.e., relying on the input of information from the user, and by sifting through and using all open-source data available online to create a repository of information, respectively. This is possible because of technology called 'transformers', essentially, transforming blocks of data into meaningful outputs that replicate how the human brain works when interpreting data from our environment[1]. This is why these tools are called generative – they create contextually relevant, original ideas and concepts based on specific information rather than merely replicating existing content. Industries have already begun the transition to using LLMs and GenAI to support human work and other sectors, including education, are poised to follow suit.

GenAI, therefore, is an essential topic for HE institutions to explore, given its widespread use among students. A report by the Higher Education Policy Institute (HEPI) surveyed 1,250 UK undergraduate students and found that 53% of these students already use tools like ChatGPT to assist them with assessments[2]. This growing reliance on GenAI highlights the crucial role of HE institutions in developing and creating ethical, considered, and monitored training for using GenAI tools effectively. Consequently, It is the responsibility of HE institutions to help facilitate training and use of technologies for educators and students alike, bearing in mind the best industry application.

There is much uncertainty and apprehension around the use of GenAI. This paper presents both positive and negative elements, in the form of considerations and contentions, and existing and planned policies and guidelines related to and for GenAI use in HE. Learning to change, integrate with, and adapt to

[1] Jisc, 'AI in Tertiary Education a Summary of the Current State of Play', September 2023, https://repository.jisc.ac.uk/9232/1/ai-in-tertiary-education-a-summary-of-the-current-state-of-play-september-2023.pdf.
[2] Josh Freeman, 'Provide or Punish? Student's Views on Generative AI in Higher Education', February 2024, https://www.hepi.ac.uk/2024/02/01/provide-or-punish-students-views-on-generative-ai-in-higher-education/.

GenAI will facilitate enhanced opportunities for private, public, and third-sector industries alike. The basis or rationale for developing policies around GenAI use in HE is to create meaningful and safe regulations. The priority for educators is to provide deep and meaningful useful skills and knowledge to students. This can be delivered by a considerable understanding of GenAI and its practical application in enhancing learning.

The guidelines, opinions, arguments, and policies referenced in this paper are relatively new as LLMs are also new, with ChatGPT only made publicly available starting in November 2022. In the last two years programs such as ChatGPT have been fed an incredible amount of input that has helped refine what they can produce and how they dynamically respond to this information. The impact of the services such tools provide is presented in this paper.

Information for this report was collected by looking at the official policies and guidelines released by the various UK government departments with respect to the use of GenAI. The policies and guidelines around GenAI in HE as presented by the Russell Group of Universities were formed by research conducted by the Quality Assurance Agency for Higher Education (QAA) and Jisc[3]. Additionally, grey literature in the form of blog posts and press releases from government agencies or agencies that inform government policies were presented. Information has been bolstered by academic and peer-reviewed research on this subject.

Considerations and Contentions in the use of Generative AI tools

Understanding the different merits and demerits of using GenAI in HE is needed as there are many different tools out there such as ChatGPT, Google Gemini, Midjourney, Bing, Claude, Dall-E, Canva[4], etc., and these are used by students and educators to varying degrees. Initial engagement with GenAI has been focused on introducing educators to tools and exposing them to the potential of GenAI. This has been carried out through workshops and programs such as the GenAI Hackathon that was conducted by the Department for Education in October 2023. The hackathon provided an opportunity for teachers from across the country to experiment with GenAI and discover its capabilities in an educationally

[3] Russell Group, 'Russell Group Principles on the Use of Generative AI Tools in Education', *Russell Group* (blog), July 2023, https://russellgroup.ac.uk/news/new-principles-on-use-of-ai-in-education/.
[4] Department for Education, 'Generative AI in Education Call for Evidence: Summary of Responses', November 2023, https://consult.education.gov.uk/digital-strategy/generative-artificial-intelligence-in-education/.

appropriate context. Teachers were also given a unique perspective on the practical use of GenAI tools by inviting students to the event and they shared their experience but also shared how they used AI[5].

It is apparent that GenAI is actively being engaged by the education community to scaffold the development of educators and students alike. This paper presents a synthesis of key elements of GenAI and on what basis guidance, policies, and discussions have been structured.

Elements of Potential

Application of AI in Simplifying Information and Supporting Students

As GenAI is a model language system it can be taught through an iterative process to provide information in an accessible and easy way. For example, 50 web pages that contained information about first aid responses to burn injuries were fed to ChatGPT. This application was then able to successfully condense information and attain readability of the information to that of an 11-year-old's literacy level, as recommended by Health Education England (HEE)[6]. This example demonstrates the power of GenAI tools to make accessibility easier by simplifying complex information, saving time, and making comprehension easier.

GenAI tools and instructors can complement each other in enhancing and simplifying the learning process for students. instructors bring their own set of expertise in the form of nuanced context-specific insights, tailoring their feedback to address individual student learning needs. GenAI provides instant feedback and can support students in developing, for example, a more academic writing style with specific prompts entered by the student. When integrated, instructor and GenAI feedback can provide a balanced and enriched learning experience. GenAI, unlike traditional information systems such as search engines, leverage natural language processing to offer more personalised and context-aware responses enhancing legibility and clarity. Traditional search engines require time-consuming sifting through multiple search results, whereas GenAI provides efficient and clear actionable feedback addressing specific questions.

Equity and Accessibility

In the UK HE setting, GenAI is being touted as a way for students to bring precision and clarity to their work and to help them present the knowledge they have learned in a simple and accessible way,

[5] Department for Education, Michelle Donelan, and Gillian Keegan, 'First Ever Hackathon in Education to Explore AI', Press Release, GOV.UK, October 2023, https://www.gov.uk/government/news/first-ever-hackathon-in-education-to-explore-ai.

[6] Alexander J. Baldwin, 'An Artificial Intelligence Language Model Improves Readability of Burns First Aid Information', *Burns* 50, no. 5 (June 2024): 1122–27, https://doi.org/10.1016/j.burns.2024.03.005.

allowing the student to better retain this information and for the instructor to better assess the student. This is particularly of importance to students who have English as an additional language, have learning and developmental challenges, or simply need clarity on the topic that they are interested in[7]. Gen AI is also positioned to support neurodiverse individuals as evidenced by testimonies that have been promoted by the National Centre for AI at Jisc[8].

GenAI, however, can have a positive impact on the lives of those living with disabilities[9]. Based on what is taught to the software it can help create personalised solutions to impairments, making communication natural and intuitive, especially for those who suffer from motor, developmental, or cognitive impairments, neurodivergence, and learning difficulties. Individuals can have access to assistive robotics and social companions that can be trained to understand the emotional state of the neurodiverse individual and assist them in their social and professional life[10]. The impact on the changed lived experience of disabled GenAI users presents a valuable opportunity worth exploring for HE institutions in the UK. More research is needed to understand the issues related to accessibility for disabled users within HE institutions.

Equity in accessibility is another contentious issue to consider. The inherent features of using GenAI such as ease of workflow, ability to perform streamlined academic research, use as a translating and transcribing tool, etc. may give an unfair advantage to some students and educators who have the means to access these tools. Access to these GenAI tools may be inequitable and not available to all students. There can be a paywall to access all features, and not all institutions or individuals can afford this[11]. Understanding differences in GenAI use, evaluating whether it is advantageous or not, and how there is an equity and accessibility issue is worthy of exploration.

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[7] Diana Sutton, 'Generative AI in Education - What Could This Mean?', The Bell Foundation, November 2023, https://www.bell-foundation.org.uk/news/generative-ai-in-education-a-game-changer-for-eal-pupils/#whatarethepotentialbenefitsofgenerativeaiforealpupils.
[8] Nalina Brahim-Said, 'AI: Empowering Inclusive Education', National Centre for Artificial Intelligence Jisc, January 2024, https://nationalcentreforai.jiscinvolve.org/wp/2024/01/09/ai-empowering-inclusive-education/.
[9] Yonah Welker, 'Generative AI Holds Great Potential for Those with Disabilities - but It Needs Policy to Shape It', World Economic Forum, November 2023, https://www.weforum.org/agenda/2023/11/generative-ai-holds-potential-disabilities/.
[10] Yonah Welker, 'How Cognitive Diversity in AI Can Help Close the Disability Inclusion Gap', World Economic Forum, April 2023, https://www.weforum.org/agenda/2023/04/how-cognitive-diversity-and-disability-centred-ai-can-improve-social-inclusion/.
[11] Jisc, 'AI in Tertiary Education a Summary of the Current State of Play'. September 2023, https://repository.jisc.ac.uk/9232/1/ai-in-tertiary-education-a-summary-of-the-current-state-of-play-september-2023.pdf

Reduced Workload of Educators

According to the Department of Education, the appropriate use of GenAI can help reduce the workload of practitioners, staff, and students across the education sector. It can particularly reduce the time teachers spend explaining basic concepts, allowing them to focus more on lesson planning and deliver excellent higher-level teaching to students[12]. To explore the best applications of GenAI in HE, The Department for Education (DfE) is collaborating with instructors, scientists, engineers, and HE institutions. A meaningful approach has been organising 'hackathons' – events where people from multiple fields come together to test and problem-solve with technology. These events provided educators with hands-on experience using GenAI tools, revealing that they can streamline tasks, reduce subjectivity through standardised outputs, and free up valuable time[13]. By integrating these insights, educational institutions can create an environment where educators focus more on research, learning activities, and complex pedagogical tasks previously constrained by time.

It is important to note, however, that this could also lead to educators having more intense workloads. In a study conducted in the UK, HE practitioners were interviewed, and they raised concerns that GenAI rather than freeing up time for academics, would intensify pressure on them to deliver additional research and learning outcomes due to the assumption that with access to applications and software it would be easier to have more outcomes with the "freed up" time[14].

Use of GenAI in Upskilling

HE institutions are strategically positioned to support the UK's National AI Strategy by aligning educational offerings with employer demands, especially within business sectors. In accordance with the UK's National AI Strategy, the DfE is working with HE institutions to scope the skills and requirements sought by employers, utilising the 'Skills Value Chain' model to ensure students acquire the skills needed for a competitive and innovative workforce. This model serves as a framework for integrating AI-related

[12] The Open Innovation Team and Department for Education, 'Generative AI in Education Educator and Expert Views' Department for Education, January 2024, https://assets.publishing.service.gov.uk/media/65b8cd41b5cb6e000d8bb74e/DfE_GenAI_in_education_-_Educator_and_expert_views_report.pdf.

[13] Department for Education, 'Use Cases for Generative AI in Education', User Research Report, August 2024, https://assets.publishing.service.gov.uk/media/66cdb078f04c14b05511b322/Use_cases_for_generative_AI_in_education_user_research_report.pdf.

[14] Richard Watermeyer et al., 'Generative AI and the Automating of Academia', *Postdigital Science and Education* 6, no. 2 (June 2024): 446–66, https://doi.org/10.1007/s42438-023-00440-6.

competencies, including the understanding and application of GenAI within academic programmes, thereby addressing the increasing demand for GenAI skills across industries[15].

The UK Government's AI Upskilling Fund, a pilot initiative by the Department for Science, Innovation, and Technology, further emphasizes this commitment to a future-ready workforce by focusing on Small and Medium Enterprises (SMEs). By raising awareness of AI and providing GenAI training, this fund enables employers and employees to feel confident and capable of using AI tools to drive efficiency and adapt to market changes. Through collaboration with industry and government, UK HE institutions can play a central role in fostering AI literacy and bridging the gap between academic learning and practical, industry-focused AI applications ensuring a dynamic and sustainable economic ecosystem[16].

Elements of Contention

Safeguarding, Cyber Security, Bias and Misinformation

Students can engage with inappropriate and at times harmful content when they go online. This includes engagement using AI which can be dangerous. It is the responsibility of the school, or in this case, HE institution, to determine how harm can be mitigated. There is language and terminology that can help guide institutions: Child safety bodies have identified 4Cs, namely, content, the nature of what the student is being exposed to, contact, someone directly interacting with the student online and causing harm to them, conduct, how the student is behaving online and whether this poses danger to them, and commerce, students can be scammed or be encouraged to engage in risky behaviour such as online gambling[17]. In the case of GenAI, the conduct of the students and how they engage with the applications needs to be monitored. Although the 4C guidelines are for school students, these can be applied and considered by HE institutions to safeguard students and staff alike.

The National Cyber Security Centre warns that personal information used in queries be shared cautiously or not at all. Parent companies such as OpenAI, in the case of ChatGPT, will not show or allow access to personal information of a user to other users. However, they will store this personal information and can use it to develop more sophisticated language models in the future in turn misappropriating or at times plagiarising this information. The guideline, therefore, is to "not include sensitive information in queries

[15] Department for Science, Innovation and Technology et al., 'National AI Strategy', GOV.UK, September 2021, https://www.gov.uk/government/publications/national-ai-strategy/national-ai-strategy-html-version.
[16] Department for Science, Innovation & Technology, 'AI Upskilling Fund: Application Guide (Closed to Applicants)', GOV.UK, August 2024, https://www.gov.uk/government/publications/flexible-ai-upskilling-fund/ai-upskilling-fund-application-guide.
[17] Maisy Watkins, 'The 4 C's of Online Safety', National Society for the Prevention of Cruelty to Children, September 2024, https://learning.nspcc.org.uk/news/2023/september/4-cs-of-online-safety.

to public LLMs" and "not submit queries to public LLMs that would lead to issues were they made public"[18]. When applying this to the case of HE, students and staff that are using and accessing data and platforms that are provided to them, by their respective HE institutes, must be careful and not share sensitive information in their queries. The servers and drives are not the property of the students, and therefore, care and consideration must be provided in the form of training on how to ethically and safely use GenAI.

To ensure that the tools are being used safely most require users to be at least 13 years old, while many set the minimum age at 18. For ChatGPT, users must be 18 or at least 13 with parental or guardian consent. Google Gemini, on the other hand, requires students using a school or work account to be 18 and above. These age requirements apply specifically to the unpaid version of both tools[19]. Additionally, Google Gemini advises users against sharing personal information, as it does not guarantee anonymisation. In contrast, ChatGPT allows users to adjust privacy and training settings for greater control over data usage.

The algorithms used to build applications like ChatGPT, or other LLMs, extract information from large-scale data sources that are openly available on the internet. There is no filtration process for the kind of information that is collected and presented. This can pose serious risks as controversial and harmful information can be accessed. Those with malicious intent can use LLMs to create codes for malware used to corrupt IT systems. These users do not need to have great skills in coding to create malware as the LLM can do that for them through a few simple prompts and commands[20].

There is a tendency for individuals who use GenAI to trust the information that is coming from it, however, GenAI may not produce accurate or honest results. There are implicit biases that emerge based on what the application has learned and has been prompted to generate. These include stereotypes that are embedded in society and culture that are prevalent online, for example, there seems to be a bias against non-native English speakers and writers, their natural way of writing in English can be

[18] David C and Paul J, 'ChatGPT and Large Language Models: Whats the Risk? Do Loose Prompts* Sink Ships? Exploring the Cyber Security Issues of ChatGPT and LLMs.', Nation Cyber Security Centre, March 2023, https://www.ncsc.gov.uk/blog-post/chatgpt-and-large-language-models-whats-the-risk.
[19] Paddy Shepperd, 'Navigating the Terms and Conditions of Generative AI', National Centre for Artificial Intelligence Jisc, September 2024, https://nationalcentreforai.jiscinvolve.org/wp/2024/09/26/navigating-the-terms-and-conditions-of-generative-ai/.
[20] C and J, 'ChatGPT and Large Language Models: Whats the Risk? Do Loose Prompts Sink Ships? Exploring the Cyber Security Issues of ChatGPT and LLMs.', March 2023, https://www.ncsc.gov.uk/blog-post/chatgpt-and-large-language-models-whats-the-risk

misidentified as written by AI, and the way groups of people are presented by GenAI can be stereotypical and incite harm[21]. There have certainly been issues in terms of falsifications, for example a study showed that ChatGPT provided fake citations specifically when prompted to produce journal articles[22]. This is true even when fine-tuning prompts to provide evidence. This is something acknowledged by the creators of ChatGPT at OpenAI[23].

It is imperative for us to understand the safety and security implications of GenAI. Training should be available to protect the user and their device, but also measures and policies in place to safeguard and protect vulnerable individuals and communities.

Lack of Pastoral Care for Students

Learning is not simply about the acquisition of skills or the retention and application of knowledge. An educational institution is also responsible for the development of the character and personality of the student. There are challenges such as mental health, stress, well-being, and goal setting, to name a few, that cannot be addressed by a student if they are simply relying on GenAI to give them directives. Pastoral care is significant and important. The DfE provides guidance on the safe and effective use of GenAI, emphasising its role as a supplement to deep knowledge that can only be provided by a human expert[24]. A human teacher possesses a mind, has a creative way to solve problems, and has emotions that they can access when assisting or simply talking to a student[25]. Students can use these tools to direct them to resources designed to assist them with their personal development or any personal issues, however, these tools do not have the complexity to provide the student with the same attention and support as a human pastoral care provider

Plagiarism and Academic Integrity

The application of LLMs in the HE context introduces complex issues surrounding originality and academic integrity. LLMs generate content by drawing from extensive databases of human-created text, essentially reconfiguring existing information and language patterns to form new responses. This

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[21] Andrew Myers, 'AI-Detectors Biased Against Non-Native English Writers', May 2023, https://hai.stanford.edu/news/ai-detectors-biased-against-non-native-english-writers.
[22] Louie Giray, 'ChatGPT References Unveiled: Distinguishing the Reliable from the Fake', *Internet Reference Services Quarterly* 28, no. 1 (2 January 2024): 9–18, https://doi.org/10.1080/10875301.2023.2265369.
[23] OpenAI, 'How Should AI Systems Behave, and Who Should Decide?', February 2023, https://openai.com/index/how-should-ai-systems-behave/.
[24] Department for Education, 'Generative Artificial Intelligence (AI) in Education', October 2023, https://www.gov.uk/government/publications/generative-artificial-intelligence-in-education/generative-artificial-intelligence-ai-in-education.
[25] Cecilia Ka Yuk Chan and Louisa H. Y. Tsi, 'The AI Revolution in Education: Will AI Replace or Assist Teachers in Higher Education?' (arXiv, 2023), https://doi.org/10.48550/ARXIV.2305.01185.

process, however, can pose risks of unintentional plagiarism, as the AI-generated text may inadvertently replicate or closely mimic existing content. While the AI itself lacks intent, users may unknowingly incorporate AI-generated outputs that resemble pre-existing material, raising concerns about academic misconduct. To address these concerns universities in the UK have adopted frameworks aimed at establishing clear guidelines and ethical practices around GenAI usage. These guidelines emphasize the importance of transparency, encouraging students to seek guidance from institutional representatives to ensure the appropriate and ethical use of GenAI tools within their academic work[26].

There is a grey area when it comes to the ownership of the material created. As far as intellectual property is concerned any original work is the property of the creator. Original content that has been created by students, therefore, is their intellectual property. GenAI, however, creates hybridised versions of output and can source work to create this output without the informed consent of the original creator of the content[27].

Ensuring academic integrity in this GenAI-driven environment requires institutions to adapt policies and establish explicit expectations for both students and educators. Essay mills, already ethically dubious and in breach of academic integrity, are well-known to have been used by students but are now being replaced by LLMs like ChatGPT. These tools offer a fast and efficient way for students to generate essays or content for assessment with ease[28] and again question the originality of work and ethical issues related to ownership.

In HE, the rapid evolution of GenAI is prompting institutions to adapt assessment strategies to uphold academic integrity. Traditional assessment formats such as exams, open-book exams, quizzes, practical exams, dissertations, and coursework need reconfiguration[29]. This could mean the integration of GenAI tools in these various learning modalities or a lower level of reliance on assistance provided by these tools. Due to contentions regarding security and confidentiality, there is a rising demand for in-person,

[26] Russell Group, 'Russell Group Principles on the Use of Generative AI Tools in Education', July 2023, https://russellgroup.ac.uk/news/new-principles-on-use-of-ai-in-education/
[27] Department for Education, 'Generative AI in Education Call for Evidence: Summary of Responses', November 2023, https://consult.education.gov.uk/digital-strategy/generative-artificial-intelligence-in-education/
[28] Rebecca Strachan, Cynthia Oguna, and Ugochukwu Oruche, 'The Postgraduate Student Perspective on Academic Misconduct in the Era of Essay Mills and Generative AI: A Case Study from Northeast England', in *2024 IEEE Global Engineering Education Conference (EDUCON)* (2024 IEEE Global Engineering Education Conference (EDUCON), Kos Island, Greece: IEEE, 2024), 1–7, https://doi.org/10.1109/EDUCON60312.2024.10578821.
[29] Isobel Bowditch, 'Assesment Menu: Designing Assessment in an AI Enabled World', National Centre for Artificial Intelligence Jisc, September 2023, https://nationalcentreforai.jiscinvolve.org/wp/2023/09/12/designing-assessment-in-an-ai-enabled-world/.

invigilated exams to uphold academic integrity, this approach, however, presents accessibility challenges for students who need special considerations. Secure digital assessment platforms are emerging as a viable solution, providing alternatives that support integrity while accommodating diverse student needs[30] and their efficacy needs to be investigated.

As GenAI's role in academia grows, UK institutions must continue refining assessment policies to balance GenAI's benefits with robust strategies that preserve academic rigour, are secure and accessible, and have clear directives for students engaging in assessment activities and evaluations.

GenAI in Research Funding Applications

As GenAI continues to shape academic practices, its implications extend beyond teaching and assessment into the realm of academic research. One significant consideration is how researchers interact with GenAI tools when applying for funding. Given the increasing reliance on these tools for writing and drafting proposals, concerns around confidentiality, integrity, and institutional policies have become pertinent. This leads to discussions on research funding and the responsible integration of GenAI in grant applications.

UKRI advises applicants to avoid inputting sensitive or personal data into GenAI tools, as confidentiality cannot be fully guaranteed. This highlights the need for careful evaluation of AI-generated content in research proposals.[31]. UKRI does not prohibit nor endorse the use of GenAI for application preparation and it acknowledges the utility of GenAI in drafting and structuring applications. However, strict guidelines are in place for assessors; any content generated by GenAI during the assessment process, specifically, comments from a panellist or information provided by assessors created through AI tools cannot be used. This duality reflects UKRI's cautious stance on maintaining review integrity while permitting applicants some flexibility in utilising GenAI tools.

Future Opportunities associated with Generative AI

New Approaches to Academic Integrity

The concept of plagiarism and what it means to plagiarise in an era where GenAI is widely accessible needs to be reevaluated. It is argued that education is entering a 'post-plagiarism era,' where what is

[30] Katy Finch, 'Digital Exams: A Chance to Make Assessment More Accessible for All', Assessment & Qualifications Insight (AQi), November 2023, https://www.aqi.org.uk/blogs/digital-exams-the-chance-for-change/.
[31] UKRI, 'Use of Generative Artificial Intelligence in Application Preparation and Assessment' (UK Research and Innovation, September 2024), https://www.ukri.org/publications/generative-artificial-intelligence-in-application-and-assessment-policy/use-of-generative-artificial-intelligence-in-application-preparation-and-assessment/.

machine-produced versus human-produced is indistinguishable[32]. Unlike traditional forms of plagiarism, GenAI synthesises information from various open-source data sources, creating content that, while building on existing materials, is unique to the prompts provided. This shift raises questions about academic integrity and suggests that students should disclose their use of AI, citing its application and purpose. Transparency in GenAI use may help avoid punitive actions towards students while acknowledging its role as a tool that complements human creativity.

Historically, student misconduct, such as cheating and plagiarism, has been a persistent challenge for academic institutions. Embracing GenAI as an educational tool, however, may shift this trend. Educating students on effective GenAI use encourages them to enhance their work quality and actively engage in the learning process, fostering a sense of ownership and bringing down cases of student misconduct. Since the interaction with these tools is an experiential process, it places students at the centre of creating their own learning content[33]. However, the ease of access to GenAI also raises concerns about the difficulty of detecting unfair use, potentially creating perverse incentives for misconduct. Addressing this challenge requires a dual approach of developing robust academic integrity policies and implementing transparent assessment methods. As education practices adapt, a balanced approach to GenAI can support academic integrity while recognizing its potential to enrich student learning and creativity, an area with significant investigative potential.

Differing Discipline Applications of GenAI Tools

HE institutions offer students the opportunity to across various disciplines, where the application of GenAI differs depending on the field of study. In STEM and Social Sciences, for example, tools can be used to assist in creating experiments, providing code for software and programs such as R and Python to support data analysis, and offering suggestions on the most appropriate analysis methodologies for subjects like statistics. Whereas, for Arts and Humanities, GenAI tools can help visualise art and literature, assist in thematic analysis, and suggest tools and methodologies such as hermeneutics to interpret and understand the written word and language.

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[32] Sarah Elaine Eaton, 'Postplagiarism: Transdisciplinary Ethics and Integrity in the Age of Artificial Intelligence and Neurotechnology', *International Journal for Educational Integrity* 19, no. 1 (12 October 2023): 23, s40979-023-00144–1, https://doi.org/10.1007/s40979-023-00144-1.

[33] Utkarsh Leo, 'Generative AI Should Mark the End of a Failed War on Student Academic Misconduct', *LSE Blogs* (blog), July 2023, https://blogs.lse.ac.uk/impactofsocialsciences/2023/07/21/generative-ai-should-mark-the-end-of-a-failed-war-on-student-academic-misconduct/.

Due to these differences in application, there are instances of differing ethical implications in the use of GenAI. GenAI was seen to be more useful in saving computational time in disciplines such as engineering, where its use was also viewed much favourably, compared with a much less utilitarian capacity in social sciences[34]. Initial findings have shown that GenAI can undermine creativity and critical thinking[35], however, measuring the impact of GenAI use within different disciplines and in an interdisciplinary capacity by students and educators provides a unique investigative prospect for HE institutions and policy related to the use of GenAI in HE.

Conclusion: Embrace & Adapt

The current policy recommendation for UK HE institutions is to “embrace and adapt" to the rapid advancement of GenAI technologies. Attempting to revert solely to in-person assessments or “out-smart” AI is no longer feasible, as GenAI is a regenerative tool that continues to evolve rapidly, learning and adapting[36]. HE institutions are therefore encouraged to incorporate GenAI thoughtfully into academic settings, with guidance for all members of faculties and staff to use and familiarize themselves with its functionalities and how students use these tools.

In response to the growing demand, institutions are actively working to integrate GenAI technology into teaching and learning environments. However, it is essential to recognise this period as one of exploration and trial and error, where the primary focus should be on discovering the potential uses and educational value of GenAI rather than implementing it in haste [37]. To facilitate this exploration responsibly, comprehensive GenAI training for educators is paramount. Such training would not only demystify GenAI but also equip faculty to manage these tools and applications in ways that enhance educational outcomes.

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[34] Achala Gupta, ‘Generative Artificial Intelligence and Higher Education: A Double-Edged Sword’, BERA, *Artificial Intelligence in Educational Research and Practice* (blog), September 2024, https://www.bera.ac.uk/blog/generative-artificial-intelligence-and-higher-education-a-double-edged-sword.
[35] Achala Gupta, ‘When Generative Artificial Intelligence Meets Academic Integrity: Educational Opportunities and Challenges in a Digital Age.’ (British Educational Research Association, n.d.), https://www.bera.ac.uk/publication/when-generative-artificial-intelligence-meets-academic-integrity.
[36] Michael Webb, ‘A Generative AI Primer’, National Centre for Artificial Intelligence Jisc, August 2024, https://nationalcentreforai.jiscinvolve.org/wp/2024/08/14/generative-ai-primer/#3.
[37] Jisc, ‘AI in Tertiary Education a Summary of the Current State of Play’, September 2023, https://repository.jisc.ac.uk/9232/1/ai-in-tertiary-education-a-summary-of-the-current-state-of-play-september-2023.pdf

Furthermore, integrating GenAI education into professional development and institutional standards can create a structured approach, allowing institutions to evolve GenAI policies in line with best practices[38]. This forward-looking approach prepares educators and institutions to harness GenAI's capabilities effectively, fostering an academic environment where both faculty and students can use AI-driven tools ethically and creatively.

The various arguments, positions, policies, and research presented in this paper underscore the potential avenues that can be explored by HE institutions when understanding the implications of GenAI and its various facets. By establishing foundational knowledge and thoughtful guidelines, institutions can adapt dynamically to GenAI's evolving role in academia, positioning themselves to maximize its benefits while upholding academic integrity and quality in education.

[38] BCS The Chartered Institute for IT, 'AI Should Be Part of Teacher Training Courses, Professional Body Advises', May 2023, https://www.bcs.org/articles-opinion-and-research/ai-should-be-part-of-teacher-training-courses-professional-body-advises/.