

The Role of Artificial Intelligence in Higher Education: Higher Education Students use of AI in Academic Assignments

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Abstract

The integration of Artificial Intelligence (AI) in higher education has sparked a transformative shift in pedagogical methodologies, student engagement, and academic integrity across the UK and Ireland. This qualitative study delves into the multifaceted implications of utilising AI in academic assignments from the perspective of higher education students, drawing on semi-structured interviews carried out with higher education students. The findings reveal a variety of perceived benefits, including enhanced study efficiency, personalised learning support and the potential of AI to level the academic playing field for students with diverse needs. However, these advantages are in contrast with students' perceptions of a wide range of significant concerns and challenges, notably the ethical dilemmas surrounding academic honesty, the potential for student dependency on AI leading to diminished knowledge and skill development, as well as the issue of equity in relation to students' access to AI resources. Moreover, the study stresses a critical gap in institutional guidance regarding AI use, with students voicing a need for clear, consistent guidance from universities. This paper highlights the complex landscape of AI in academia, advocating for a balanced approach that harnesses AI's potential while addressing ethical, educational, and equity challenges. The study emphasises a need for immediate and more in-depth research into the use of AI in higher education from the perspective of both students and university staff in Ireland/UK.

Keywords:

Artificial Intelligence, AI, Student Perspective, AI in Higher Education, Academic Integrity, Educational Technology, Student Voice

1. Introduction

AI is increasingly being integrated into society, including higher education (Souza et al,

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2023), and its implementation and development are inevitable and required (Hannan & Liu, 2021). The rapid advancement of technology, particularly AI, challenges higher education to evolve and prepare students for a future where AI is pervasive (Dogru et al., 2023; Gillani et al., 2023; Wang et al., 2023; Xie et al., 2021). AI, defined as systems capable of intelligent behaviour through environmental analysis and autonomous decision-making (Government of Ireland, 2023), has been present for over 30 years. However, its practical and meaningful application in teaching and learning remains uncertain (Zawacki-Richter et al., 2019). With educational institutions expected to equip students with skills for an AI-driven workforce, integrating AI tools into higher education is becoming increasingly important (Choi, Kim & Park, 2023; Dogru et al., 2023). This highlights the need to understand AI's role not just in terms of technology but from the student perspective, focusing on how it can be effectively incorporated into curricula to enhance learning and future employability. Hence, this study specifically seeks to address the following questions:

1. To what extent are higher education students in Ireland/UK using AI in their academic assignments?
2. What perceived benefits and challenges do students report in relation to using AI?
3. Do students view the use of AI in assignments as a form of cheating?
4. What guidance on AI use have students received from their universities?

The motivation for this research centers around the fact student voices are crucial but often under-represented in discussions about AI's integration.

2. Literature Review

AI's role in education is evolving, with applications shifting from general solutions to personalised interventions (Yang, 2021). AI, especially deep learning models like ChatGPT, has drawn significant attention for its ability to assist in academic tasks, generating content ranging from text to code (Hu, 2023; Gillani et al., 2023). In educational settings, AI tools such as Bard, Stable Diffusion, and Dall-E are used alongside ChatGPT for various purposes (Chan & Hu, 2023). Research shows that students' motivations to use AI are driven by factors like performance expectations and trust (Li & Qin, 2023).

2.1 Potential Benefits of AI in Higher Education

AI can enhance educational experiences by offering personalised learning support, immediate feedback, and the ability to adapt to individual needs (Hanaba et al., 2020; Su & Yang, 2023; Wang et al., 2023). It can act as a tutor or bridge learning gaps, especially for struggling students (Wang et al., 2023; Zawacki-Richter et al., 2019).

2.2 Challenges of AI in Higher Education

Despite these benefits, challenges persist, including ethical concerns, data quality issues, and safety risks (Su & Yang, 2023). Students and educators worry about misinformation, AI's inability to foster social skills, and the potential for dependency (Chan & Hu, 2023; Hanaba et al., 2020). There are also risks related to privacy, accountability, and biases within AI systems (Li & Gu, 2023). Moreover, as a disruptor in education, AI introduces legal and integrity challenges (Dogru et al., 2023).

2.3 AI in Higher Education from an Irish Perspective

The European Commission has identified AI in education as "high-risk," recommending clear guidelines to promote ethical use and transparency (European Commission, 2021a; 2021b). The rise of AI tools like ChatGPT has led to reviews of academic policies in Ireland, focusing on balancing technological benefits with academic integrity (Irish Times, 2023; QQI, 2023). The National Academic Integrity Network emphasises evolving assessments to mitigate risks of cheating (NAIN, 2023).

2.4 Research Gap

The current literature highlights the need for higher education to adapt to AI's rapid growth and prepare students for a future workforce (Hannan et al., 2021; Souza et al., 2023). However, research specifically examining students' perspectives on AI's role in education within the Irish and UK context is limited. Understanding how students perceive and use AI is crucial for developing policies and practices that are both supportive and equitable.

3. Methods

This research used a qualitative inductive approach to explore students' perspectives on AI in their academic assignments. An inductive approach was chosen to remain open to emerging ideas in the evolving field of AI (Gioia et al., 2013). Data was collected through semi-structured interviews, balancing predetermined questions with flexibility to explore participants' experiences and themes (Holtzblatt & Beyer, 2018; King & Horrocks, 2010). This method effectively captured complex attitudes toward AI. Participants included full- and part-time students, over the age of 18, from Irish and UK institutions. A small but diverse participant pool enhanced cultural relevance and validity (Creswell & Creswell, 2017; Palinkas et al., 2015). Interviews, lasting 30–45 minutes, provided depth while maintaining engagement (Seidman, 2019).

Ethical considerations were critical: informed consent outlined study details, confidentiality agreements ensured data security, and pseudonyms maintained anonymity (Neilsen Norman Group, 2022; Cirucci & Pruchniewska, 2022). Online interviews broadened participation and reduced identification risks (Lo Iacono, Symonds & Brown, 2016). Participants were free to stop interviews or request data deletion at any point (DiCicco-Bloom & Crabtree, 2006).

Data analysis followed Braun & Clarke's (2006) approach, starting with coding transcripts and identifying themes, ensuring a thorough representation of students' perceptions. Iterative reviews refined themes for accuracy, adhering to principles of inductive reasoning (Thomas, 2006). Institutional ethical approval was obtained from Dublin City University prior to the commencement of the study.

4. Findings

This study involved eight participants from seven universities in Ireland and the UK, covering a range of fields, levels (undergraduate to postgraduate), and study modes (online, on-campus). Six participants actively used AI in academic assignments, although usage varied. Two participants did not use AI, citing strong reasons, while all participants believed their peers were likely using AI, often without lecturer awareness—highlighted by Jen's remark, "I think a lot more people use it than lecturers know."

4.1 Benefits of AI Use

Participants identified AI's role in improving efficiency, brainstorming, understanding, and providing personalised support. Five participants found AI significantly aided efficiency, helping to save time and improve assignment quality. Lee emphasised AI's role in reducing workload by offering a framework, while Tim praised AI for supporting "time searching and developing new learning." For brainstorming, participants used AI to spark ideas or start tasks. Jen described AI as a helpful brainstorming tool, and Andrew noted its ability to provide creative themes not previously considered. In terms of developing understanding, AI was perceived to enhance knowledge and confidence. Sandra stated, "It helps you to be more confident... my knowledge is growing," and Lee noted its value in simplifying complex information. Personalised support was another benefit, as AI acted as scaffolding for diverse needs—Andrew suggested it could "level the playing field" for students with special educational requirements, and Sandra found it helpful for language learning.

4.2 Concerns and Challenges

All participants expressed concerns about AI's potential to create dependency, encourage laziness, and lower the quality of learning. Kate worried about students not fully engaging with material, while Jen and Lee echoed concerns that over-reliance on AI could diminish independent thinking and skills development. Additionally, participants found challenges with AI's output quality, questioning its reliability and accuracy. Jen and Andrew emphasised that AI-generated content required careful verification, while Sarah doubted its capabilities for advanced academic work.

4.3 Need for Institutional Clarity

A notable concern was the lack of clear university guidance on ethical AI use and assessments. Participants received mixed messages across courses and felt unsure about referencing AI or understanding when its use was permitted. As one participant described, AI felt like a "dark cloud," indicating an underlying uncertainty. The need for reimagined assessments to reflect AI's capabilities and address fairness was also highlighted.

4.4 Academic Integrity

All participants distinguished between AI's supportive use and using it to complete assignments directly. Six participants considered the latter as cheating. While most used AI for its benefits despite potential risks, they balanced its support role against academic integrity concerns. Two participants rejected AI use entirely due to ethical considerations.

5. Discussion

The findings of this study align with, and expand on, existing literature about the benefits, challenges, and ethical considerations of AI use in higher education. Consistent with research by Hanaba et al. (2020), students identified AI's benefits in enhancing personalised learning, efficiency, brainstorming, and confidence building. For instance, participants highlighted AI's ability to assist with time management, provide immediate feedback, and scaffold learning for diverse needs—mirroring the literature's emphasis on AI's potential to support struggling students and offer individualised support.

However, concerns raised by participants about over-reliance on AI and its potential to

undermine skill development also reflect the challenges noted by Li & Gu (2023) and Su & Yang (2023). Students expressed apprehensions that AI might contribute to laziness, reduce engagement with course material, and negatively impact critical thinking, which aligns with the literature's warning about AI's possible adverse effects on learning quality. Interestingly, some participants noted that AI could extend learning by offering more efficient research processes, however participants also worried that excessive dependency could negatively impact foundational academic skills.

The ethical implications of AI use, particularly around cheating, echo concerns highlighted by Chan & Hu (2023) and the Irish National Academic Integrity Network (NAIN, 2023). Most participants perceived the direct completion of assignments with AI as academic dishonesty, consistent with literature that stated the need for clear ethical guidelines in AI use. There is a call in the literature for universities to set clear policies (European Commission, 2021b), this study's participants indicated a gap in guidance and consistent messaging from institutions. This lack of clarity has led to varied student practices and mixed perceptions of AI's role, suggesting that institutions need to do more to address AI use with particular emphasis on the equitably use of AI among students.

One aspect that diverged from some of the literature is concern of bias in using AI technology, in this small-scale research 'bias' was not a concern raised by participants. It is unclear if this was due to student awareness or to the scope and direction of the research questions. Interestingly, participants did not report significant issues with accessing or using AI tools. These findings suggest technology use is widespread and user-friendly, implying that support structures may need to focus more on ethical use, critical thinking and skills development rather than on basic training for AI tools.

5.1 Development of Personas

To better understand and communicate the diverse student experiences with AI, personas were developed as an interpretation of the research findings. These personas offer a practical and tangible representation of how different students potentially perceive, interact with, and utilise AI in academic work. It is hoped these personas provide a lens for educators to grasp the varying needs and challenges faced by learners in this evolving landscape:

Persona 1: Over the shoulder user



In the realm of higher education, students increasingly grapple with balancing the demands of academic rigour and the scarcity of time. This student turns to AI as a pivotal tool for personalised learning. Eager to absorb knowledge and enhance their educational experience, this student has opted to use AI but not to disclose their use of AI tools to peers or lecturers. While they recognise the potential of AI to be misused, they are committed to using AI ethically as a valuable means of on-going support.

"If you literally plagiarise... it's cheating, but if you have used AI for prompts and worked on the submission yourself...this is not cheating."



Persona 2: The discombobulated student

This student faces a constant battle with uncertainty and confusion. Their occasional use of AI tools highlights a deeper struggle: they are unsure when or how it's appropriate to use AI in their academic work, which leads to significant frustration. The lack of clear university guidance leaves them wavering between the benefits AI offers, and the ethical dilemmas it poses, particularly concerning academic integrity. They firmly believe that directly copying and pasting AI-generated content is unequivocally cheating. This student faces ongoing internal conflict on whether to use or not use AI in academic work.

"I think they need to show best practice ... and I think they need to show us examples"



Persona 3: The AI opponent

This student has significant concerns about the widespread use of AI in education, viewing it as a detrimental force that stifles creativity, promotes laziness, and degrades the quality of education. Deeply disillusioned and frustrated, they argue that AI's integration into education undermines the learning process and creates equity issues, given that not all students have equal access to these technologies, and the concern that students using AI are graded the same as those who do not!

"I think people are going to end up relying on it [AI] way too much and it's just going to lead to a big decline of sort of creativity and innovation."



Persona 4: The conflicted guilty student

This postgraduate student navigates their academic journey with a mix of anxiety and guilt, stemming from their use of AI for personalised learning. While they recognise the significant benefits AI offers, they struggle to decide whether the 'hard graft' they were required to put in before AI existed, was what previously led to their successful educational journey. They ultimately choose not to disclose their use of AI, which adds to their feelings of guilt. This secrecy is compounded by an internal conflict over whether their reliance on AI constitutes cheating. The student remains deeply

conflicted, appreciating the advantages of AI but troubled by the ethical implications of their actions, the potential loss of knowledge/skills and questioning the fairness and integrity of using such technology in their studies.

"I feel like it was cheating...I cut it short or something, I can't explain it, but a part of me does feel I didn't cheat... I just used it to help me."

This research paper argues that by understanding the diversity of student experiences, educational institutions can better frame guidelines and support structures that promote ethical AI use, personalised learning, and equitable access.

6. Limitations

The study's findings are based on a small sample of eight students from seven different Irish/UK universities, which limits the generalisability and breadth of the results. A larger sample would better capture the diverse experiences and perspectives of higher education students. Furthermore, reliance on self-reported data from interviews may introduce bias, as participants might overstate or understate their use of AI. Additionally, the study focuses solely on student perspectives, lacking input from educators and policymakers, which is essential for a more comprehensive understanding of AI's role in higher education. Future research should aim to expand the sample size, include a variety of stakeholders, and explore the longitudinal impact of AI on student learning and assessment practices.

7. Conclusion

This research highlights the multifaceted role of AI in higher education, revealing both opportunities and challenges. Students from Irish/UK universities highlight how AI offers significant benefits, including personalised learning, efficiency, and enhanced understanding, but also raise concerns about dependency, skills erosion, and academic integrity. The study highlights the gap that exists in terms of existing research in Ireland/UK on students' use and perspectives of AI in academic work, yet their insights provide valuable guidance for universities seeking to integrate AI effectively into curricula while addressing ethical and educational challenges.

To navigate the complexities of AI in higher education, universities must engage in clear and supportive dialogue with students about AI's role, potential, and limitations. Institutions should provide guidance on ethical AI use, transparent assessment criteria, and equitable access to AI resources. Additionally, collaboration among stakeholders, including students, educators, and policymakers, is essential to develop AI policies that balance innovation with integrity (Li & Gu, 2023; Xie et al., 2021). This research questions if such collaboration is occurring in Ireland or UK universities, and if so, how effectively? The research calls for institutions to consider a variety of student perspectives on AI use. Are academic staff taking into account students who refuse to engage with AI due to legitimate concerns, yet are assessed alongside peers who utilise AI in their academic work? Hence, the research encourages institutions to address not only the academic and ethical implications of AI use but also the emotional impact that these technological advancements may have on some students. The research suggests that the emotional impact of AI use by students is being exacerbated by the institutions' mixed messages and lack of clarity on AI use in academic work.

Further research should review the policies, guidelines, and practices being implemented

across institutions regarding students' use of AI in academic work, as well as their effectiveness. It should also explore the long-term impacts of AI on learning and skills development, a legitimate concern voiced by students in this study. Comparing faculty perceptions of AI's role in education would provide further insight into how AI can be effectively integrated into higher education. By fostering an inclusive and informed approach, higher education can harness AI's potential to transform learning experiences while ensuring academic integrity and equity.

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Generative AI

Generative AI was used to find journal article titles (ChatGPT), to refine sentence structure for clarity (ChatGPT and or Grammarly) and to create the persona images (Dall-E).