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Exploring the psychosocial impact of Artificial Intelligence perceptions on student self-efficacy and engagement at university.

Elizabeth Farrier-Cave
canterbury christ church uni, canterbury, United Kingdom

Research Domains

Student Access and Experience (SAE)

Abstract

The rapid integration of generative artificial intelligence (AI) tools into higher education has prompted significant shifts in how students learn, access knowledge, and perceive academic competence. While much existing research has focused on the technological, ethical, and pedagogical implications, there is less understanding of the psychosocial effects; specifically, how students' perceptions of AI intelligence may affect their self-efficacy and engagement with their learning experience. If students no longer recognise or develop their own capability to contribute value, the consequences have a deep effect on engagement, including performance, motivation, satisfaction, career readiness, and ultimately the value of a degree, employment, and society. Using a mixed-methods approach, the project will survey undergraduate students at four key points during a term, alongside interventions such as workshops and reflective tasks. Semi-structured interviews will complement survey data. This project aims to inform institutional strategies that empower students to thrive in an AI-augmented future.

Full paper

Background

The rapid integration of generative artificial intelligence (AI) tools such as ChatGPT and Copilot into higher education has prompted significant shifts in how students learn, access knowledge, and perceive academic competence (Michel-Villarreal et al., 2023). There is rapid personalisation and capabilities of LLM models, which will continue to adapt content and pace to individual needs (Maheshwari, 2023). Students report that it answers questions quickly, helps them to understand subject concepts, and are reshaping how they learn and product content (Limna et al, 2022; Michel-Villarreal et al., 2023). While much existing research has focused on the technological, ethical, and pedagogical implications of AI, there is a notable lack of empirical work exploring the psychosocial effects of these tools on learners (Holmes et al, 2022; Williamson, 2024.) Specifically, how students' perceptions of AI

intelligence may affect their self-efficacy and engagement with their learning experience (Williamson, 2024.)

AI in education is not a novel concept; intelligent tutoring systems, customer relationship tools, predictive analytics, and learning management enhancements have existed for over two decades (Wang et al, 2024). However, the rise of generative AI marks now offers immediate, conversational, and personalised outputs that mimic human responses (Limna et al, 2022). This evolution has transformed AI from a background support mechanism into an active participant in students' daily and academic activities that they can access on a range of devices, including mobile phones and laptops (Wang et al, 2024)

Self-efficacy is a crucial factor in shaping students' academic performance, motivation, and engagement in learning (Wang et al, 2023; Wang et al, 2025). As AI systems become more capable, there is concern that students may begin to view them as cognitively superior, potentially undermining their self-confidence, academic motivation, and learning strategies (Williamson, 2024).). In the context of higher education, self-efficacy development is closely intertwined with engagement, which can be contextualised through behavioural, cognitive, and affective dimensions (Fredricks et al, 2004; Trowler, 2010). Engagement is recognised by practitioners and academics as an indicator of success, satisfaction, and value creation (Kahu, 2018).

Gap in the Research

Importantly, the findings will inform the development of institutional strategies aimed at preserving and promoting student confidence in an AI-mediated academic landscape. This includes guidance for educators on how to integrate AI tools without diminishing learner agency and efficacy, as well as recommendations for student support services that address the emotional and psychological challenges associated with AI in education. Ultimately, this research will support the creation of a more equitable and psychologically informed approach to digital transformation in higher education — one that empowers students to see AI not as a competitor, but as a collaborative and complementary tool in their academic journey.

Aim and Objectives

The aim of this study is to understand the impact of students' perceptions of AI intelligence on their academic self-confidence and engagement within higher education learning experience.

1. To investigate how students perceive the intelligence and capabilities of generative AI tools in comparison to their own cognitive abilities.
2. To examine the relationship between perceived AI superiority and students' self-efficacy

1. To explore how these perceptions influence students' engagement experience, including, motivation, learning and assessment, and relationships.

2. To understand the impact this has on the self-identify of the graduate

Methodology

This study will use mixed methods over one academic semester for three cohorts of students studying business management. This will include a first year, second year, and final year cohort of students. Participants will be recruited through the teaching cohort of the researcher, they will receive opt-out options and ethical approval will be sought through the university committee.

The quantitative phase will include a repeated survey approach will be used to collect quantitative data at 4 points of the semester. It will be administered in week 1, week 4 and week 7 (following interventions), and the final week 10. This will be administered through Microsoft forms and then SPSS will be used to analyse the results.

The qualitative phase will include focus groups will be conducted at the end of the semester for each cohort. This will explore their lived experience of the interventions, combined with findings from the surveys. Thematic analysis will be conducted to identify themes and patterns.

Primary output

This project will generate a range of impactful outputs designed to support educators, careers professionals, and policy makers in addressing the emerging challenges posed by student perceptions of AI. In addition, it will create meaningful research, answering key gaps in knowledge and providing recommendations for future researchers.