

Students' Attitudes Towards the Integration of AI in Higher Education: Perceptions and Challenges in Mauritius

Bushra Khoyratty, Université des Mascareignes, Mauritius
Rajeev Khoodeeram, Université de Mascareignes, Mauritius
David Authier, Université de Limoges, France

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Abstract

Artificial intelligence (AI) is transforming higher education by improving learning experiences, automating administrative tasks, and providing personalized support to students. However, research on students' attitudes towards AI remains limited, particularly in developing countries like Mauritius. This study examines students' familiarity with AI tools, their perceptions of AI's impact on education, and the key challenges in its adoption. A mixed-methods approach was used, incorporating a structured questionnaire to gather comprehensive insights. Quantitative data were analyzed using descriptive statistics, while qualitative responses were thematically coded. Findings indicate that while students acknowledge AI's potential in education, they express concerns regarding accessibility, ethical implications, and institutional preparedness. Furthermore, many students lack awareness of AI's role in their academic and professional futures, highlighting the need for targeted AI education initiatives. The study recommends integrating AI literacy programs within university curricula, ensuring equitable access to AI tools, and establishing clear ethical guidelines for AI use in education. Additionally, universities should involve students in AI policy development to promote comprehensive decision-making. These insights contribute to ongoing discussions on AI adoption in higher education, providing a foundation for further research that includes faculty and administrative perspectives to develop a holistic AI integration framework.

Keywords: artificial intelligence, higher education, student perception, AI adoption

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Introduction

Over the past few years, with the advent of technological advancements and the implementation of artificial intelligence (AI), along with the use of machine learning models, a significant technological revolution has infiltrated every aspect of our life. In the educational context, the concept of teaching assisted by automated learning systems refers to the tools, techniques, and methodologies that rely on the foundations of AI and are used to automate processes requiring technological intervention within a technology-enhanced learning environment (Romero et al., 2023).

Furthermore, AI significantly enhances evaluation methods, which prepares students more effectively for future careers by aligning with evolving job market demands. This suggests that higher education institutions should integrate more AI into their curricula to produce graduates who are well-equipped to meet future market needs (Slimi, 2021).

In Mauritius, discussions surrounding AI adoption in higher education is gaining increased attention from policymakers, educators, and institutions. However, limited research exists on students' attitudes towards AI implementation. This study aims to fill this gap by examining students' familiarity with AI tools, their perceptions of AI's impact, and the challenges faced in its integration within Mauritian universities.

This paper explores students' perceptions of AI applications within educational processes, focusing on students as the primary consumers of educational services. Adopting a service-dominant logic and co-creation perspective, students are seen not only as customers but also as active participants and co-creators in the service process, emphasizing their central role in value creation (Bowden, 2011). Celuch and Robinson (2016) describe higher education as a “unique experiential service,” where student engagement spans both academic and broader educational experiences. Thus, understanding the dynamics between students and institutions is crucial for creating value in educational services. Given that AI technology can significantly impact the student experience (Barrett et al., 2019), this study aims to achieve the following research objectives, firstly, to identify students' current perceptions of AI tools in higher education and to develop strategies for integrating AI tools into higher education to enhance learning and student engagement.

This paper is structured as follows: Section 1 introduces the topic; Section 2 presents a comprehensive Literature Review of Artificial intelligence in higher education. Section 3 outlines the Methodology used in this study. Section 4 presents the Findings, including students' perceptions and key themes derived from the data. Section 5 provides Recommendations, suggesting practical ways for higher education institutions to integrate AI tools effectively. Finally, Section 6 concludes the paper by summarizing the key insights, implications, and potential future research directions.

Literature Review

Definition of Artificial Intelligence

Artificial Intelligence (AI) refers to computer systems performing tasks typically requiring human intelligence (Andresen & McCarthy, 2002). AI systems analyse their environment and act autonomously to achieve specific goals (Boucher, 2020). Buabbas et al. (2023) describe AI as enabling machines to simulate human-like capabilities, including reasoning and problem-

solving. AI is categorized into data-driven, logic-based, and knowledge-based approaches. The data-driven approach relies on large datasets, while logic-based AI focuses on problem-solving, and knowledge-based AI prioritizes inference models. AI can also be classified into narrow AI, general AI, and artificial superintelligence (Marrone et al., 2022). Narrow AI specializes in specific tasks using machine learning. General AI mimics human cognitive abilities. Artificial superintelligence exceeds human intelligence and capabilities. These classifications highlight AI's evolving role in technological advancement.

Artificial Intelligence in Higher Education

The importance of applying artificial intelligence in the educational sector was especially emphasised due to the COVID-19 pandemic, which resulted in a shift from traditional classroom teaching to a digital form of learning (Maqbool et al., 2021; Mijwil et al., 2022; Pantelimon et al., 2021). AI-driven systems and technologies hold immense potential to transform traditional operational models in higher education institutions (Dhawan & Batra, 2020). According to Intelligence (2018) the United States Education Sector Report predicts a 47.50% growth in AI within the U.S. education sector from 2018 to 2022.

Baker et al., (2019) categorize AI technologies into three distinct applications: learner-facing, teacher-facing, and system-facing AIED. Learner-facing AI consists of software tools students use to study specific subjects. Teacher-facing AI automates tasks such as administration, evaluation, feedback, and plagiarism detection, which supports teachers by reducing workload and enhancing insights into student progress. System-facing AI provides institutional-level data to administrators and managers, facilitating more informed decision-making (Zawacki-Richter et al., 2019).

AI's integration into higher education can significantly improve the learning experience, decrease dropout rates, and foster personalized learning environments for students (Pedró, 2020). It can also help to achieve sustainable development goals (SDGs) presented by the UN General Assembly, such as those related to ensuring equal quality education for all (SDG4) and reducing inequalities between online and on-site approaches with special emphasis on students with disabilities (SDG 10) (Furini et al., 2022).

The Microsoft Education Transformation Framework (ETF) for Higher Education provides detailed guidance for developing a comprehensive digital transformation strategy in educational institutions. This framework includes four main pillars namely student success, teaching and learning, secure and connected campus, and academic research, through which AI can be effectively integrated to deliver efficient outcomes (Papaspnyridis, 2020).

Focusing initially on the pillars of student success, secure and connected campus, and academic research, it is noted that student success encompasses strategies for student recruitment and retention and building lifelong connections with students. AI tools can project trends in admission decisions and potential dropout scenarios, thus allowing for timely interventions (Pedró, 2020). Tsai et al. (2020) successfully used AI to predict high-risk students and the underlying causes of dropout, enabling proactive support and solutions.

The secure and connected campus pillar involves efficient management of campus resources, ensuring a safe and intelligent campus environment. AI can automate the management of campus facilities and streamline human resource and financial operations, transforming campuses into smarter ecosystems (Dhawan & Batra, 2020). AI applications like virtual

assistants and chatbots at administrative desks offer quick, personalized, cost-effective, and efficient solutions (Dhawan & Batra, 2020).

In terms of academic research, AI enables researchers to operate within an effective computing environment, removing barriers and fostering global collaboration. AI enhances the research process by simplifying data handling, survey creation, interview conduction, and detection of falsified data (Dhawan & Batra, 2020). To better understand and identify the barriers for fostering global collaboration, student's perception of artificial intelligence should be studied.

Student Perceptions of Artificial Intelligence

According to the authors Gherheş and Obrad (2018), the perception of students on the use of AI tools in higher education is an evolving topic with a range of opinions and findings documented in academic literature. One cannot neglect the importance of student perceptions regarding it since they represent the final users of educational services. Several studies have explored student perceptions of Artificial Intelligence (AI) in educational contexts, revealing both opportunities and challenges. For instance, Gherheş and Obrad (2018) also found that most undergraduate students felt under-informed about AI, yet believed it could positively impact society. However, fears such as AI leading to job loss and surpassing human intelligence were prevalent (Wang et al., 2024). Similarly, Jeffrey (2020) identified a general positive outlook towards AI among college students, though their understanding ranged from moderately high to low.

Research by Wang et al. (2024) and others focused on factors influencing students' intentions to learn AI, noting the role of AI anxieties, especially concerning job replacement, and the positive effects of learning motivations and self-efficacy. Studies extended to different educational levels, from elementary to university students, examining their readiness to engage with AI.

Idroes et al. (2023) reported a generally favourable perception among undergraduates on the use of AI in education, citing advantages like virtual assistants and universal access, but also noting significant drawbacks such as diminished student-teacher relationships. Cheng et al. (2023) developed the Student Conceptions of AI in Education Scale (SCAIES), identifying key AI applications in education from intelligent tutoring to sentiment analysis and personalized learning.

The perception of AI tools among students varies significantly based on their experiences and backgrounds. While many appreciate the efficiency and personalized learning opportunities, others express reservations about privacy and the authenticity of AI-mediated interactions.

A survey by Nguyen et al. (2020) found that students are generally positive about the use of AI for logistical applications like scheduling and feedback, but they prefer human interaction for more complex discussions and support.

Lastly, research by Kuleto et al. (2021) and Sangapu (2018) highlighted the mixed perceptions of AI's role in education, with findings suggesting AI can enhance personalized learning and teaching effectiveness, though there is substantial uncertainty about AI replacing human teachers entirely. These studies collectively underscore the complex and multifaceted views students hold towards AI in educational settings.

Benefits of AI Tools in Higher Education

The advantages of artificial intelligence applications in higher education are vast and varied. AI methodologies offer substantial value in multiple areas of teaching and learning, particularly at the student, lecturer, and institutional levels.

Student Level

According to Munir et al. (2022), AI enhances students' education by facilitating access to suitable courses, improving teacher interactions, and allowing more time for other tasks. A key trend in education is personalization, where AI tailors learning experiences to individual preferences, knowledge levels, and goals (Lane & Saint-Martin, 2021). AI-powered systems analyse students' learning histories, identify weaknesses, and suggest courses to enhance learning (Munir et al., 2022).

In tutoring, students often require extra support beyond the classroom, while many instructors face time constraints. AI-driven tools, including chatbots, help bridge this gap by providing personalized assistance (Zhou et al., 2020). Tomaskinova and Tomaskin (2024) highlight AI's role in online education, offering adaptive learning, automating routine tasks for teachers, and enabling individualized instruction. AI-powered learning platforms provide 24/7 access, allowing students to explore concepts independently. Exchange students also benefit from AI-driven education without incurring travel and living expenses (Photopoulos & Triantis, 2022). In addition, AI technologies like speech-to-text and language translation tools can make learning more accessible for students with disabilities or those who speak other languages, as highlighted by Nacheva and Czaplewski (2024).

Lecturer Level

AI provides data-driven insights that enable lecturers to refine their teaching strategies and enhance their competency (Zawacki-Richter et al., 2019). AI-powered learning analytics track student progress, engagement levels, and comprehension, allowing lecturers to tailor their teaching approaches accordingly (Holmes et al., 2019). Additionally, AI-driven professional development platforms offer personalized training for educators, ensuring they stay updated with modern pedagogical methodologies (Tomaskinova & Tomaskin, 2024).

Moreover, AI facilitates automated grading and feedback, reducing administrative workload and enabling educators to focus on mentorship and curriculum improvement (Selwyn, 2019). As AI continues to evolve, blended AI-human instruction models are emerging, where lecturers use AI to complement their expertise rather than replace it (Chen et al., 2020).

Institutional Level

AI enhances an institution's branding and corporate image by demonstrating technological leadership, innovation, and a commitment to student success (Molnár & Szűts, 2018). AI-driven solutions, such as chatbots, automated communication, and personalized learning platforms, improve institutional visibility and reputation, attracting students, faculty, and industry partnerships (Veletsianos et al., 2024; Zawacki-Richter et al., 2019). Moreover, AI fosters institutional innovation by optimizing administrative processes, research capabilities, and digital education infrastructure (Aoun, 2017). AI-powered predictive analytics and adaptive learning systems enable universities to make data-driven decisions on enrolment,

resource allocation, and curriculum design, ensuring they stay ahead in a competitive academic landscape (Dwivedi et al., 2023; Selwyn, 2019). Additionally, smart campus initiatives utilizing AI improve efficiency, sustainability, and student engagement, reinforcing institutions as pioneers in educational transformation and technological advancement (Brynjolfsson & McAfee, 2017).

Challenges and Concerns

- **Ethical and Privacy Issues:** The use of AI in education raises concerns about data privacy and ethical use of student information. Bostrom and Yudkowsky (2018) discuss potential risks associated with AI, including biases in algorithms that could impact student assessments.
- **Dependence and Reduced Critical Thinking:** There's a concern that reliance on AI tools might lead to diminished critical thinking and problem-solving skills among students. A study by Gerlich (2025) suggests that over-reliance on AI tools for tasks like research and writing could inhibit the development of these essential skills.
- **Digital Divide:** The varying levels of access to technology can exacerbate existing inequalities in education. Students from lower socioeconomic backgrounds may not benefit equally from AI tools, as they might lack the necessary resources, a concern highlighted by Ahmed (2024).

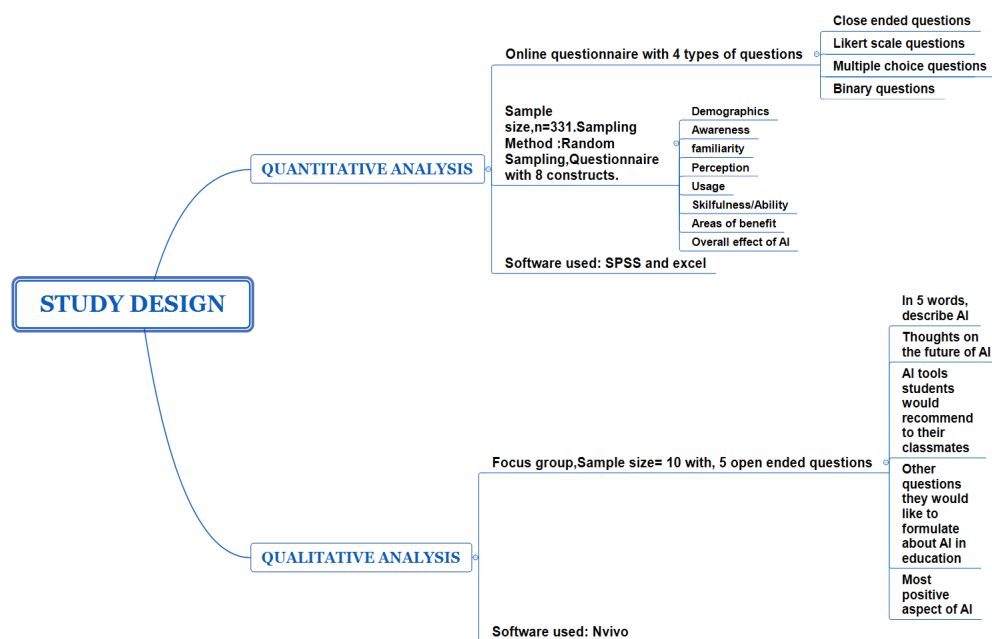
Research Methodology

In this exploratory research, mixed research has been used to better explore the perception of students among four public HE institutions in Mauritius namely Université des Mascareignes, University of Mauritius, Open University and University of technology, focusing on their usage and perspectives of AI tools in education. A sample size 331 students were tested for this study through an online questionnaire. The online survey covered topics such as students' familiarity with AI tools commonly used, the integration of AI technologies into higher education, potential challenges posed by AI, benefits, and the impact on their learning outcomes. In addition, a qualitative analysis with 20 candidates were interviewed through focus group discussion. Participation was entirely voluntary, and all responses remained anonymous. For the analysis, descriptive statistics were used to interpret the survey data.

Findings

Figure 1

Study Design Framework for Investigating AI in Higher Education



Qualitative Results

Here are some key results and observations based on the key constructs of the questionnaire.

(i) Demographic information

Among the sample gathered, 53.4% identified as male, 45.9% as female, and 0.9% as another gender. Regarding their study levels, most respondents (93.1%) were undergraduates, while 5% were master's students, and 0.9% were pursuing doctoral studies.

In terms of their fields of study, 42.5% of the students were enrolled in Management, 2% were in Social Sciences, 21% pursued Engineering, and 27.4% were studying Information Technology.

(ii) Awareness

Nearly all respondents (98%) have heard of the term "Artificial Intelligence." A significant majority, 86.7%, have encountered applications or tools that involve AI, showing that most students have practical exposure to AI in some form. However, 13.2% have not had such encounters, suggesting that while AI is widely present, some students may still lack direct interaction with it. In addition about 95% of respondents indicated that they are familiar with AI tools, suggesting that not only are they aware of AI, but they also have a level of familiarity with AI-related applications. A small percentage (4%) expressed unfamiliarity, which may indicate a learning gap or hesitation in using AI tools.

(iii) Familiarity

The first Chi-square test yielded a Chi-square statistic of approximately 16.34 with a p-value of 0.012, indicating a statistically significant association between gender and familiarity with AI concepts. This suggests that familiarity with AI concepts differs significantly between males and females in this dataset.

The second Chi-square test produced a Chi-square statistic of approximately 12.42 with a p-value of 0.647, indicating insufficient evidence to establish a statistically significant difference in AI familiarity across various fields of study. In other words, students' familiarity with AI concepts appears to be consistent regardless of their study field.

(iv) Perception

Table 1

Inferential Statistics Which Shows Correlation and Significance Between AI Perception Variables

Question pairs	Correlation	P-Value
Positive View vs Trust in AI	0.632	0.049
Knowledge of AI Tools vs Confidence with AI	-0.095	0.792
Positive View vs Can Study without AI	0.253	0.480

Here are the correlation results for the selected question pairs.

- Positive View vs Trust in AI: Moderate positive correlation ($r = 0.63$, $p = 0.049$) indicates a statistically significant relationship. Students with a positive view of AI tend to trust AI-generated information.
- Knowledge of AI Tools vs Confidence with AI: Weak negative correlation ($r = -0.09$, $p = 0.79$) shows no significant relationship. Familiarity with AI tools does not translate to confidence in using them.
- Positive View vs Can Study without AI: Weak positive correlation ($r = 0.25$, $p = 0.48$) suggests no significant relationship. A positive AI perception does not strongly affect students' belief in studying without AI.

(v) AI tool usage

Most students (106) use AI several times a week, indicating regular but not daily use.

Nearly half of the rest of the population (75) use AI rarely or several times a month, showing occasional engagement.

Frequent users (74) rely on AI almost daily, but they form a smaller group.

AI tools are integrated into study routines but are not indispensable for most students.

The variance in AI tool usage suggests differences in familiarity, relevance, and task-specific needs. High-variance tools like Grammarly ($SD = 1.54$), QuillBot ($SD = 1.61$), and ChatGPT 3.5/4 ($SD = 1.33$) indicate that some students use them frequently, while others rely on them only for specific tasks. Low-variance tools such as Claude 2 ($SD = 0.51$) and Llama 2 ($SD = 0.32$) show limited engagement, likely due to lower awareness or specialized functionality.

Familiarity plays a key role in usage patterns—widely known tools like ChatGPT 3.5/4 have a broad range of responses, while less familiar tools such as Unriddle and Jasper Chat show low engagement. These patterns highlight that AI adoption among students depends on both awareness and task relevance rather than just availability.

(vi) Skilfulness in using AI tools

Most respondents (50.07%) consider themselves partially skilled, followed by skilled individuals (25.07%). A smaller proportion identify as very skilled (6%). These findings suggest that while a significant number of students possess some level of AI proficiency, gaps remain that may require targeted training. Further investigation into specific AI competencies, such as data analysis, natural language processing, or machine learning, could enable institutions to develop more effective, needs-based educational interventions.

(vii) Areas of Benefit and overall effect of AI

Table 2

Shows Correlation and Significance Between AI Perception Variables

Area of Benefit	Never (%)	Rarely (%)	Sometimes (%)	Often (%)	Very Often (%)	N	Mean	Std.
Generating of Ideas	10 (3%)	23 (8%)	76 (25%)	132 (43%)	89 (29%)	330	3.79	1.1
Writing Research Papers	21 (6%)	48 (15%)	85 (26%)	112 (34%)	65 (20%)	331	3.46	1
Searching for Information	8 (2%)	23 (7%)	67 (20%)	115 (35%)	114 (35%)	327	3.94	1.1
Explanation of Material	8 (3%)	18 (6%)	87 (27%)	101 (31%)	100 (33%)	326	3.85	1.1
Task Problem Solving Skills	20 (6%)	26 (8%)	104 (31%)	105 (31%)	74 (24%)	329	3.57	1

Based on the table, here are some key observations.

1. AI's Strong Role in Information Gathering and Comprehension

Students rate “Searching for Information” and “Explanation of Material” highly, with mean scores of 3.94 and 3.85, respectively, highlighting AI’s usefulness in these areas. Many responses fall into the “Often” and “Very Often” categories, suggesting that students frequently turn to AI for tasks that involve finding and grasping information.

2. Moderate Usefulness for Generating Ideas and Problem Solving

With a high mean score of 3.79, “Generating Ideas” ranks well, with many students marking “Often” and “Very Often,” indicating that AI tools provide solid support for brainstorming and creative thinking.

“Task Problem Solving Skills,” however, has a slightly lower mean of 3.57 and more responses in the “Sometimes” and “Often” categories. This suggests that while AI tools are helpful for specific problem-solving tasks, they may not be as universally relied upon as they are for information gathering and comprehension.

3. Writing Research Papers

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4. Standard Deviation Insights

With a standard deviation around 1.0 across each area, there is moderate variation in student responses. This suggests that while many students find AI tools helpful, a portion of students may not feel the same benefit. This difference could stem from varying levels of familiarity with AI or differing academic needs among students.

5. Overall Preference for AI in Routine and Supportive Tasks

The data suggests that students tend to find AI more useful for routine tasks like idea generation and information retrieval, rather than for more structured academic work such as writing research papers. This could imply that while students value AI’s support for exploration and learning, they still rely on their own efforts or traditional resources when it comes to completing formal assignments.

In summary, the data suggests that AI tools are perceived as highly beneficial for enhancing learning and understanding, with slightly less impact on formal writing tasks. This could imply areas for improvement in AI’s capacity to assist with academic writing or structured assignments.

Quantitative Results

The quantitative findings were derived from a focus group consisting of 10 students, with the data visualized using the NVivo Free Trial software.

Figure 2*Mind Map on Student Perceptions of AI*

Mind Map: Student Perceptions of AI



The central focus of the study is “Student Perceptions of AI,” which is categorized into five key areas: Efficiency, Dependency, Collaboration, Privacy, and Learning. Students largely view AI as a tool that enhances productivity and saves time, with terms like “Quick,” “Reliable,” and “Time-Saving” reflecting its perceived efficiency. Many also regard AI as a valuable learning aid, as it facilitates effective studying, provides precise explanations, and generates ideas to support assignments. However, concerns about over-reliance are evident, with some students fearing that excessive dependence on AI could weaken their problem-solving and critical thinking skills, as indicated by terms such as “Over-reliance” and “Laziness.” Privacy concerns also emerge, with students expressing caution about data security, mentioning risks such as “Data Concerns” and “No Privacy.” On the positive side, AI is recognized for its role in enhancing collaboration and teamwork, helping to track performance and streamline shared tasks. Overall, students acknowledge AI’s dual impact, appreciating its benefits in efficiency and learning while remaining mindful of its potential drawbacks, particularly in terms of dependency and privacy.

Recommendations

Based on the findings of this survey, several recommendations can be developed to enhance students’ effective and confident use of AI in their academic studies. These recommendations focus on increasing familiarity, building trust, and promoting purposeful engagement with AI tools.

1. Promote AI Literacy and Critical Evaluation

Findings reveal that 57% of students trust AI-generated outputs but do not critically assess their accuracy. This highlights the need for AI literacy programs that teach students how to evaluate AI-generated information. Universities should offer workshops on AI ethics, limitations, and validation methods to promote responsible AI engagement (Huang et al., 2023).

2. Increase Awareness and Accessibility of Underutilized AI Tools

Survey data show that while 78% of students frequently use ChatGPT and Grammarly, less than **30%** explore AI tools for data analysis and project management. Universities should promote awareness of underutilized AI tools by integrating them into curricula, offering demonstrations, and providing discounted subscriptions through institutional partnerships (Alqahtani & Wafula, 2025).

3. Offer Personalized AI Tool Recommendations

Survey responses indicate that students use AI differently based on their academic disciplines. For example, 45% of science students utilize AI for data analysis, while 67% of humanities students rely on AI for writing assistance. To enhance AI adoption, universities should create an online portal that provides personalized AI tool recommendations based on students' academic fields and study levels (Jdidou & Aammou ,2024).

4. Foster a Balanced Approach to AI Use

Survey results show that 82% of students view AI as a supportive tool rather than a replacement for critical thinking. Educators should reinforce this perspective by encouraging students to combine AI with traditional research methods and analytical reasoning. This balanced approach ensures that AI enhances learning without diminishing independent thought (Dzogovic et al., 2024).

5. Evaluate the Impact of AI Tools on Academic Outcomes

A key finding from the survey is that students who actively use AI tools for study support report an 11% higher self-perceived improvement in academic performance compared to non-users. To assess AI's broader impact, universities should conduct longitudinal studies measuring AI engagement against academic performance metrics, such as grades and course completion rates (Hardini et al., 2025). By implementing these recommendations, educational institutions can foster not only familiarity with AI but also confident, purposeful engagement. These approaches ensure that students develop the necessary skills to navigate and benefit from AI in their academic journeys.

Conclusion

On the overall, the survey reveals that students generally hold a positive perception of AI and also find certain AI tools helpful in assisting them academically, and trust the information generated by AI when they have a favourable view of it. However, familiarity with AI tools does not correlate with confidence while using them, highlighting an area where training and hands-on experiences may benefit students. Moreover, the differences in frequency of tool usage indicates that while some AI tools play a prominent role in academic work, others might

be underused due to lack of knowledge amongst academic tasks, possibly due to a lack of awareness or specific applicability.

These findings suggest that educational institutions could support students by offering targeted training on effective AI tool usage, fostering critical engagement with AI outputs, and promoting tools that meet specific academic needs. Future research might explore the impact of structured AI training on students' confidence and actual performance to validate these findings further.

The limitation of this study is the sample size of 331 students from university faculties in Mauritius. Since the findings are based on a specific region, they may not fully represent the experiences or usage patterns of students in other parts of the world. Additionally, focusing on Mauritian university students might not capture the broader diversity in how AI tools are understood, accessed, or utilized among students globally. Expanding this research to include a more varied and extensive sample, along with objective assessments of AI tool usage and skill levels, could offer deeper insights into the role of AI in higher education across different cultural and educational contexts.

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Contact emails: bkhoyratty@udm.ac.mu
 rkhoodeeram@udm.ac.mu
 david.authier@unilim.fr