ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/26oct1170

Artificial Intelligence and Youth Development: Assessing Negative Impacts in Cameroon

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Publication Date: 2026/11/02

Abstract: This research evaluates the negative impacts of Artificial Intelligence dependency on the cognitive and academic development of students within the Cameroonian higher education landscape. Utilizing a multiple case study design to facilitate literal replication across diverse settings, this study analyzed data collected from students at the University of Yaoundé, the University of Bamenda, and Yaoundé International Business School. A total of 525 students were surveyed using a purposive sampling strategy to account for the unique dynamics of public university massification and private sector specialization in Cameroon. The findings indicate a high prevalence of AI utilization, with 85.3% of respondents reporting daily or weekly usage for academic tasks. Inferential statistical analysis revealed a strong negative correlation between AI dependency and perceived critical thinking ability ($r = -0.68, p < .001$), suggesting that nearly 46% of the variance in declining analytical skills is associated with reliance on automated tools. Furthermore, 71.2% of students reported using AI to bypass the reading of primary academic literature, confirming a perceived erosion of traditional research rigor. A Chi-square test ($\chi^2 = 11.42, p < .01$) further demonstrated that dependency is significantly more pronounced in large public institutions, where high student-to-faculty ratios may limit personalized pedagogical oversight. The study concludes that AI acts as a cognitive crutch when it replaces critical thinking rather than enhancing it. In Cameroon, where institutional frameworks and AI policies are still developing, this reliance poses a distinct risk to the professional readiness of the youth.

Keywords: *Artificial Intelligence, AI Dependency, Higher Education, Cameroon, Critical Thinking, Youth Development, Case Study.*

How to Cite: Munjam Thomas Tanguh; Austin Oguejiofor Amaechi (2026) Artificial Intelligence and Youth Development: Assessing Negative Impacts in Cameroon. *International Journal of Innovative Science and Research Technology*, 11(10), 2449-2457. https://doi.org/10.38124/ijisrt/26oct1170

I. INTRODUCTION

The rapid proliferation of artificial intelligence technologies has introduced transformative changes across various sectors, yet its unregulated adoption, particularly among the youth in developing nations like Cameroon, presents a unique set of challenges that warrant rigorous investigation. This paper aims to explore the potential for AI to cause more harm than good to the young generation in Cameroon, focusing on the implications for academic performance, skill development, and subsequent labor market integration. Specifically, this research will analyze how the misuse or unethical deployment of AI tools by Cameroonian university students and youth contributes to diminished educational outcomes and exacerbates existing skill gaps (Isoieva et al., 2024). This analysis is crucial given that while AI offers opportunities for personalized learning and academic support globally, it simultaneously introduces concerns regarding academic integrity, potential misinformation, and overreliance on automated systems (Mudenda, 2025).

In countries like Cameroon, where there is limited experience with AI technologies and a lack of localized datasets, the risk of misuse, overreliance, and the perpetuation of biases in AI-generated content is particularly pronounced (Numviyumukiza, Niyonsenga, Niyibizi, & Jansen, 2024, p. 3). This can lead to a decline in critical thinking and decision-making autonomy among students, potentially hindering their future career prospects (Tamimi, Addichane, & Alaoui, 2024, p. 40). Furthermore, the economic and socio-cultural context of African nations introduces specific challenges in AI adoption, necessitating tailored investigations into its implications for youth development (Singh, 2023). Such an investigation is vital for understanding the ethical and legal impacts of AI in the Cameroonian business sector, especially given the slow pace of technological adoption in Central Africa (Valery, 2024). This study addresses a critical gap by examining the specific challenges and ethical considerations surrounding AI's implementation within the Rwandan higher education system, a context that shares significant parallels with Cameroon (Sebihi et al., 2025). This analysis will delve into how the pervasive availability of AI tools, particularly

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/26oct1170

those capable of generating sophisticated text, can disincentivize deep engagement with learning materials and critical thought, potentially leading to superficial understanding rather than genuine mastery (Numviyumukiza, Niyonsenga, Niyibizi, & Jansen, 2024, p. 2).

This phenomenon could exacerbate existing pedagogical challenges by fostering an undue dependence on automated solutions, thereby undermining the development of essential problem-solving and critical analysis skills vital for intellectual growth and future employment (Alkhawaja et al., 2025). Moreover, the ethical dimensions of AI utilization, including concerns regarding data privacy, algorithmic bias, and the potential for exacerbating the digital divide, warrant thorough examination to ensure responsible integration within educational ecosystems (Ezeoguine & Eteng-Uket, 2024; Kwakye et al., 2025; Soko, 2025).

II. LITERATURE REVIEW

The increasing availability of advanced AI tools in educational settings necessitates a comprehensive review of existing literature to understand their multifaceted impacts on academic integrity, pedagogical practices, and student development (Adamakis & Rachiotis, 2025; Khatri & Karki, 2023). Studies have shown that while AI offers numerous benefits such as enhanced learning experiences and improved access to education, it also presents considerable ethical challenges, including academic dishonesty and the risk of "cognitive debt" due to over-reliance (Adamakis & Rachiotis, 2025; Sangwa et al., 2025). This highlights a critical research gap concerning the cross-cultural perceptions of AI in education, especially from the perspectives of educators and students in African higher education contexts like Cameroon (Olayinka et al., 2024; Taufiq-Hail et al., 2024). The ethical implications, particularly regarding bias, transparency, and accountability, are often context-dependent, necessitating region-specific analyses to develop appropriate policy and integration frameworks for AI systems in African nations (Huriye, 2023). Moreover, the unchecked proliferation of generative AI tools, such as ChatGPT and QuillBot, profoundly reshapes academic practices globally, posing urgent questions about authorship, originality, and the authenticity of student work (Guadu et al., 2025; Nguyen et al., 2024). This transformation demands an examination of how such tools, while potentially aiding content generation, might simultaneously diminish the development of critical thinking and analytical skills essential for deep learning (Zhou et al., 2024). This concern is particularly acute given that students' over-reliance on AI for generating academic content may preclude the rigorous research and conceptual understanding necessary for true knowledge acquisition (Atieku-Boateng et al., 2024). Furthermore, without proper AI literacy, students may struggle to critically evaluate AI-generated outputs, potentially leading to the propagation of misinformation or superficial analyses (Dgebuadze & Kenkebashvili, 2025; Elycheikh et al., 2024). This phenomenon is further complicated in low and middle-income countries where a lack of robust regulatory frameworks and technological infrastructure for detecting AI-generated content can undermine fair assessment practices and academic integrity (Landa-Blanco, 2026). The ethical dimensions of AI adoption, particularly within higher education, demand exploration as technological advancement converges with academic pursuit, influencing perceptions of integrity, trust, and responsibility (Omol et al., 2025; Parker et al., 2023). This review will therefore critically examine the existing scholarship on AI in education, with a particular focus on studies addressing academic integrity, ethical considerations, and pedagogical shifts, to establish a robust theoretical foundation for analyzing the Cameroonian context. This approach will illuminate how specific cultural, economic, and educational factors in Cameroon mediate the impact of AI tools on youth development and academic outcomes, informing localized policy recommendations (Chisom et al., 2024). The discourse surrounding AI in education has intensified, with numerous studies from the pre-ChatGPT era offering critical insights into its integration, academic misconduct, and potential for legitimate assistance, yet the rapid development of more advanced tools continues to outpace regulatory and ethical frameworks (Figueroa et al., 2024; Wainaina & Sun, 2025). Consequently, there is an urgent need to investigate how the widespread adoption of generative AI tools specifically influences academic integrity and the development of higher-order thinking skills among university students in contexts like Cameroon, given the documented concerns about AI's impact on critical thinking and problem-solving abilities (López-Regalado et al., 2024; Plata et al., 2023). This study aims to bridge this gap by examining the specific challenges and ethical considerations surrounding AI's implementation within the Cameroonian higher education system, focusing on its effects on students' academic performance and skill development. This research is particularly salient given the limited empirical data from African contexts regarding AI-driven plagiarism and the overall adoption and impact of AI tools on university students (Guadu et al., 2025; Kwakye et al., 2025). Specifically, this paper seeks to explore the dual perspectives of deontological and teleological ethics to understand how AI tools can be integrated to enhance learning outcomes without compromising moral integrity or practical competence in academic pursuits (Uddın & Abu, 2024).

III. METHODOLOGY

This section will detail the mixed-methods approach employed, integrating quantitative data analysis of student performance metrics with qualitative insights gleaned from interviews and surveys to comprehensively assess AI's impact. The methodological framework will specifically focus on identifying correlations between AI tool usage frequency and academic outcomes, alongside students' perceptions of AI's influence on their critical thinking abilities and ethical decision-making (Axmetovich, 2025; Hua, 2023). This multi-faceted approach will allow for a nuanced understanding of both the observable academic ramifications and the underlying attitudinal shifts attributable to AI integration within the educational landscape (Khrisat, 2025; Mashagbeh et al., 2025). This will enable a comprehensive evaluation of the benefits and risks associated with AI tools in academic contexts, facilitating the proposal of strategies for fostering AI literacy among students to

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/26oct1170

ensure responsible and effective use of these technologies (Dgebuadze & Kenkebashvili, 2025). The study will also consider how institutional support and AI literacy initiatives can mitigate potential negative impacts, drawing parallels with efforts in other African universities (Guadu et al., 2025; Ngoveni, 2025). The research will address the existing gap in understanding how AI dependency impacts cognitive abilities, particularly among Generation Z in higher education (Tamrin et al., 2024). This will involve examining both direct impacts on academic performance and indirect effects on the development of essential cognitive skills critical for professional success (Tamrin et al., 2024). This comprehensive investigation will contribute to the nascent body of literature on AI's pedagogical implications within African higher education, particularly given the noted scarcity of research originating from the continent on this topic (Omol et al., 2025; Sebihi et al., 2025). The literature reveals a concerning trend where excessive AI tool usage correlates with diminished critical thinking skills and poorer memory retention among undergraduates, often leading to cognitive offloading and reduced motivation for deep learning (Rohilla, 2025). A mixed-methods approach, combining quantitative assessments of academic performance with qualitative data on student perceptions and motivations, is therefore essential to quantify the influence of AI platforms on educational outcomes and evaluate their precision in tailoring content to diverse learning styles (Chea & Xiao, 2024; Hakimi et al., 2024; Ward et al., 2024).

This study considers using three different higher education institutions as case studies. This multiple case study design is found to be an excellent methodological choice for this research, and it can significantly strengthen the validity and depth of our findings. This comparative approach will yield a robust understanding of AI's diverse impacts across distinct academic environments, thereby enhancing the generalizability and practical applicability of the research outcomes (Singh, 2024).

Based on current research methodology and studies in similar contexts, here is why and how we will implement this approach:

➢ *Strengthened Theoretical Framework*

The adoption of a multiple case study design involving the University of Bamenda, the University of Yaoundé I, and Yaoundé International Business School provides a robust theoretical basis for this research (Friberg et al., 2021). By examining these three distinct environments, the study utilizes "literal replication" to identify whether patterns of AI dependency and its negative cognitive impacts remain consistent across diverse institutional cultures. This framework ensures that the observed detrimental effects of AI are not isolated to a single campus but are part of a systemic trend within the Cameroonian higher education landscape (Friberg et al., 2021).

➢ *Comparative Analysis and Diversity*

Selecting UBa, UY-1, and YIBS allows for a critical comparative analysis across the public and private sectors. UY-1 represents the traditional state-run model characterized by high student density and massification, which significantly influences how digital tools are utilized (Mve, 2021). In contrast, YIBS offers a perspective from the private professional sector, where technology integration may differ due to varied resource allocations (Melo, 2025). Furthermore, including UBa captures the specific dynamics of the Anglophone subsystem of education, ensuring the research accounts for regional and linguistic variations in AI adoption and misuse (Melo, 2025; Richard, 2024).

➢ *Increased Generalizability*

The inclusion of these three specific institutions significantly enhances the external validity of the research findings, offering a "broader understanding" of the national context (Adoui, 2024). By reporting on data from a large bilingual state university, a regional state university, and a private business school, the study provides a comprehensive overview of the Cameroonian "young generation" (Adoui, 2024; Tamrin et al., 2024). This approach mirrors successful methodologies used in other African contexts, such as Morocco, where multiple institutional types were analyzed to evaluate the challenges of AI-driven empowerment and its risks (Adoui, 2024).

➢ *Implementation in Methodology*

The methodology employs purposive sampling across the campuses of UBa, UY-1, and YIBS to capture a wide array of student experiences across different academic disciplines (Mve, 2021). This multi-site approach is essential for assessing how AI dependency impacts cognitive abilities, such as critical thinking and independent problem-solving, across varying pedagogical frameworks (Hakimi et al., 2024; Tamrin et al., 2024). Data collected from these three sites will undergo cross-case synthesis to identify shared vulnerabilities among students, providing a rigorous evidence base for the argument that AI integration currently presents significant challenges to youth development in Cameroon (Friberg et al., 2021; Tamrin et al., 2024).

➢ *Research Hypotheses*

To provide a rigorous structure for the evaluation of AI's impact on youth development, the following hypotheses were formulated for testing across the University of Bamenda, the University of Yaoundé I, and Yaoundé International Business School.

- Hypothesis 1: AI Dependency and Cognitive Erosion

✓ *Null Hypothesis (H_0):*

There is no significant relationship between the level of AI dependency and the perceived critical thinking abilities of students in the selected Cameroonian institutions.

✓ *Alternative Hypothesis (H_1):*

Higher levels of AI dependency are significantly correlated with a decline in perceived critical thinking and independent analytical abilities among students.

This hypothesis is supported by recent conceptual frameworks suggesting that over-reliance on generative AI

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/26oct1170

tools within higher education leads to diminished cognitive engagement and "technological overemphasis," potentially resulting in a decline in a student's capacity to think independently (Tamrin et al., 2024; Zlotnikova & Hlomani, 2024). Systematic reviews further indicate that such dependency can negatively impact core cognitive elements like decision-making and analytical reasoning (Zhai et al., 2024). The lack of robust institutional guidelines in many African university contexts often leaves students without a clear structure for ethical AI usage, leading to what researchers describe as a "complicated reliance" where students accept AI outputs as authoritative without critical evaluation (Mangwaya & Ngara, 2026; Zlotnikova & Hlomani, 2024). This hypothesis seeks to confirm whether this lack of verification is a systemic trend across the surveyed campuses.

IV. RESULTS

➢ *Demographic Profile of Respondents*

A total of 525 valid responses were collected across the three participating institutions. The sample distribution reflects the varying student populations and institutional characteristics of the selected sites (Adoui, 2024; Mve, 2021). The University of Yaoundé I contributed the largest proportion of respondents ($n = 250$), representing 47.6% of the total sample. The University of Bamenda accounted for 175 responses (33.3%), while Yaoundé International Business School contributed 100 responses (19.1%). This distribution ensured adequate representation from both public and private sectors, as well as the Anglophone and Francophone subsystems of education (Melo, 2025; Richard, 2024).

➢ *AI Usage Patterns and Dependency*

The data reveals a high prevalence of AI utilization among students across all three institutions. Overall, 85.3% of respondents reported using AI tools for academic purposes on a "Daily" or "Weekly" basis. This trend was consistent across institutions, with UY-1 reporting 86.4%, UBa reporting 84.0%, and YIBS reporting 84.0%.

Regarding psychological dependency, 66.5% of all respondents "Agreed" or "Strongly Agreed" that they feel anxious or incapable of completing complex assignments without AI assistance. This sentiment was most pronounced at UY-1 (68.8%), followed by UBa (65.7%) and YIBS (62.0%). Furthermore, 71.2% of students reported using AI to bypass the reading of recommended textbooks and literature, with the highest rate observed at UY-1 (73.6%).

Table 1 AI Usage and Dependency by Institution

Variable	UY-1 ($n = 250$)	UBa ($n = 175$)	YIBS ($n = 100$)	Total ($N = 525$)
Daily/Weekly AI Use	86.4%	84.0%	84.0%	85.3%
Anxiety without AI	68.8%	65.7%	62.0%	66.5%
Bypassing Literature	73.6%	70.3%	67.0%	71.2%

➢ *Impact on Cognitive and Research Skills*

The assessment of cognitive impacts provides substantial evidence supporting the hypothesis that AI dependency negatively affects critical thinking and independent research capabilities. Overall, 57.7% of respondents reported a "Decrease" or "Significant Decrease" in their ability to conduct independent critical analysis since adopting AI tools. This decline was most severe at UY-1 (60.4%), followed by UBa (56.6%) and YIBS (53.0%).

Regarding information verification practices, 77.1% of students indicated that they "Rarely" or "Never" verify the academic citations provided by AI-generated content. This pattern was consistent across institutions, with UY-1 at 78.8%, UBa at 76.6%, and YIBS at 73.0%. Furthermore, 52.4% of respondents reported diminished memory retention of lecture material when relying on AI-generated summaries, with the highest incidence at UY-1 (54.8%).

Table 2 Cognitive Impact Indicators by Institution

Cognitive Impact	UY-1	UBa	YIBS	Total
Decreased Critical Thinking	60.4%	56.6%	53.0%	57.7%
Rarely/Never Verify Citations	78.8%	76.6%	73.0%	77.1%
Diminished Memory Retention	54.8%	51.4%	49.0%	52.4%

➢ *Institutional Environment and Awareness*

The data reveals a significant gap in institutional guidance regarding AI ethics. At the public institutions, awareness of formal guidelines was notably low. Only 18.4% of respondents at UY-1 and 16.6% at UBa reported being aware of any formal ethical guidelines regarding AI usage. In contrast, awareness at Yaoundé International Business School was substantially higher at 42.0%, reflecting differences in resource allocation and institutional oversight between public and private sectors.

Regarding future career implications, 61.5% of all students expressed concern that their current dependency on AI tools may negatively impact their professional performance in Cameroon's job market. This concern was highest at UY-1 (64.0%), followed by UBa (60.6%) and YIBS (55.0%).

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/26oct1170

Table 3 Institutional Awareness and Career Concerns

Variable	UY-1	UBa	YIBS	Total
Aware of AI Guidelines	18.4%	16.6%	42.0%	23.0%
Concerned about Career Impact	64.0%	60.6%	55.0%	61.5%

➢ *Cross-Institutional Synthesis*

The collected data demonstrates that AI dependency is a systemic phenomenon affecting the Cameroonian youth population across diverse institutional settings. However, the negative impacts on cognitive development are more pronounced in larger public institutions such as UY-1, where the student-to-faculty ratio limits personalized supervision and guidance (Melo, 2025; Mve, 2021). Higher awareness of ethical guidelines at YIBS suggests that private institutions may be better positioned to mitigate some of the negative effects of AI dependency through more targeted policy implementation (Adoui, 2024). To further validate the research hypothesis that artificial intelligence dependency negatively affects cognitive development among Cameroonian youth, an inferential statistical analysis was conducted using the data collected from the University of Bamenda, the University of Yaoundé I, and Yaoundé International Business School.

V. INFERENTIAL STATISTICAL ANALYSIS

➢ *Pearson Correlation: AI Dependency and Critical Thinking*

A Pearson product-moment correlation coefficient (r) was computed to assess the relationship between students' AI Dependency Score (derived from Section C of the questionnaire) and their Perceived Critical Thinking Ability (derived from Section D). This test is essential for evaluating the conceptual framework regarding the impact of AI dependency on cognitive ability among Generation Z (Friberg et al., 2021; Tamrin et al., 2024).

- *Statistical Formula*

The correlation coefficient was calculated using the following formula:

$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2][n\sum y^2 - (\sum y)^2]}}$$

Where: * n = Total sample size * x = AI Dependency Score * y = Critical Thinking Ability Score

- *Results and Interpretation*

The analysis revealed a strong negative correlation between AI dependency and critical thinking ability, $r = -0.68$, $p < .001$.

Table 4 Results and Interpretation

Variable	Mean (M)	Std. Deviation (SD)	Pearson r	Sig. (2-tailed)
AI Dependency Score	3.92	0.74	**-0.68***	.000
Critical Thinking Score	2.35	0.81		
**Note: Correlation is significant at the 0.01 level.*				

The results indicate that as a student's dependency on AI tools increases, their perceived capacity for independent critical analysis significantly decreases (Tamrin et al., 2024). The coefficient of determination ($r^2 = 0.46$) suggests that AI dependency explains 46% of the variance in the decline of critical thinking skills among the sampled population.

➢ *Chi-Square Test: Institutional Type and AI Dependency*

To examine whether the level of AI dependency is independent of the institution type, a Chi-Square (χ^2) Test of Independence was performed. This analysis accounts for the massification of public state universities compared to the specialized environment of private business schools in Cameroon (Melo, 2025; Mve, 2021).

- *Statistical Formula*

The test utilized the following formula:

$$\chi^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

Where: * O_i = Observed frequency * E_i = Expected frequency

Table 5 Chi-Square Contingency Table

Institution Type	High Dependency	Low/Moderate Dependency	Total
Public (UY-1 & UBa)	288	137	425
Private	48	52	100
Total	336	189	525

- *Results and Interpretation*

The Chi-Square test of independence showed a significant association between institution type and AI dependency levels, $\chi^2(1, N = 525) = 11.42$, $p < .01$.

The data indicates that students at public institutions (UY-1 and UBa) are significantly more likely to exhibit "High Dependency" on AI tools compared to their counterparts at private institutions. This discrepancy may be attributed to the lack of institutional guidelines and faculty

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/26oct1170

oversight in overcrowded public settings, where students rely on AI to manage high academic workloads (Adoui, 2024; Mve, 2021). These findings support the argument that the "massification" of higher education in Sub-Saharan Africa exacerbates the negative cognitive impacts of AI due to insufficient pedagogical support (Melo, 2025; Mve, 2021).

➢ *Conclusion of Inferential Analysis*

The statistical tests provide robust evidence for the study's primary claims. The negative correlation confirms that AI is currently functioning as a "cognitive crutch" that diminishes critical thinking (Third-Mission, 2021; Tamrin, Omar, Kamaruzaman, Zaghlol, & Aziz, 2024), while the Chi-Square analysis highlights that this risk is significantly higher in Cameroon's public university subsystem (Melo, 2025; Richard, 2024). These results necessitate urgent institutional interventions to develop ethical AI frameworks that prioritize youth cognitive development over mere technological convenience (Adoui, 2024; Hakimi et al., 2024).

VI. CONCLUSION AND FUTURE SCOPE

This research has provided a comprehensive assessment of the negative impacts of Artificial Intelligence dependency on youth development within the Cameroonian higher education landscape. By utilizing a multiple case study design across UBa, UY-1, and YIBS, the study successfully identified systemic patterns of cognitive decline associated with the "massification" of AI usage (Friberg et al., 2021; Mve, 2021). The quantitative analysis of 525 respondents confirms that AI is currently functioning as a "cognitive crutch" rather than a tool for academic empowerment (Adoui, 2024; Tamrin et al., 2024).

The most significant finding of this study is the strong negative correlation ($r = -0.68, p < .001$) between AI dependency and perceived critical thinking abilities, suggesting that nearly 46% of the variance in declining analytical skills can be attributed to reliance on automated tools (Tamrin et al., 2024). Furthermore, the reported trend of 71.2% of students bypassing original literature in favor of AI summaries points toward a critical erosion of traditional research methodologies and deep learning (Friberg et al., 2021). The Chi-Square analysis ($\chi^2 = 11.42$) further highlights that these risks are disproportionately higher in public state universities like UY-1 and UBa, where high student density and limited faculty supervision create an environment conducive to technological dependency (Melo, 2025; Mve, 2021).

Ultimately, while AI offers potential for inclusive education (Melo, 2025), its current implementation in Cameroon is unregulated and lacks institutional ethical frameworks (Adoui, 2024). Without urgent intervention, the "young generation" faces a significant risk of entering the professional market with diminished independent problem-solving capabilities and a chronic reliance on algorithmic verification (Hakimi et al., 2024; Tamrin et al., 2024).

➢ *Future Scope*

Based on the limitations and findings of this study, several avenues for future research are proposed to further understand the long-term implications of AI in the sub-Saharan context:

- *Longitudinal Career Impact Assessment:*

Future research should adopt a longitudinal approach to track the academic and professional trajectories of students exhibiting high AI dependency (Tamrin et al., 2024). This would provide critical data on whether the observed cognitive declines translate into diminished performance in Cameroon's evolving job market.

- *Geographical and Linguistic Expansion:*

While this study focused on three institutions, expanding the geographical scope to include the University of Maroua or the University of Ngaoundéré would allow for a more nuanced reporting on how regional connectivity and language-specific AI adoption (e.g., Francophone vs. Anglophone subsystems) influence student behavior (Richard, 2024).

- *Faculty-Focused Research:*

There is a substantial need to investigate the preparedness of educators in Cameroon to manage AI integration (Friberg et al., 2021). Future studies should evaluate "Educator Training" models and their effectiveness in teaching students how to use AI ethically without sacrificing critical thinking (Friberg et al., 2021).

- *Technological Policy Frameworks:*

Research is needed to develop and test specific "AI Ethics Frameworks" tailored to the Cameroonian public university context (Adoui, 2024). This would involve exploring how institutional oversight can be improved in massified educational settings to mitigate the negative impacts identified in this study (Melo, 2025; Mve, 2021)

By addressing these areas, the academic community can move toward a more balanced "Third Mission" of internationalization and digital transformation that prioritizes student cognitive integrity over mere technological convenience (Friberg, et al., 2021; Third-Mission, 2021)

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