

Artificial Intelligence (AI) Utilization among Criminology Students: Its Influence on Research Productivity and Academic Performance

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Abstract

This study examined the utilization of Artificial Intelligence (AI) among fourth-year criminology students in selected higher education institutions in the Province of Albay and its influence on research productivity and academic performance. Anchored on Connectivism, the Unified Theory of Acceptance and Use of Technology 2 (UTAUT 2), and Cognitive Load Theory, the study employed a quantitative-descriptive research design using a validated survey questionnaire. The respondents were 121 fourth-year criminology students selected from a population of 174 through stratified random sampling. Data were analyzed using frequency, percentage, weighted mean, ranking, and composite mean. Findings revealed that AI utilization in research productivity was interpreted as "Sometimes," with grammar and plagiarism checking as the most frequently used function. ChatGPT was the most frequently used AI-based learning tool, followed by Canva, Gemini AI, QuillBot, and Cici/Dola. AI had a high influence on research productivity, particularly in improving research efficiency and research quality, while its impact on research originality was moderate. In terms of academic performance, AI had a high influence, especially on learning understanding and academic productivity, although general AI usage showed only moderate impact. The study concludes that AI serves as a useful support mechanism in criminology education, particularly for writing improvement, lesson clarification, research assistance, and academic task completion, but it does not replace critical thinking, originality, and traditional learning. The study recommends structured AI training, institutional guidelines, AI disclosure procedures, and supervised academic activities to promote responsible use. The study supports SDG 4, SDG 8, SDG 9, SDG 16, and SDG 17 by promoting quality education, AI literacy, innovation, institutional integrity, and collaborative policy development. Its sustainability impact lies in strengthening educational, technological, institutional, and governance practices for ethical and responsible AI integration in criminology education.

Keywords: Academic Performance, Artificial Intelligence, Criminology Education, Learning Understanding, Research Productivity, Responsible AI Integration, SDGs, Sustainability

1. Introduction

Artificial Intelligence (AI) has become an important tool in higher education, supporting students in information gathering, idea generation, academic writing, research assistance, plagiarism checking and learning management. In criminology education, where students need analytical thinking, research competence and ethical decision-making, AI utilization may influence research productivity and academic performance. While AI improves efficiency and learning support, it also raises concerns about overreliance, plagiarism, originality, academic integrity and institutional policy development.

1.1 Artificial Intelligence Utilization in Criminology Education

AI has transformed how students learn, conduct research and complete academic tasks. It helps students access information, generate ideas, evaluate data and improve academic performance, making it useful for research productivity and learning (Fan et al., 2025). Global studies show that about 86% of students use AI tools for school assignments such as summarizing articles, writing assistance and research support (University of the Philippines, 2024). However, AI use also presents risks involving overreliance, academic fraud and the weakening of critical thinking and originality (Waty, 2025). Universities are developing policies for ethical AI use because generative AI has advanced faster than institutional guidelines. Although AI can improve productivity, students still need clear instructions on responsible academic use (Mazaheriyani & Nourbakhsh, 2025). In the Philippines, AI literacy is being emphasized to prepare students for employment, as Filipino students use AI for writing, translating academic information and explaining difficult subjects (Martinez, 2025). However, concerns remain regarding AI's impact on academic independence, creativity and critical thinking, especially because institutional guidelines remain unclear (Galagala & Bacarrisas, 2025).

1.2 AI-Based Learning Tools, Research Productivity, and Academic Performance

Related literature shows that AI supports learner-centered instruction, personalized learning, academic efficiency and research assistance. Yalcinalp et al. (2024) stressed that AI should support, not replace, teaching and research while preserving inquiry, problem-solving, metacognition, teamwork and emotional intelligence. Al Qodhi and Abidin (2026) found that AI utilization, self-efficacy and learning innovation significantly influence academic work productivity, although plagiarism and ethical issues must be addressed. AI also supports communication, student achievement and inclusive learning, but concerns remain about overreliance, discomfort, limited interaction and unequal access. AI can improve student-teacher communication and academic accomplishment (Adewale et al., 2024), while generative AI can enhance creativity, efficiency and personalized learning if supported by ethical and instructional guidelines (Nguyen, 2025). Pacheco-Mendoza et al. (2023) found that AI tool use, study habits and student characteristics affect academic achievement. Nale et al. (2025) also reported that AI supports tailored learning, research, evaluation and data analysis in criminology curricula, but warned about reduced critical thinking, data privacy, cheating and overreliance. Several studies show that AI use is connected with perceived usefulness, ease of use, engagement and learning support. Lin et al. (2025) found that AI literacy increases digital learning engagement but does not always improve grades. Phua et al. (2025) reported that students use AI tools because they are useful and easy to use, though privacy and security remain concerns. Wang (2025) showed that AI can help predict academic performance and support intervention. Khan et al. (2025) found a weak positive relationship between AI-based learning and academic performance. Common AI-based learning tools include ChatGPT, Grammarly, QuillBot, Gemini, Perplexity, Microsoft Copilot and other applications for writing, translation, feedback, organization and learning support. Alkinani (2025) found that undergraduate students use various AI tools to complete assignments, understand lessons, generate content and organize tasks. Kamath (n.d.) discussed the use of ChatGPT and Grammarly for research and writing support. Utilization of Artificial Intelligence Tools by Undergraduate Students for Academic Activities in University of Benin, Edo State, Nigeria. (2026) found that students use AI tools for information acquisition, data analysis, academic achievement and personalized learning. Bamiro & Olabode (2025) identified Grammarly, Google Gemini and ChatGPT as frequently used tools, while Barman & Chakraborty (2025) emphasized the role of ChatGPT, Gemini and QuillBot in improving learning productivity. AI also supports writing, language learning and inclusivity. Rani (2024) identified AI tools such as Langua Talk, ChatGPI, Talk Pal, Grammarly, ProWriting Aid, Google Scholar and Duolingo as useful for language learning. Fitas (2025) noted that AI can help address language barriers and support students with special needs. Nasution et al. (2025) found that Poe AI improved students' writing habits, grammar, coherence and structure. AI-based learning tools such as ChatGPT, Deep Seek, Gemini and Meta AI can improve personalization, engagement and administrative efficiency (Masih & Namdev, 2025, pp. 75736-75745), but may also involve algorithmic bias and data privacy risks (Nguyen et al., 2022).

1.3 AI Integration in Global, Philippine, Region V, and Albay Higher Education Contexts

Globally, AI is increasingly used in higher education, research and academic support, but institutions continue to face issues in policy development, ethical standards, data privacy, bias, infrastructure and training. Yuniarto et al. (2025) found that user satisfaction strongly predicts research output in AI adoption. Castillo-Martinez et al. (2024) emphasized that AI can support research processes but must be used critically to maintain quality. Akhmadieva et al. (2024) reported the growth of AI-in-education research from 2004 to 2023, while Bond et al. (2024) found that higher education AI research often focuses on profiling, prediction, adaptive systems and personalization. AI also contributes to research productivity by

supporting literature review, data analysis, writing, proofreading and citation management. Oyelude (2024) explained that AI improves research efficiency and quality but raises concerns about authorship and responsibility. Madanchian & Taherdoost (2025) stated that AI supports literature searches, data analysis and paper writing but faces challenges such as bias, privacy issues and infrastructure gaps. Usman (2025), Ferdousi (2025), Sánchez-López et al. (2025). and Student, M. C. The Role of AI in Simplifying Academic Research for Research Scholars. ICAIDGTC-2025, 345 similarly emphasized AI's value in research while noting the need for training, ethical guidelines and institutional support. In academic performance, AI supports personalized feedback, adaptive learning, engagement and academic writing, but its effectiveness depends on digital literacy and institutional readiness. Ateeq et al. (2024). noted AI's positive impact on personalized learning, academic writing and student engagement. Ahmed (2025) found that AI-based assessment improves performance through personalized feedback. Culanag and Chavez, (2025) found that classroom social interaction, rather than technology alone, mediated academic achievement among criminology students. Hussain et al. (2025), Wei et al. (2025), Asri (2024), (Bećirović et al., 2025) and Amaonye et al. (2025) further showed that AI effectiveness depends on institutional policy, self-efficacy, infrastructure, digital competence and ethical implementation. In the Philippines, AI is increasingly used in higher education, but empirical studies remain limited in criminology programs, especially in Region V and Albay. Filipino students recognize AI's benefits but remain concerned about academic autonomy, creativity and critical thinking (Galagala & Bacarrisas, 2025). Since criminology students in Albay are trained for law enforcement, criminal justice administration and public safety, it is important to examine how AI affects their research productivity and academic performance.

1.4 Theoretical and Conceptual Foundations of AI Utilization Among Criminology Students

This study is anchored on theories explaining digital learning and technology adoption. Connectivism, associated with Goldie (2016), views successful learners as individuals who connect with tools, people and platforms to access accurate information. Dr. Serhat Kurt also explained connectivism as a theory that supports learning through ideas, theories and information encountered through modern technology. The study also uses the United Theory of Acceptance and Use of Technology (UTAUT 2) by Venkatesh et al. (2012), which explains technology adoption through practical benefits, social influences, economic factors, enjoyment and habits. This helps explain why criminology students adopt AI in academic routines. The use of Artificial Intelligence (AI) as a tool to improve training processes would increase the quality of teaching and the learning experience (George-Reyes et al., 2025). Cognitive Load Theory (CLT), introduced by John Sweller in 1988 cited in the study of Lovell & Sherrington (2020), also supports the study because AI may reduce students' mental workload by assisting with routine academic tasks. However, overuse may result in dependency and weaken academic performance. Jose et al. (2025) noted that AI can serve both as a cognitive enhancer and cognitive hindrance depending on whether it supports or replaces active thinking. Conceptually, AI utilization among criminology students serves as the independent variable, while research productivity and academic performance serve as the dependent variables. AI utilization includes information gathering, literature searching, grammar checking, paraphrasing, summarizing, data analytics, writing assistance and learning support. Research productivity includes originality, efficiency and quality, while academic performance includes AI usage, learning understanding and academic productivity.

1.5 Research Gaps on AI Utilization, Research Productivity, and Academic Performance of Criminology Students

Although AI is widely studied in higher education, limited empirical research focuses on criminology students, particularly in Region V and Albay. Existing studies discuss AI in general education, research productivity, academic performance and digital literacy, but fewer examine criminology education, where analytical thinking, ethical judgment and research competence are essential. This study addresses the need to examine the extent of AI utilization among criminology students, the AI-based tools they frequently use and the influence of AI on research productivity and academic performance. It also responds to concerns about academic integrity, overreliance, plagiarism prevention, AI literacy and the lack of institutional guidelines for AI-assisted academic work.

1.6 Alignment of AI Utilization in Criminology Education with Relevant Sustainable Development Goals (SDGs)

This study aligns with SDG 4 – Quality Education because it examines how AI may support learning understanding, academic productivity, research efficiency and AI literacy among criminology students. It also relates to SDG 8 – Decent Work and Economic Growth because AI literacy may help prepare students for a technology-driven work environment. The study also supports SDG 9 – Industry, Innovation and Infrastructure by addressing AI integration in higher education. It relates to SDG 16 – Peace, Justice, and Strong Institutions because criminology education is connected to law enforcement, criminal justice and public safety, while responsible AI policies may strengthen academic integrity and institutional governance. SDG 17 – Partnerships for the Goals is also relevant because responsible AI integration requires cooperation among students, faculty, administrators, institutions and policy-making bodies.

1.7 Contribution of Responsible AI Integration to Educational, Technological, Institutional, and Governance Sustainability

The study contributes to educational sustainability by examining how AI can support academic performance, research productivity and learning engagement while promoting ethical use. It supports technological and innovation sustainability by helping institutions integrate AI tools responsibly without weakening originality, critical thinking and academic

independence. It also contributes to institutional and governance sustainability by providing a basis for policies on ethical AI use, academic integrity, plagiarism prevention, AI literacy, AI-assisted research and monitoring mechanisms. Since the study focuses on criminology education, it has multidisciplinary relevance to education, technology, research ethics, criminal justice and institutional policy development.

2. Material and methods

2.1 Research Design

The study utilized a quantitative-descriptive research design with a survey questionnaire as the primary data-gathering instrument. The quantitative design was appropriate because the study aimed to objectively measure the extent of Artificial Intelligence utilization among criminology students and determine its impact on research productivity and academic performance through numerical data and statistical analysis. The descriptive method was used to describe existing conditions, behaviors, perceptions and experiences related to AI utilization. The study was non-experimental because it did not manipulate variables but observed and analyzed a naturally occurring educational phenomenon.

2.2 Locale of the Study

The study was conducted in selected higher education institutions in the Province of Albay offering the BS Criminology program. These institutions included Computer Arts and Technological College Inc.- Polangui Campus, Computer Arts and Technological College Inc.- Legazpi Campus, Bicol College, Inc., Infotech Development System Colleges and Belen B. Francisco Foundation Inc.

2.3 Respondents of the Study

The respondents were fourth-year criminology students enrolled during the Academic Year 2025–2026 in the Province of Albay. They were selected because they actively engage in research writing, academic reporting, classroom discussions and other educational activities where Artificial Intelligence tools may be utilized. The total population consisted of 174 fourth-year criminology students, from which 121 respondents were included as the final sample.

2.4 Sample and Sampling Procedure

The study used stratified random sampling to ensure proportional representation of respondents from the participating criminology schools. Slovin's Formula was used to determine the sample size, with a margin of error of 0.05. From the total population of 174 students, the computed final sample was 121 respondents distributed proportionally across the selected institutions.

2.5 Research Instrument

The study used a survey questionnaire as the primary instrument for gathering data. The questionnaire measured the extent of Artificial Intelligence utilization among criminology students and its influence on research productivity and academic performance. The instrument also gathered information on the AI-based learning tools frequently used by the respondents. The survey questionnaire underwent content validation by experts in criminology education, educational research, subject instruction and information technology. Suggestions and recommendations from the validators were incorporated to improve the clarity, relevance and reliability of the instrument. A pilot test was also conducted among selected students who were not included in the actual respondents to determine reliability.

2.6 Data Gathering Procedure

The researcher sought permission from the school administration to conduct the study and administer the survey questionnaire in the criminology programs. After permission was granted, the researchers personally administered the survey questionnaires to the target respondents. The respondents were informed about the purpose of the study and were assured that their responses would remain confidential. The researcher personally retrieved the completed questionnaires, after which the data were tallied and analyzed.

2.7 Data Analysis Techniques

The gathered data were analyzed using frequency, percentage, weighted mean, ranking and composite mean. Frequency and percentage were used to describe the respondents and identify the most frequently utilized AI-based learning tools. Weighted mean was used to determine the extent of Artificial Intelligence utilization and its impact on research productivity and academic performance. Ranking was applied to identify the most frequently used AI tools among criminology students, while composite mean was used to determine the overall extent of AI utilization and its overall influence on research productivity and academic performance. The interpretation followed a five-point Likert scale ranging from Never or Very Low Impact to Always or Very High Impact.

2.8 Ethical Considerations

The researchers ensured that ethical standards and research protocols were observed throughout the conduct of the study. Participation was voluntary, and respondents were informed about the objectives and significance of the research before participating. They were also given the freedom to decline participation or withdraw from the study at any point without consequence. To protect privacy and anonymity, all responses and personal information were treated with strict confidentiality. The collected data were used only for academic and research purposes and were not disclosed to unauthorized persons or institutions.

3. Results and Discussion

3.1 Extent of Artificial Intelligence Utilization Among Criminology Students

3.1.1 AI Utilization in Research Productivity

The findings show that AI utilization in research productivity obtained an overall weighted mean of 3.1984, interpreted as Sometimes. Among the indicators, grammar and plagiarism checking received the highest weighted mean of 3.584, interpreted as Often. The remaining indicators, including writing and editing, data analysis and interpretation, summarizing case studies, literature review, generating research titles and outlines, citation and reference generation, assignments and outputs, paraphrasing academic texts and creating survey questionnaires, were interpreted as Sometimes. These results indicate that students mainly use AI for writing improvement, particularly in correcting grammar and checking possible plagiarism in research outputs. However, AI is not yet consistently used across all research activities, possibly due to limited familiarity with advanced AI functions. In the study of Oyelude (2024), found that Artificial Intelligence have the potential to enhance the efficiency, accuracy and quality of research but still poses serious ethical and methodological challenges. Likewise, in the study of Bamiro & Olabode (2025), they revealed that students regularly utilize AI tools to enhance their writing talents and provide educational materials and academic opportunities.

3.1.2 AI Utilization in Academic Performance

The results show that AI was often used in understanding difficult lessons, completing academic assignments and tasks, and understanding laws and statutes relevant to criminology. Other indicators, such as understanding and synthesizing criminological theories, understanding processes and standard operating procedures, creating mind maps, generating practice questions, creating criminology notes, managing tasks and academic schedules and increasing academic confidence, were interpreted as Sometimes. These findings suggest that students use AI mainly as an academic support tool for explanation, clarification and faster access to information, especially in difficult criminology-related topics. However, students appear to use AI less often for deeper learning activities such as theory synthesis, conceptual mapping and exam preparation. This may be due to preference for traditional learning methods, limited awareness of advanced AI functions, concerns over the accuracy of AI-generated content and caution in subjects involving legal principles and technical criminology concepts. To support the result, in the study of Utilization of Artificial Intelligence Tools by Undergraduate Students for Academic Activities in University of Benin, Edo State, Nigeria. (2026) posited that AI technologies have a pro in students' academic activities, including boosting academic achievement, facilitating information acquisition, strengthening search abilities, aiding data analysis and providing individualized learning experiences.

3.2 AI-Based Learning Tools Used in Academic and Research Tasks

3.2.1 Frequently Used AI-Based Learning Tools

The findings show that ChatGPT was the most frequently used AI tool among the respondents, with 89.02%, followed by Canva with 63.58%, Gemini AI with 46.24%, QuillBot with 44.51% and Cici/Dola with 39.31%. Other tools used included Grammarly, Quizlet, ChatPDF, Microsoft Copilot, ilovePDF, Turnitin, Gamma, Brainote, Perplexity AI, Claude, Consensus, Speechify, Miro AI, Genei, Jasper AI, Khanmigo, Socratic, Whimsical, Otter.ai, DeepL Write and Hemingway. The least used tools had percentages below 2%. The results indicate that students prefer AI tools that are free, accessible and user-friendly, particularly those that help reduce academic and research burdens. ChatGPT and Canva were widely used because they are easy to access and support tasks such as writing, content creation, organization and presentation preparation. In general, students choose tools that are simple to navigate and directly useful for academic requirements. As support in the result, another study of Barman & Chakraborty (2025) revealed the students regularly utilize ChatGPT, Gemini and Quillbot, which boost learning productivity and student engagement.

3.3 Influence of Artificial Intelligence on Research Productivity

3.3.1 Influence of AI on Research Originality

The results show that AI had a moderate impact on research originality, with an average weighted mean of 3.3536. The highest-rated indicators were AI assistance in generating new research ideas or topics and AI assistance in paraphrasing and rewriting information in original writing, both with weighted means of 3.514 and interpreted as High Impact. AI support in identifying research gaps also received a High Impact rating, while reducing unintentional plagiarism and generating research ideas received Moderate Impact ratings. These findings suggest that AI supports students in idea generation, paraphrasing and identifying research gaps, but it is not viewed as a full substitute for originality, critical thinking and independent scholarly work. Students may still rely on their own creativity, instructor guidance and personal

interests when developing research topics. The moderate rating also reflects students' caution regarding the reliability, ethical use and accuracy of AI-generated content. Likewise, in the probe of Madanchian & Taherdoost (2025), Artificial Intelligence significantly enhances research by automating processes and analyzing data but challenges like algorithmic bias, data privacy issues and infrastructure gaps hinder broader adoption.

3.3.2 Influence of AI on Research Efficiency

The findings show that AI had a high impact on research efficiency, with an average weighted mean of 3.556. This indicates that respondents viewed AI as helpful in reducing workload, simplifying research procedures, speeding up data processing and improving the completion of research activities. These results suggest that AI functions as an effective support mechanism in improving research workflow, particularly in the preliminary and administrative stages of research such as sourcing, summarizing and organizing information. However, AI is still viewed as an augmentative tool rather than a replacement for human reasoning and critical oversight. The findings also suggest the need for structured training so students can use AI tools ethically and effectively. Ferdousi (2025) stated that AI had an impact on academic research. AI can enhance scientific progress; it also poses significant ethical challenges that necessitate careful consideration in its application.

3.3.3 Influence of AI on Research Quality

The results show that AI had a high impact on research quality, with an average weighted mean of 3.4624. The highest-rated indicator was AI's role in improving grammar and technical writing, with a weighted mean of 3.694. AI also had a high impact on improving clarity, enhancing the comprehensiveness of research papers and improving the discussion and interpretation of results. However, AI's effect on the overall quality of research papers received the lowest rating, with a weighted mean of 3.335 and a Moderate Impact interpretation. These findings indicate that AI is most valued for improving the formal and linguistic quality of research outputs, especially grammar, clarity and organization. However, students remain cautious in attributing overall research quality to AI alone, recognizing that originality, methodology and ethical rigor still depend on the human researcher. Additionally, Sánchez-López et al. (2025) suggested that AI-based learning tools enhance research skills and motivation in undergraduate engineering students, demonstrating a significant improvement in students' understanding of research and writing concepts.

3.3.4 Overall Influence of AI on Research Productivity

Overall, AI had a high impact on research productivity, with an overall average weighted mean of 3.457. Research efficiency received the highest rating with 3.556, followed by research quality with 3.4624, both interpreted as High Impact. Research originality received the lowest rating with 3.3536, interpreted as Moderate Impact. These results show that AI improves research productivity mainly by supporting efficiency and research quality, while originality remains more dependent on students' own intellectual work. AI appears to function as an auxiliary tool that helps with mechanical, structural and administrative research tasks, allowing students to focus on higher-level thinking. Then, Oyelude (2024) posited that AI technologies may be a wonderful aid to academic research, but you need to think hard about how you use them and the ethics of it all. The use of AI techniques also raises questions of authorship, responsibility and the role of the human researcher. The authors end with a discussion of different ways AI may be utilized in academic research and the need for responsible use.

3.4 Influence of Artificial Intelligence on Academic Performance

3.4.1 Influence of AI Usage on Academic Performance

The results show that AI usage had a moderate impact on academic performance, with an average weighted mean of 3.4012. Students reported high impact in using AI for quiz and examination reviews and writing essays, reports and assignments. Meanwhile, showing proficiency in AI tools, using AI to understand difficult lessons and frequent use of AI for academic purposes were interpreted as Moderate Impact. These findings suggest that students use AI strategically rather than automatically, especially during review periods and writing-related tasks. The moderate rating for general academic use indicates that traditional study habits, classroom learning and independent work remain important in students' academic experiences. Furthermore, Culanag and Chavez (2025) revealed that social contact in the classroom was a significant mediator for the relation between motivated learning behaviors and academic achievement, but not the technology usage. This shows that while students have the tools in AI and technology, social connection is still a factor in achievement.

3.4.2 Influence of AI on Learning Understanding

The findings show that AI had a high impact on learning understanding, with an average weighted mean of 3.5596. All indicators were interpreted as High Impact, including improving understanding of academic lessons and concepts, providing clear explanations of difficult topics, facilitating review and reinforcement of lessons, enhancing comprehension of complex academic topics and improving problem-solving and critical thinking in academic tasks. The highest-rated indicator was AI's ability to provide clear and understandable explanations of difficult topics, with a weighted mean of 3.723. These results indicate that AI serves as a cognitive support tool that helps students understand complex lessons and academic concepts. Rather than merely encouraging passive learning, AI may assist students in improving comprehension

and reinforcing difficult content when used properly. Likewise, in the study of Ahmed (2025) studied the effect of AI-based assessment on the performance of students at the tertiary level. It shows that assessment based on artificial intelligence may improve students' performance through personalized feedback and flexible assessment methods. Students with better digital skills were more successful users of AI technology and had better academic performance. The results demonstrate that students need access to technology and excellent digital literacy skills for AI to be used efficiently in education.

3.4.3 Influence of AI on Academic Productivity

The results show that AI had a high impact on academic productivity, with an average weighted mean of 3.4996. AI had high impact in assisting students in writing essays and academic reports, facilitating faster completion of assignments, improving the organization of school tasks and academic activities and increasing productivity in schoolwork. However, its effect on study time management was interpreted as Moderate Impact. These findings suggest that AI helps students complete academic outputs more efficiently and organize school-related tasks. However, the moderate rating for time management indicates that AI can speed up task completion but cannot replace students' personal discipline and planning. It suggests that Asri (2024) artificial intelligence (AI) can improve student achievement in higher education. The research indicated artificial intelligence can individualize teaching, increase student engagement and assist instructors by automating dull chores. The study also showed that AI can assist lessen the educational disparities and help in providing access to decent education, especially in underprivileged places.

3.4.4 Overall Influence of AI on Academic Performance

Overall, AI had a high influence on academic performance. Learning understanding received the highest rating with a weighted mean of 3.5596, followed by academic productivity with 3.4996, both interpreted as High Impact. AI usage received the lowest rating with 3.4012, interpreted as Moderate Impact. These results indicate that AI contributes most strongly to students' learning understanding and academic productivity, while general AI use remains balanced and selective. Students appear to view AI as a support tool for comprehension and productivity rather than a complete replacement for traditional learning methods. Therefore, Ateeq et al. (2024) highlights the impact of AI on personalized learning, academic writing and research skills. It discusses how AI create impacts on student engagement and academic performance and associated ethical challenges. The findings advocate for equipping teachers with necessary skills and highlight the importance of a comprehensive implementation plan that balances AI's benefits and drawbacks, encouraging further academic investigation into effective and ethical AI use in education.

4. Conclusion & Recommendations

The findings show that criminology students use Artificial Intelligence as a moderate academic and research support tool, mainly for grammar checking, plagiarism detection, lesson clarification, writing assistance and completion of routine academic tasks. AI was found to have a high influence on research productivity, particularly in improving efficiency and writing quality, but its role in research originality remains limited because students still rely on their own critical thinking, analysis and scholarly judgment. In terms of academic performance, AI supports learning understanding, conceptual clarification, academic productivity and workload management without necessarily replacing traditional learning or creating passive dependence. Overall, AI is viewed as a useful support mechanism in criminology education, but its use remains focused on accessible and general-purpose tools rather than specialized academic research platforms.

Criminology departments may strengthen students' responsible and effective use of AI by implementing structured training programs, workshops and syllabus-based prompt guides that go beyond basic proofreading and writing assistance. Institutions may also provide access to reliable academic AI platforms, develop an "AI for Criminological Research" training program and require AI-assisted literature matrices for thesis preparation. To protect research integrity, the institution may adopt an AI Contribution and Disclosure Form, use plagiarism and AI-content verification procedures and specify limitations on AI use in the thesis manual, especially in analyzing localized criminological data. Faculty members may also integrate interactive teaching strategies, supervised assessments, oral demonstrations, crime-scene simulations, handwritten reflections and higher-order review activities to develop critical thinking, legal reasoning and responsible AI use.

The study is limited to the use of Artificial Intelligence among criminology students and focuses on its influence on research productivity and academic performance. The findings also show that students' AI use is mostly limited to common and accessible tools such as ChatGPT and Canva, while specialized academic research platforms are used less frequently. In addition, AI utilization remains concentrated on technical, corrective and routine academic tasks, with limited use in complex research design, conceptual organization, advanced academic planning and higher-order analytical work.

Compliance with ethical standards

The researchers ensured that ethical standards and research protocols were observed throughout the conduct of the study. Respondents' privacy and anonymity were protected, and all responses and personal information were treated with strict confidentiality. The collected data were used only for academic and research purposes and were not disclosed to unauthorized persons or institutions.

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