

ARTIFICIAL INTELLIGENCE AS A LEARNING COMPANION: ITS BENEFITS AND ETHICAL CONCERNS AMONG SENIOR HIGH SCHOOL STUDENTS

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Artificial Intelligence as a Learning Companion: Its Benefits and Ethical Concerns Among Senior High School Students

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Abstract. This study examines the role of artificial intelligence (AI) as a learning companion among senior high school students at Hadji Butu School of Arts and Trades, focusing on perceived benefits and associated ethical concerns. Employing a descriptive research design with a sample of 186 senior high school students, the investigation assesses demographic profiles, levels of AI tool usage, perceived educational advantages, ethical apprehensions, academic performance, and the relationships among these variables. Findings reveal that students generally perceive AI positively, recognizing its capacity to personalize learning, provide immediate feedback, enhance access to resources, clarify complex concepts, and foster critical thinking. Concurrently, students express moderate ethical concerns about privacy, bias, academic integrity, reduced teacher interaction, and the reliability of AI-generated information. Academic performance among respondents is rated as very satisfactory; however, statistical analysis indicates no significant correlation between perceived AI benefits and academic achievement. These results signify that while AI holds promise as a supportive educational tool, its impact on academic outcomes depends on deliberate, pedagogically aligned integration and ethical usage. The study recommends structured AI integration into curricula, enhanced teacher training on AI tools, promotion of responsible AI use among students, and further research on AI's instructional effects to optimize its educational potential in senior high school settings.

Keywords: Artificial Intelligence in Education, AI Learning Companion, Ethical Concerns, Perceived Benefits of AI, Technology-Enhanced Learning

Introduction

Artificial intelligence (AI) has become an increasingly prominent tool in educational settings, particularly in supporting students' academic tasks such as essay writing, report preparation, and other school requirements. With the rapid integration of digital technologies into education, AI applications have expanded students' access to learning resources, immediate feedback, and language support. These developments highlight AI's potential to enhance learning experiences, especially in contexts where students face linguistic and academic challenges. However, despite these advantages, the use of AI in education necessitates careful regulation, discipline, and ethical consideration.

One primary concern about the growing use of AI in education is the risk of overreliance, which may undermine students' critical thinking and independent learning. Excessive reliance on AI-powered chatbots to complete academic tasks raises serious concerns regarding academic integrity, authorship, and the misattribution of original work (Bacar et al., 2025). While AI offers efficiency and convenience, it also introduces ethical risks that must be addressed. In response to these challenges, Filipino educators and academic administrators have emphasised the importance of developing regulatory policies and ethical

guidelines to ensure the responsible integration of AI in higher education and secondary schools (Giray et al., 2024).

At Hadji Butu School of Arts and Trades–Senior High School Department (HBSAT–SHS), English teachers permit the limited use of AI tools to support students' writing, particularly for grammatical correction. This instructional approach acknowledges the difficulty many students face in writing in English, which is considered a foreign language in the Philippine context. To address these challenges, teachers allow the use of tools such as Grammarly, ChatGPT, and Gemini AI to help students improve grammar and sentence structure, while discouraging their use for content generation. This practice reflects an attempt to balance technological assistance with the development of students' writing competence.

Despite these guidelines, students frequently use AI tools in completing schoolwork, often without a full understanding of the accuracy, reliability, and limitations of AI-generated content. Although AI systems can provide rapid responses and information, they may also generate inaccurate, misleading, or fabricated outputs. This limitation underscores the importance of developing students' critical evaluation skills when engaging with AI, particularly in academic contexts that demand accuracy and ethical responsibility (Bacar et al., 2025).

Another significant concern is educators' readiness to integrate AI effectively into teaching practices. While English teachers at HBSAT–SHS encourage the use of AI for grammar-related support, many remain inadequately prepared in terms of digital literacy and familiarity with AI tools. Consequently, students' understanding of the ethical and equitable use of AI remains limited. This situation highlights the urgent need for professional development and training programs that equip educators with the knowledge and skills to integrate AI responsibly into pedagogy while fostering ethical awareness and critical thinking among students (Giray et al., 2024). For academic institutions to successfully implement robust AI policies and ethical standards, both students and faculty must actively participate in ensuring the responsible use of AI within the educational landscape (Bacar et al., 2025; García et al., 2025).

This study is grounded in constructivist learning theory, initially proposed by Jean Piaget and later expanded by Lev Vygotsky. Constructivist theory posits that learning is an active process in which learners construct knowledge through engagement, problem-solving, and reflection, rather than passively receiving information. AI aligns with constructivist principles by serving as a learning companion that supports self-paced learning, provides immediate feedback, and encourages independent exploration of ideas. When used appropriately, AI tools can promote active learning, deepen understanding, and enhance students' critical thinking skills.

Furthermore, this study is significant because it examines both the benefits and the ethical challenges of AI use in education. By exploring students' perceptions of AI as a learning companion, the study provides valuable insights into how AI can be maximised while ensuring responsible and ethical use. Striking a balance between technological innovation and ethical responsibility is essential for maintaining a healthy and productive learning environment. To achieve this, the study adopts a multi-theoretical perspective that integrates concepts from personal ethics, motivation, digital literacy, and institutional responsibility, offering a comprehensive understanding of AI's impact on academic integrity and responsible educational practices (Bacar et al., 2025).

This study examines artificial intelligence as a learning companion among senior high school students. It investigates how AI can enhance learning experiences while addressing the ethical implications associated with its use.

Research Questions

This study aims to examine the use of artificial intelligence (AI) as a learning companion among senior high school students by assessing their perceived benefits, ethical concerns, and academic performance, and determining whether these perceptions are significantly related to their academic outcomes.

Specifically, the study seeks to answer the following research questions:

1. What is the demographic profile of the respondents in terms of age, gender, grade level, strand, and frequency of AI tool usage?
2. What is the level of perceived benefits of using artificial intelligence as a learning companion among senior high school students?
3. What is the level of perceived ethical concerns regarding the use of artificial intelligence as a learning companion among senior high school students?
4. What is the level of Academic Performance of the students?
5. Is there a significant relationship between the perceived benefits of AI and the level of their academic performance?
6. Is there a significant relationship between the level of perceived ethical concerns of AI and the level of academic performance of senior high school students?

Scope and Delimitation of the Study

This study focuses on Senior High School (SHS) students during Fiscal Year (FY) 2025–2026. It covers the learners' demographic profile (age, gender, grade level, strand, and frequency of AI tool usage), their perceived benefits of using AI as a learning companion, their perceived ethical concerns regarding AI use, and their academic performance. The study also examines the relationship between (1) perceived benefits and academic performance and (2) perceived ethical concerns and academic performance among SHS students. The study is delimited to SHS students officially enrolled during FY 2025–2026 and includes only those who have had exposure to AI tools for learning purposes. Likewise, the study does not assess the technical design or accuracy of specific AI platforms, nor does it measure long-term learning outcomes beyond the given academic period.

Literature Review

Artificial Intelligence in Education

Artificial Intelligence (AI) has increasingly become an integral component in the educational landscape, transforming traditional teaching and learning processes (Mustafa, 2024). AI applications in education broadly encompass adaptive learning systems, intelligent tutoring, automated feedback mechanisms, and AI-assisted academic support (Bhatia et al., 2024). Adaptive learning platforms utilize AI algorithms to tailor instructional content and pacing to individual learners' needs, thereby enhancing engagement and optimizing learning outcomes (Luo, 2023). Intelligent tutoring systems simulate one-on-one human tutoring by providing personalized guidance and scaffolding based on real-time learner performance data (Gomes, 2024). Automated feedback tools leverage AI to assess student work promptly and deliver constructive comments, enabling timely interventions and continuous improvement (Leong, 2024). Beyond these, AI-assisted academic support includes chatbots and virtual assistants that help students navigate coursework, manage schedules, and access resources efficiently (Zhu, 2024). Recent comprehensive reviews characterize AI in education as encompassing personalized tutoring, assessment, learner support, predictive analytics, and various emerging classroom applications (Chu & Ashraf, 2025). AI-powered predictive models analyze learner data to forecast academic performance, identify at-risk students, and inform targeted support strategies (Umer et al., 2021).

AI as a Learning Companion

Artificial Intelligence (AI) as a learning companion represents a paradigm shift in educational technology, emphasizing AI's role not merely as a tool but as an interactive partner that supports learners throughout the educational process (Chandrasekera et al., 2024). Unlike traditional software applications that deliver static content or perform isolated functions, AI learning companions actively engage with students by assisting in understanding lessons, generating ideas, reviewing concepts, organizing tasks, and providing instant, personalized feedback (P, 2024). This interactive and responsive nature of AI fosters a more dynamic and learner-centered environment (Anjarani et al., 2024).

AI learning companions complement human instruction by enhancing cognitive and metacognitive processes. They facilitate deeper comprehension by offering explanations tailored to individual learning styles and pacing, thereby encouraging active engagement and critical thinking (Mazari, 2025). Furthermore, these companions assist in idea generation and knowledge synthesis, helping learners to connect concepts and develop creative solutions (Temirbolat et al., 2025). Organizational support through task management and study planning features helps students maintain focus and manage their academic responsibilities more effectively (Anjarani et al., 2024).

Crucially, AI as a learning companion delivers immediate, formative feedback, enabling learners to identify errors and misconceptions in real time and adjust their learning strategies accordingly (Afzaal et al., 2021). This ongoing feedback loop promotes self-regulation and continuous improvement, which are essential components of effective learning (Mazari, 2025).

Recent educational reviews advocate for a human-centered approach in deploying AI learning companions, emphasizing that such systems should support, not supplant, teacher guidance and human judgment (Mazari, 2025). The role of AI is to augment the educational experience by providing personalized assistance while preserving the irreplaceable value of human interaction, empathy, and pedagogical expertise (Chou et al., 2024). This balanced perspective ensures that AI enhances educational outcomes without diminishing the critical social and emotional dimensions of learning (Yuan et al., 2025).

By positioning AI as a collaborative partner, educators and developers can harness its potential to create more inclusive, adaptive, and supportive learning environments (P, 2024). This approach aligns with broader education trends that prioritize learner autonomy and personalized support, ultimately contributing to more effective and meaningful learning experiences (Navas Bonilla et al., 2025).

Use of AI Among Secondary or K-12 Learners

The integration of artificial intelligence (AI) in secondary and K–12 education has garnered increasing scholarly attention, reflecting its growing relevance in contemporary learning environments (Tan & Tang, 2025). Research indicates that AI-related learning in school-age learners typically encompasses three core domains: AI concepts, practical applications, and ethical considerations (Dai et al., 2023). This multifaceted approach aims to enhance students' comprehensive understanding of AI technologies, preparing them not only to use AI tools but also to critically engage with their societal implications (Farahani & Ghasmi, 2024).

Studies on secondary education reveal that introducing AI concepts at this stage significantly improves AI literacy among learners (Hossain et al., 2025). AI literacy, defined as the ability to understand, interpret, and interact with AI systems, is crucial for equipping students with the skills necessary for future academic and professional contexts (Wu & Zhang, 2025). Exposure to AI applications in classroom settings often involves problem-solving activities that leverage AI tools, thereby fostering critical thinking and analytical skills (Kausar, 2025).

Moreover, ethical reflection forms a vital component of AI education in K–12 settings. Given the pervasive impact of AI on privacy, bias, and decision-making, embedding ethics into the curriculum encourages learners to consider the broader consequences of AI deployment (Yan et al., 2025). This ethical dimension not only promotes responsible use but also cultivates a sense of digital citizenship among students.

With that, empirical evidence from systematic reviews of K–12 AI education highlights positive outcomes, including gains in motivation and problem-solving capabilities, as well as increased ethical awareness (Su et al., 2023). These findings underscore the importance of integrating AI education into secondary school curricula to develop well-rounded learners who are prepared to navigate an AI-infused world (Ng et al., 2023).

Perceived Benefits of AI in Learning

The literature highlights several perceived benefits of AI integration in educational settings, reflecting positive experiences with these technologies among students and educators (Zaharuddin et al., 2024). A primary advantage is personalized learning, where AI systems adapt instructional content and pacing to individual learners' needs, preferences, and performance (Luo, 2023). This customization supports differentiated learning paths, enabling students to engage with material at their own level and pace, which has been shown to enhance comprehension and retention (Sriram et al., 2025).

Instant feedback is another significant benefit frequently reported. AI-powered tools provide immediate responses to learners' input, enabling rapid error correction and reinforcement of concepts (Doğan, 2025). This timely feedback loop is particularly valuable for promoting active learning and self-regulation, as students can adjust their strategies and understanding in real time without waiting for instructor intervention (Gervacio, 2024).

The efficiency gains from AI use are also emphasized, with many studies reporting time savings and improved productivity for both students and educators (Holman et al., 2024). AI automates routine tasks such as grading, content delivery, and information retrieval, freeing up time for deeper engagement with complex material and personalized support (Seo et al., 2021).

Increased understanding of lessons is often attributed to AI's ability to present information through varied formats, including interactive simulations, visualizations, and adaptive quizzes (Taşkın, 2025). These multimodal approaches cater to diverse learning styles and can clarify difficult concepts, fostering deeper cognitive processing (Taşkın, 2025).

The literature also documents enhanced engagement and motivation associated with AI tools. Gamified elements, adaptive challenges, and personalized content foster sustained interest and active participation, which are critical for effective learning outcomes (Renacido & Biray, 2024).

Lastly, AI expands access to additional learning resources beyond traditional textbooks and lectures (Taşkın, 2025). Through AI-driven recommendations, learners can explore supplementary materials tailored to their knowledge gaps and interests, broadening their educational experience (Monika Singh et al., 2024).

Recent reviews converge on the view that students perceive AI as a valuable aid for personalization, engagement, and accelerated academic support. However, the extent of these benefits varies depending on context, implementation quality, and individual differences (Taşkın, 2025). These positive perceptions complement the ethical concerns previously discussed, underscoring the need to balance AI's advantages with responsible use (Kotsis, 2024).

Ethical Concerns in the Use of AI

The integration of AI in academic and educational contexts has raised several ethical concerns that are extensively discussed in the literature. One of the most frequently highlighted issues is academic dishonesty and plagiarism (Chan, 2024). AI tools can facilitate easy generation of text, which may tempt

students or researchers to submit AI-generated work without proper attribution, undermining academic integrity (Song, 2024). This concern is closely linked to the challenge of maintaining transparency of AI-generated outputs, as users and educators often struggle to distinguish between human and AI contributions, complicating the enforcement of ethical standards (Kotsis, 2024).

Another critical issue is the over-reliance or dependency on AI technologies. Excessive reliance on AI for writing, problem-solving, or decision-making can diminish learners' engagement with the learning process, potentially leading to declines in essential skills (Chavez et al., 2024). This phenomenon is linked to the observed decline in critical thinking, in which users may accept AI-generated responses uncritically, bypassing analytical reasoning and independent judgment (Karakuş et al., 2025).

Privacy and data security pose significant ethical challenges, particularly given that AI systems often require access to large datasets that may include sensitive personal or academic information (Cadet et al., 2024). The risk of data breaches or misuse raises concerns about how user data is collected, stored, and protected, emphasizing the need for stringent safeguards (Singhal, 2024).

The literature also underscores issues of bias and fairness in AI applications. AI models can inadvertently perpetuate or amplify existing biases present in training data, leading to unfair or discriminatory outcomes (McDonald & Pan, 2020). This is especially problematic in educational settings, where biased AI tools may disadvantage certain groups of students or skew assessment results (Boateng & Boateng, 2025).

Closely related to bias is the concern over accuracy and misinformation. AI-generated content may contain errors, outdated information, or fabricated details, which can mislead users and compromise the quality of academic work (Rababah et al., 2024). Ensuring the reliability of AI outputs is therefore essential to uphold educational standards.

Recent comprehensive reviews have consolidated these concerns, identifying academic integrity, privacy, data security, fairness, autonomy, and transparency as core ethical pillars in the deployment of AI in educational environments (Rane et al., 2024). Autonomy, in particular, highlights the importance of preserving users' control over their learning and decision-making processes, preventing AI from undermining individual agency (Bing & Leong, 2025).

Across the literature, AI in education is consistently framed as a transformative support system through adaptive learning, intelligent tutoring, automated feedback, and academic assistance tools (Luo, 2023; Gomes, 2024; Leong, 2024; Zhu, 2024; Chu & Ashraf, 2025). Within this broader landscape, AI as a learning companion is presented as a more interactive and learner-centered application—one that engages students in understanding lessons, generating ideas, organizing tasks, and receiving immediate feedback that can strengthen self-regulation (Afzaal et al., 2021; Chandrasekera et al., 2024; Anjarani et al., 2024; Mazari, 2025). In parallel, K–12 and secondary-level research highlights growth in AI literacy, motivation, problem-solving, and ethical awareness when AI is integrated into learning experiences (Su et al., 2023; Dai et al., 2023; Ng et al., 2023; Hossain et al., 2025).

However, the literature also reveals a clear tension: while benefit-oriented studies emphasize personalization, engagement, efficiency, and improved understanding (Luo, 2023; Doğan, 2025; Holman et al., 2024; Taşkın, 2025), ethical-focused studies warn that the same technologies may encourage academic dishonesty, dependence, reduced critical thinking, privacy risks, bias, and misinformation (Chan, 2024; Chavez et al., 2024; Cadet et al., 2024; Rababah et al., 2024; Karakuş et al., 2025; Boateng & Boateng, 2025; Rane et al., 2024). In other words, current evidence supports both narratives: AI can enhance learning experiences, yet it can also undermine integrity and learner autonomy if used uncritically (Kotsis, 2024; Bing & Leong, 2025). This creates an unresolved question in the field: Do students who perceive more benefits also demonstrate better academic performance, or do ethical concerns (and potential misuse/overreliance) relate to weaker outcomes?

What remains insufficiently established is a rigorous, learner-level empirical link—especially in secondary/SHS contexts—between (a) perceived benefits of AI as a learning companion, (b) perceived ethical concerns, and (c) measurable academic performance. Much of the existing work either (1) discusses AI tools and instructional systems in general terms, (2) emphasizes AI literacy and curriculum-based AI education rather than day-to-day AI “companion” use, or (3) treats benefits and ethical risks as separate conversations without testing how they jointly relate to student performance outcomes (Su et al., 2023; Taşkın, 2025; Rane et al., 2024). Additionally, variation by learner characteristics—such as grade level, strand, and actual frequency of AI tool usage—often remains underexplored in relation to these outcomes.

To address these gaps, the present study focuses on Senior High School students (FY 2025–2026) and simultaneously measures: (1) demographic profile and frequency of AI tool usage, (2) perceived benefits of AI as a learning companion, (3) perceived ethical concerns, and (4) academic performance. It then tests the relationships between perceived benefits and academic performance, and between ethical concerns and academic performance—providing evidence that integrates both the “AI helps learning” and “AI creates ethical risks” strands into a single, outcome-linked analysis.

Methodology

Research Design

This study, titled "Artificial Intelligence as a Learning Companion: Its Benefits and Ethical Concerns among Senior High School Students," utilised a descriptive design. According to Creswell (2018), descriptive research is a design that systematically describes phenomena, identifies patterns, and provides a snapshot of the current state of variables. This methodological approach is crucial for understanding the multifaceted impact of AI in educational settings without manipulating variables, thus minimising researcher bias and supporting objective analysis of existing relationships (Bacar et al., 2025). This approach is particularly suitable for exploring the prevalence, distribution, or correlation of variables within a given population, providing meaningful insights into the subject of interest (Alzubi, 2024). For instance, quantitative descriptive-comparative studies evaluate the predictive strength of one variable in relation to another and identify statistical differences between populations without manipulating independent variables (Capinding & Dumayas, 2024).

Sampling Design

This study used simple random sampling. This approach ensures that every individual in the population has an equal and independent probability of selection, thereby increasing the generalizability of the results (Salih et al., 2023). This technique is particularly suitable for quantitative studies that aim to collect data that accurately reflect the target population (Hamza, 2022). It also facilitates the evaluation of sampling error, contributing to the overall reliability of the study findings (Njobvu & Simate, 2024). This rigorous sampling method ensures that the research findings generalise to a broad student population, thereby strengthening the study's scientific validity (Çamiçi et al., 2025).

Research Locale

This study was conducted at Hadji Butu School of Arts and Trades, specifically in the senior high school department situated at Scott Road, Asturias, Jolo, Sulu.

Research Participants

The respondents in this study were senior high school students at Hadji Butu School of Arts and Trades in the first semester of the 2025–2026 school year. The total population for this school year comprises 352 students enrolled in the General Academic and Technical-Livelihood Strands.

Research Instrument

The study used a structured questionnaire to collect the necessary data. This approach facilitated the collection of primary data and allowed for the systematic quantification of responses (Abdulla et al., 2011). Structured questionnaires are particularly advantageous for ensuring data uniformity, thereby simplifying compilation and comparative analysis across respondent groups (Odewole, 2020; Romeo et al., 2023). The standardised nature of the questions ensures that all respondents are asked precisely the same questions, thereby enhancing the objectivity and scientific rigour of the data analysis (Miralam, 2017).

The questionnaire's first section focuses on respondents' demographic characteristics. This section includes inquiries about students' age, gender, grade level, strand, and frequency of AI use for academic or personal learning. To promote clarity and convenience of response, each question in this section can be answered using straightforward categorical alternatives.

The respondents' perceptions of the advantages of utilising AI as a learning aid are gauged in the second section. This section highlights the benefits of AI-assisted learning, including improved learning outcomes, academic support, and skill development. A five-point Likert scale, with 1 denoting "strongly disagree," 2 "disagree," 3 "neutral," 4 "agree," and 5 "strongly agree," is used to ask respondents to rate each item.

The apparent ethical issues surrounding the use of AI as a learning companion are the subject of the third and final segment. This covers evaluations of topics such as accuracy and reliability, privacy and data security, and academic integrity. Respondents rate their agreement with concerns regarding plagiarism hazards, transparency, dependability, and the impact of AI on students' critical thinking using the same five-point Likert scale.

The questionnaire's reliability and validity were confirmed before the data collection commenced. The instrument was subjected to content validation by a Certified Research Specialist and a faculty member with a Doctor of Education (EdD) degree to guarantee clarity, relevance, and alignment with the study objectives. The questionnaire underwent internal consistency analysis for reliability testing using SPSS, resulting in a Cronbach's alpha of 0.770 from ten (10) items, signifying acceptable reliability.

Prior to full implementation, the instrument underwent pilot testing with 50 Junior High School students at Hadji Butu School of Arts and Trades to assess item comprehensibility and to produce evidence of dependability. The study used Spearman's rank-order correlation to analyze correlations among variables,

as the data were not normally distributed, making Spearman more suitable than Pearson for nonparametric situations.

Data Gathering Procedure

To gather the necessary data for this study, the researchers employed a systematic process to ensure accuracy, rigour, and ethical compliance. The researchers began by listing the total number of students who would participate in the study, accounting for their grade levels and academic strands. This step ensured that the sample accurately represented the population and facilitated proper organisation before distributing research instruments.

After identifying potential respondents, the researchers prepared a formal request letter and submitted it to the Office of the Coordinator. This step was undertaken to obtain approval and ensure compliance with the institution's research policies. Approval from the Office of the Coordinator confirmed that the researchers could proceed with the study.

Once permission was granted, the researchers distributed the questionnaires to the selected respondents. Along with the questionnaire, each participant received a consent form that outlined the study's purpose, ensured confidentiality, and explained that participation was voluntary. The researchers collected the completed questionnaires for subsequent analysis in SPSS.

Results and Discussions

Problem 1: What is the demographic profile of the respondents in terms of age, gender, grade level, strand, and frequency of AI tool usage?

Table 1.1 Demographic profile of the respondents in terms of age

Age	Frequency	Percentage
15-16	40	21.5%
17-18	104	55.9%
19-20	34	18.3%
21-22	8	4.3%
Total	186	100%

Table 1.1 presents the respondents' demographic characteristics of the research title, "Artificial Intelligence as a Learning Companion: Its Benefits and Ethical Concerns among Senior High Students", by age. Based on the results, the predominant age group among respondents is 17–18 years old, comprising 104 individuals (55.9%) of the total respondents. This indicates that most participants in this research fall within the conventional age range for senior high school students. Subsequently, those aged 15–16 years old comprise 40 respondents (21.5%), indicating a significant population of younger learners. Simultaneously, 34 respondents (18.3%) are aged 19–20, whilst only 8 respondents (4.3%) are aged 21–22, constituting the smallest segment of the sample. The age distribution indicates that the respondents are primarily adolescents, aligning with the study's target audience and reinforcing the applicability of the findings to senior high school students.

The demographic profile of respondents, primarily adolescents aged 17–18 years, corresponds with the typical senior high school population, ensuring the relevance of the study's findings to this educational stage (Gao et al., 2022). The literature on adolescent learning emphasizes the importance of developmental appropriateness in educational interventions, noting that learners in this age group benefit from tailored instructional strategies that support cognitive and socio-emotional development (Hong, 2025). Research on AI in education highlights its potential to address diverse learners' needs within this demographic by providing adaptive learning experiences that align with students' developmental stages (Alexsius Pardosi et al., 2024). Furthermore, studies indicate that understanding the age distribution of participants is crucial for interpreting responses related to AI's benefits and ethical concerns, as age influences students' technological proficiency, privacy awareness, and ethical perspectives (Maphalala & Ajani, 2025). This alignment between participant demographics and the targeted educational context strengthens the applicability and validity of the research outcomes concerning AI as a learning companion for senior high school students (Fountoulakis, 2024).

Table 1.2 Demographic profile of the respondents in terms of sex

Sex	Frequency	Percentage
Male	73	39.2%
Female	113	60.8%
Total	186	100%

Table 1.2 presents the demographic characteristics of the respondents by sex. The results indicate that female respondents constitute the majority of the sample (113; 60.8%), whilst male respondents constitute 73 (39.2%). This pattern reflects a greater involvement of female students in the study. Furthermore, both genders are sufficiently represented, facilitating a balanced analysis of the research across male and female participants.

In this context, the demographic composition of respondents by sex, as presented in Table 1.2, shows a higher proportion of female participants (60.8%) than male participants (39.2%). This gender distribution is consistent with enrollment trends observed in many senior high schools, in which female students often outnumber male students (Marino et al., 2024). Such patterns have been documented to reflect broader educational participation rates, indicating increased female engagement in academic settings (Yu et al., 2020). The adequate representation of both sexes in the sample enables the study to effectively explore and compare research variables across genders, thereby enhancing the validity and generalizability of the findings (Iheduru-Anderson et al., 2022). Moreover, the balanced inclusion of male and female respondents supports the study's commitment to inclusivity and representativeness, which are critical for producing equitable and comprehensive insights into the population under investigation (Togia, 2025).

Table 1.3 Demographic profile of the respondents in terms of Grade Level

Grade Level	Frequency	Percentage
11	93	50%
12	93	50%
Total	186	100%

Table 1.3 presents the demographic profile of the respondents categorized by grade level. As shown in the table, the distribution indicates an equal number of Grade 11 and Grade 12 students of Hadji Butu School of Arts and Trades, with 93 respondents (50%) from each grade level. This equitable distribution ensures that both grade levels are represented equally in the study, facilitating fair comparisons and thorough analyses of the research variables across senior high school levels. Moreover, this proportional representation enhances the reliability of the findings by reducing grade-level bias and improving the generalizability of the results within the senior high school population.

The demographic profile of respondents, particularly an equal distribution across grade levels, is critical for ensuring balanced representation in educational research (Lesko et al., 2020). Studies emphasize that proportional sampling across groups, such as grade levels, minimizes selection bias and strengthens the internal validity of findings by allowing fair comparisons between cohorts (e.g., Grade 11 vs. Grade 12 students) (Uppal & Hajian, 2024). Equitable representation facilitates more accurate analyses of differences or similarities in academic performance, attitudes, or other variables of interest across grade levels (Alneyadi & Wardat, 2023). Furthermore, balanced demographic representation enhances the generalizability of results to the broader senior high school population by reflecting the target group's actual composition (Alneyadi & Wardat, 2023). This approach also enhances the study's reliability by reducing confounding arising from unequal group sizes, thereby supporting robust statistical inferences and meaningful interpretation of research outcomes (Mohammed et al., 2025).

Table 1.4 Demographic profile of the respondents in terms of strand

Strand	Frequency	Percentage
General Academic Strand	143	76.9%
Technical Vocational Livelihood	43	23.1%
Total	186	100%

Table 1.4 delineates the demographic characteristics of the respondents categorized by their strands in Hadji Butu School of Arts and Trades. The statistics indicate that the largest proportion of respondents of the study is from the General Academic Strand (GAS), encompassing 143 students (76.9%) of the total sample. Conversely, 43 respondents in the study (23.1%) belong to the Technical-Vocational-Livelihood (TVL) strand, majoring in Electrical Installation Maintenance. Moreover, this distribution indicates that the study predominantly comprises students from the academic track, with a lesser but significant presence from the technical-vocational track. Including respondents from both strands enables the study to encompass perspectives across various senior high school pathways, thereby enhancing the comprehensiveness and utility of the findings.

Similarly, the studies on senior high school education emphasize the importance of understanding demographic characteristics to contextualize student experiences and outcomes across different academic strands (Reforsado & Lacar-Raymundo, 2024). A study highlights the distinct profiles and educational needs

of students enrolled in the General Academic Strand (GAS) and the Technical-Vocational-Livelihood (TVL) strands, reflecting divergent curricular focus and career trajectories (R Honra et al., 2024). Research indicates that GAS students typically pursue more academically oriented pathways, preparing for tertiary education, while TVL students often engage in skill-based training aimed at immediate employability (R Honra et al., 2024). This bifurcation in senior high school tracks necessitates inclusive sampling to capture a comprehensive range of student perspectives and learning contexts (R Honra et al., 2024). Furthermore, demographic analyses that delineate strand-specific distributions provide critical insights into the representation and diversity within study samples, enhancing the generalizability and relevance of findings (Mahande et al., 2025). Incorporating respondents from both GAS and TVL strands not only broadens the scope of inquiry but also aligns with educational frameworks that recognize the multifaceted nature of senior high school pathways, thereby supporting more nuanced and applicable conclusions (Cortez, 2020).

Table 1.5 AI tool Usage

Strand	Frequency	Percentage
Very often	24	12.9%
Often	37	19.9%
Sometimes	98	67.2%
Rarely	25	14.5%
Never	2	1.1%
Total	186	100%

Table 1.5 presents the frequency of AI tool utilization among respondents in the study. Based on the findings, a significant proportion of students, comprising 98 respondents (67.2%), occasionally utilize AI tools, indicating a modest and context-dependent application of AI in educational activities. Subsequently, 37 respondents (19.9%) reported frequent use of AI tools, while 24 respondents (12.9%) indicated extremely frequent use, suggesting that a smaller minority of students consistently use AI products. Conversely, 25 respondents (14.5%) stated that they infrequently utilize AI tools, and merely 2 respondents (1.1%) reported that they never employ AI tools in their academic lives. The findings indicate that although AI tools are widely incorporated into students' learning practices, their usage is primarily sporadic rather than routine. Nevertheless, this shows an emerging, albeit not fully developed, dependence on AI-assisted learning.

The literature on the use of AI tools in educational contexts indicates an increasing incorporation of these technologies among students, however, with differing frequency and intensity. Numerous studies indicate that a significant proportion of students intermittently use AI tools, demonstrating a measured, though growing, adoption of AI-enhanced learning (e.g., adaptive learning platforms, writing assistance, and tutoring systems) (Abbas et al., 2023). This intermittent usage aligns with research indicating that students frequently use AI tools in specific situations when they recognize distinct advantages, such as composing assignments or organizing study timetables, rather than relying on them consistently (Verawati & Nisrina, 2024).

Research suggests a smaller fraction of students who regularly use AI technology, indicating a developing trend toward greater integration of AI into academic workflows (Divekar et al., 2024). This group utilizes AI tools for intricate activities, such as tailored learning and problem-solving, potentially improving learning efficiency and outcomes (Malik et al., 2024). A minority of students either rarely use or entirely eschew AI products, typically due to concerns about trustworthiness and privacy, or a preference for conventional study methods (Mehta et al., 2023).

The literature indicates that student engagement with AI tools varies, with most exhibiting intermittent usage (Lopes et al., 2025). This pattern highlights a developing yet not fully realized reliance on AI in education, illustrating both the novelty of these tools and the continuous adaptation occurring within academic settings (Ma & Chen, 2024).

Problem 2: What is the level of perceived benefits of using artificial intelligence as a learning companion among senior high school students?

Table 2.1 Level of perceived benefits of using artificial as a learning companion

Statement	N	Mean	Std. Deviation	Interpretation
AI can be used to personalise learning.	186	3.74	1.152	Agree
AI can provide students with immediate feedback	186	3.70	1.259	Agree
AI can provide greater access to resources.	186	3.85	1.160	Agree
AI can make abstract concepts more understandable.	186	3.88	1.125	Agree
AI can foster critical thinkers.	186	3.76	1.213	Agree
Overall Mean	186	3.79		Agree

Legend: 1.0-1.8- Strongly Disagree, 1.81-2.6- Agree, 2.61-3.4-Neutral, 3.41-4.2- Agree, 4.21-5.0- Strongly agree

Table 2.1 demonstrates that respondents predominantly concur that artificial intelligence offers significant advantages when utilized as a learning companion. Based on the results, the grand mean of 3.79 among respondents indicates a favorable impression of AI's contribution to enhancing students' learning processes. In the academic practice, this indicates that most students in Hadji Butu School of Arts and Trades perceive AI not merely as an ancillary tool but as a beneficial resource that enhances their comprehension, information access, and participation in lessons.

As shown in the table, the highest-rated statement, "AI can make abstract concepts more understandable" (M = 3.88), indicates that students perceive AI as particularly beneficial for elucidating challenging or intricate subjects, possibly through examples, visuals, or simpler explanations. This indicates that AI tools may help alleviate learning challenges, particularly in disciplines that require advanced cognitive skills. The elevated mean score for "AI can provide greater access to resources" (M = 3.85) suggests that students view AI as an efficient conduit for educational information, facilitating access to explanations, references, and additional content beyond the classroom.

The statements related to personalized learning (M = 3.74) and immediate feedback (M = 3.70) were also interpreted as Agree, indicating that students recognize AI's ability to adapt to individual learning needs and to provide timely responses that support self-paced, independent learning. In addition, the statement "AI can foster critical thinkers" obtained a mean score of 3.76, suggesting that students believe AI can encourage analytical thinking, reflection, and problem-solving rather than passive learning.

Furthermore, these findings indicate that students recognize and appreciate the educational value of AI as a learning companion. However, the results reflect agreement rather than strong agreement, implying that while AI is viewed positively, its use may remain moderate and contingent on appropriate guidance and structured integration by teachers to maximize its educational benefits.

Hence, Extensive research supports the integration of artificial intelligence (AI) into educational settings to enhance student learning outcomes. AI-powered tools facilitate personalized learning experiences by adapting to individual student needs, thereby promoting engagement and improving comprehension (Holman et al., 2024). Additionally, AI's capability to provide immediate feedback helps learners identify and address knowledge gaps promptly, fostering a more active and self-directed learning process (Navas Bonilla et al., 2025). The use of AI also expands access to diverse educational resources, enabling students to explore content beyond traditional classroom materials (Hasibuan & Azizah, 2023). Importantly, AI's role in simplifying complex concepts and encouraging critical thinking aligns with pedagogical goals aimed at developing higher-order cognitive skills (Arya & Verma, 2024). These attributes collectively underscore AI's potential as a valuable learning companion, reinforcing the positive perceptions observed among students in various academic contexts (Wang et al., 2024).

Contrary to the generally positive perceptions of AI in education, some studies highlight challenges and limitations associated with its use as a learning companion (Mustafa et al., 2025). These findings suggest that AI tools may not consistently enhance student engagement or comprehension, particularly when students lack sufficient digital literacy or when AI integration is poorly aligned with curriculum objectives (H Al-Khresheh, 2024). Additionally, concerns have been raised about AI's potential to oversimplify complex subjects, which could hinder the development of deep understanding and critical thinking (Calzada et al., 2025). There are also indications that reliance on AI may reduce opportunities for meaningful human interaction and personalized teacher support, which remain crucial for effective learning (Bibi, 2024). Such perspectives underscore the importance of cautious and context-sensitive implementation of AI in educational settings, emphasizing that its benefits are not automatic and depend heavily on thoughtful integration and guidance (Mustafa, 2024).

Problem 3: What is the level of perceived ethical concerns regarding the use of artificial intelligence as a learning companion among senior high school students?

Table 3.1 Level of perceived ethical concerns regarding the use of Artificial Intelligence as a Learning Companion

Statement	N	Mean	Std. Deviation	Interpretation
AI can intrude into my personal space, choices, or activities.	186	3.55	1.239	Agree
AI can perpetuate biases and social inequalities based on its training data.	186	3.56	1.286	Agree
AI can reduce teacher-to-student interactions in the classroom.	186	3.52	1.244	Agree
AI can be misused to cheat or plagiarize.	186	3.53	1.266	Agree
AI can provide inaccurate or biased information.	186	3.45	1.261	Agree
Overall Mean	186	3.52	1.259	Neutral

Legend: 1.0-1.8- Strongly Disagree, 1.81-2.6- Agree, 2.61-3.4-Neutral, 3.41-4.2- Agree, 4.21-5.0- Strongly agree

Table 3.1 illustrates the level of perceived ethical concerns regarding the use of artificial intelligence as a learning companion. The results indicate that all assertions received mean ratings within the Agree range, from 3.45 to 3.56, suggesting that respondents largely acknowledge the existence of ethical difficulties associated with the use of AI in education. The statement “AI can perpetuate biases and social inequalities based on its training data” received the highest mean score (M = 3.56), indicating that students recognize the potential for AI systems to mirror existing societal biases and, if not meticulously designed and supervised, exacerbate inequality. This indicates a concern for equity and inclusiveness in AI-enhanced educational settings.

The statement “AI can intrude into my personal space, choices, or activities” yielded a mean score of 3.55, indicating that students are concerned about privacy and the safeguarding of personal data when using AI tools. This indicates that learners are aware of the methods by which AI collects, retains, and uses personal data. Correspondingly, concurrence with the assertion “AI can be misused for cheating or plagiarism” (M = 3.53) indicates students’ awareness of the potential misuse of AI in academic contexts, which may explain their apprehensions about academic integrity and ethical learning practices.

The belief that “AI can reduce teacher-to-student interactions in the classroom” (M = 3.52) reflects concern that overdependence on AI may undermine human interaction, guidance, and mentorship in education. This indicates that children recognize the significance of AI but remain more dependent on teachers and do not perceive it as a substitute for human instruction. Conversely, the statement “AI can provide inaccurate or biased information” received the lowest mean score (M = 3.45). Nevertheless, it still fell within the Agree category, indicating that students maintain a prudent stance regarding the reliability and accuracy of AI-generated content and acknowledge the necessity of verification and critical assessment.

The grand mean of 3.52 indicates a moderate consensus on ethical issues related to the utilization of AI as a learning companion. These findings indicate that students have a critical and reflective understanding of AI technologies. The respondents acknowledge the advantages of AI in education while also recognizing its limitations and risks. This balanced viewpoint suggests that students do not uncritically embrace AI but rather emphasise the importance of ethical safeguards, teacher oversight, and appropriate application. The findings emphasise the necessity for educational institutions to establish explicit ethical principles and regulations to guarantee that AI is used in a manner that safeguards privacy, fosters fairness, maintains academic integrity, and enhances human-centred teaching and learning.

In line with that, studies show that privacy concerns are prominent, as AI’s data collection methods can intrude on personal space and autonomy, particularly given the sensitivity of student information (Bing & Leong, 2025). Academic integrity is a critical issue, with the potential misuse of AI for cheating and plagiarism raising ethical dilemmas regarding authorship and honesty in educational contexts (Chavez et al., 2024). Furthermore, literature emphasizes that AI should not replace essential teacher-to-student interactions, highlighting the continued importance of human guidance and mentorship—a view also recognized by students (Williams, 2024). Lastly, concerns about AI generating inaccurate or biased information underscore the necessity of human oversight and verification to maintain trustworthiness (García Peñalvo et al., 2024). Collectively, these themes underscore the need for clear ethical frameworks and institutional policies to safeguard privacy, ensure fairness, uphold academic integrity, and preserve human-centered education in AI integration (García Peñalvo et al., 2024).

Students recognize ethical concerns such as AI perpetuating biases, privacy intrusion, misuse for cheating, reduced teacher interaction, and potential inaccuracies; however, contradictory literature offers a more optimistic perspective, suggesting that with careful design and implementation, AI can enhance equity by using diverse datasets and continuous bias monitoring, thereby democratizing personalized learning rather than reinforcing inequalities (Hanh & Duyen, 2025). Privacy concerns may be mitigated through robust data protection measures like anonymization and encryption, coupled with transparent communication to alleviate fears (Singh & Thakur, 2024). Furthermore, AI is argued to support academic

integrity by detecting plagiarism and fostering originality through formative feedback, positioning it as a tool for ethical education rather than a threat (Artyukhov et al., 2024). Regarding teacher-student interaction, AI is seen as a complement that automates routine tasks, allowing educators to focus more on mentorship and complex pedagogical roles, thus enhancing rather than diminishing human engagement (Karataş & Yüce, 2024). Although concerns about AI accuracy remain, some research emphasizes AI's potential to improve information quality through ongoing updates and oversight, making it a reliable supplement to human instruction (Mondal, 2025). This body of work collectively suggests that ethical challenges are not inherent to AI but depend on design choices, implementation strategies, and institutional policies that prioritize transparency, inclusivity, and collaboration between AI and educators.

Problem 4: What is the level of Academic Performance of the students?

Table 4.1 Level of Students' Academic Performance

	Mean	Std. Deviation	Interpretation
Academic Performance	3.5000	.77	Very Satisfactory

Table 4.1 displays the respondents' level of students' academic performance in the research study, "Artificial Intelligence as a Learning Companion: Its Benefits and Ethical Concerns." The findings indicate that the respondents achieved a mean score of 3.50, categorizing it inside the "Very Satisfactory" range according to the specified legend (3.41–4.20). This indicates that, on average, students demonstrate high academic achievement and excel in their academic activities and evaluations. The data indicate that the students are meeting and, to a degree, exceeding the institution's academic criteria.

This result indicates that the students have a sufficient command of their academic subjects and can effectively use their knowledge and skills. The Very Satisfactory performance level indicates consistent participation in learning activities and an overall favorable academic status. This level of accomplishment provides a robust basis for investigating how additional factors—such as the use of artificial intelligence as a learning companion—may correlate with or affect students' academic performance in the study.

Furthermore, the findings indicating a "Very Satisfactory" level of academic performance among students align with literature emphasizing the positive impact of effective learning strategies and resource utilization on academic achievement (Suleiman et al., 2024). Research suggests that students who actively engage with diverse educational tools, including technological aids such as artificial intelligence, tend to demonstrate enhanced comprehension and skill application, contributing to higher academic outcomes (Bernal Parraga et al., 2025). This performance level reflects consistent participation and mastery of the subject matter, supporting the premise that integrating AI as a learning companion can reinforce students' capabilities by providing personalized support, timely feedback, and adaptive learning experiences (Mahafdah et al., 2024). Consequently, these factors collectively foster an environment conducive to academic excellence, validating the observed satisfactory performance and underscoring the potential role of AI in sustaining and potentially elevating student achievement (Mustafa, 2024).

Problem 5. Is there a significant relationship between the perceived benefits of AI and academic performance among senior high school students?

Table 5.1 Results of Spearman's Rho correlating the level of perceived benefits and the academic performance of students

Variables	Spearman's ρ	p-value	N
Level of Perceived Benefits of AI ↔ Academic Performance	.002	.982	186

Table 5.1 presents the Spearman's rho correlation coefficients for the association between perceived advantages of artificial intelligence and students' academic achievement. Based on the table, the correlation coefficient ($\rho = .002$) reveals an insignificant link between the two variables. This means that changes in students' perceived advantages of AI do not correlate with improvement in their academic achievement.

Furthermore, the p-value of .982, which is well above the conventional threshold of .05, indicates that the association is not statistically significant. This indicates that there is insufficient evidence to assert that the perceived advantages of AI significantly affect students' academic achievement. Consequently, the null hypothesis of no substantial correlation between perceived AI benefits and academic performance remains unrefuted.

Moreover, the data indicate that while students acknowledge and concur on the advantages of AI as a learning companion, these favourable perceptions do not directly correlate with enhanced academic achievement. This suggests that academic success is influenced by factors beyond students' perceptions of AI, including pedagogical approaches, study practices, resource availability, and teacher support. The findings indicate that although AI may be regarded as advantageous, its influence on academic performance depends

on the efficacy and intentionality of its integration into the educational process, rather than on perception alone.

Existing literature indicates that students' positive perceptions of artificial intelligence (AI) as a learning tool do not necessarily translate into improved academic achievement. Research consistently shows that while AI offers potential benefits such as personalized feedback, adaptive learning pathways, and increased engagement, these advantages alone are insufficient to improve academic outcomes (Oubibi et al., 2025). Academic success is influenced by a multifaceted set of factors, including cognitive abilities, motivation, instructional quality, study habits, and the broader learning environment (Mallillin, 2024). Studies emphasize that the effectiveness of AI depends heavily on its intentional and strategic integration within educational settings, supported by teacher facilitation and alignment with curriculum goals (Rajput, 2025). Furthermore, the availability of resources and the quality of pedagogical approaches often play a more decisive role in academic performance than students' attitudes toward AI technology (Delcker et al., 2024).

Ethical Considerations

This project followed ethical standards in research. Approval from the school administration was obtained prior to data collection. Students' consent was requested for minor participants, while participation was voluntary. It is also explained that participants may withdraw at any moment without consequence. Confidentiality and anonymity were maintained by omitting participants' names and other identifiable details from the data and report. All collected information was utilized solely for academic purposes. Hence, the study guaranteed that participation would not result in damage, discomfort, or academic detriment. Also, the students were not obligated to disclose private accounts, passwords, or personal AI conversation records.

Conclusion

The study concluded that artificial intelligence (AI) can serve as an effective educational ally for senior high school students, particularly by facilitating the understanding of complex concepts, expanding access to learning materials, delivering immediate feedback, fostering personalized learning, and promoting critical thinking. Results indicated that the majority of students maintained predominantly favorable attitudes of AI, considering it an auxiliary support for learning rather than a substitute for teacher-led instruction. Students exhibited a moderate degree of ethical awareness, acknowledging issues related to privacy, bias, academic integrity, diminished teacher-student connection, and the reliability of AI-generated content. The respondents' academic achievement was predominantly Very Satisfactory; nevertheless, statistical analysis indicated no significant correlation between perceived AI benefits and academic success. The findings indicate that although students value AI assistance, favorable perceptions do not necessarily translate into improved marks; various factors, including instructional methods, study practices, motivation, curriculum coherence, and institutional backing, likely influence academic success. The study emphasizes the necessity for educational institutions to advocate for responsible and structured AI use through explicit policies, ethical protections, and teacher-facilitated integration to maximize learning benefits while mitigating risks.

Reccomendations

Based on the findings, the study recommended that education officials and school administrators enhance institutional support for responsible AI use by formulating explicit policies at the school or division level that guide the ethical integration of AI, particularly regarding academic integrity, privacy protection, permissible AI-assisted work, and measures to address misinformation and bias. School administrators were encouraged to utilize the results to evaluate their institutions' preparedness for AI-enhanced learning and to establish a more systematic approach that encompasses orientation programs, student guidelines, and access to suitable AI tools, ensuring that students' engagement with AI is organized rather than sporadic or unmonitored. Educators were urged to intentionally incorporate AI into lesson planning and educational activities that align with curriculum goals—utilizing it to enhance comprehension, facilitate guided practice, provide feedback, and foster critical thinking—while preserving significant teacher-student interaction and ensuring that AI serves as a learning tool rather than a replacement for instruction. Furthermore, educators need ongoing professional development on the effective and ethical use of AI, including verifying AI outputs, rapid strategies for learning activities, and classroom methodologies to mitigate overreliance on AI. Students were encouraged to engage in activities related to AI literacy and digital ethics that foster responsible decision-making, such as verifying information, properly acknowledging AI assistance, safeguarding personal data, and avoiding cheating or plagiarism. The study ultimately advised future researchers to investigate additional factors affecting academic performance, including the frequency and purpose of AI utilization, subject-specific applications, teacher mediation, motivation, and study habits. It also suggested employing longitudinal or experimental methodologies to assess whether intentional, guided AI integration can yield quantifiable improvements in learning outcomes over time.

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