



The Impact of AI on The Learning Habits of HEI Students

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ABSTRACT: The old paradigms of education are being disrupted as a result of the growing incorporation of artificial intelligence (AI) technology into higher education institutions (HEIs). The purpose of this study is to evaluate the influence that artificial intelligence-driven tools and platforms, such as adaptive learning systems, intelligent tutoring systems, automated feedback mechanisms, and AI-based content recommendation engines, have on the behaviour of students who are enrolled in higher education institutions. The research finds major changes in students' study behaviours, time management, and learning preferences. This is accomplished via the use of a mixed-methods approach, which combines quantitative surveys and qualitative interviews with undergraduate and postgraduate students from a wide range of academic fields. The findings indicate a trend towards learning experiences that are more personalized, autonomous, and on-demand. This transition is made possible by the ability of artificial intelligence to analyse individual learning patterns and present information that is suited to those patterns. An over dependence on artificial intelligence, a decrease in critical thinking, and digital exhaustion are some of the concerns that are brought to light by the study. The final section of the study emphasises the importance of integrating artificial intelligence in a way that is balanced, so that it may improve learning outcomes while maintaining cognitive engagement and academic integrity.

KEYWORDS: Artificial Intelligence, Autonomous Learning, AI in Education, Digital Pedagogy, Higher Education, Learning Habits, Personalized Learning.

INTRODUCTION

The introduction of artificial intelligence (AI) has ushered in a new era of innovation across a variety of industries, with education being one of the fields that has been severely influenced at the most major level. Technologies that use artificial intelligence are transforming the ways in which information is transmitted, consumed, and evaluated in higher education institutions (HEIs). Intelligent tutoring systems, virtual teaching assistants, predictive analytics, and adaptive learning platforms are just some of the examples of how artificial intelligence has brought about a degree of personalisation and automation that was previously imagined. Learning in higher education institutions has traditionally been characterised by standardised curriculum, set timetables, and teaching approaches that are universally applicable to all students. On the other hand, the incorporation of AI has gradually caused this traditional structure to become disorganised. Learning content is being customised for each student based on their specific speed, preferences, and performance, and students are increasingly engaging with technologies driven by artificial intelligence (AI). Not only do these tools make learning more effective, but they also encourage students to develop habits of autonomous and self-regulated study. Understanding the influence that artificial intelligence has on the learning behaviours of students is extremely important as it continues to gain momentum in the academic world. Recent findings indicate that artificial intelligence has had an impact on the ways in which students organise their academic pursuits, access information, and engage with academic content. Students are increasingly adopting a blended or totally digital learning approach, which places a significant emphasis on the utilisation of intelligent systems for the purposes of providing feedback, evaluating, and analysing learning. Nevertheless, this shift doesn't come without its share of difficulties. 2024 edition of Raza, M. H. It is becoming increasingly apparent that there are concerns over an excessive reliance on technology, a decrease in human connection, and the potential for a decline in critical thinking abilities. In addition, discrepancies in learning results can be caused by the digital divide as well as the different levels of artificial intelligence literacy that students possess. The purpose of this research is to investigate the myriad ways in which artificial intelligence (AI) influences the learning habits of students attending higher education institutions. The purpose of this study is to investigate the extent to which artificial intelligence (AI) tools are incorporated into the daily academic routines of students, evaluate the ways in which these tools affect students' motivation, time management, and cognitive engagement, and determine the implications that



these changes have for the future of higher education. By carrying out these steps, the research endeavours to make a contribution to a better informed debate on the appropriate and efficient use of artificial intelligence in academic settings.

LITERATURE REVIEW

Zawacki-Richter et al. (2019) demonstrated how artificial intelligence can help with personalisation and scalability in higher education. Artificial intelligence systems use student data to personalise material and feedback, effectively catering to the varied requirements of learners. This level of customisation increases student engagement and makes it easier to handle big student cohorts without adding to the effort of the teacher. In addition, the report highlighted effective uses such as artificial intelligence tutors and automated grading, which free up faculty members to teach at higher levels. They cautioned, however, that if AI were not designed with careful consideration, it may lead to an increase in reliance or a decrease in critical thinking. In general, the research highlighted the importance that artificial intelligence plays in the construction of educational settings that are learner-centred, adaptable, and inclusive, while also balancing the possible downsides.

Holmes et al. (2021) examined ethical concerns about the use of artificial intelligence in education, with a particular emphasis on data privacy and algorithmic bias. If there is a lack of oversight, the report cautioned that artificial intelligence systems, which rely on personal data, pose a threat to the privacy of students. In addition, they discovered that AI algorithms have the potential to perpetuate pre-existing societal inequities that are contained in historical data, to the detriment of some populations. In order to encourage educators to critically evaluate the outcomes that are created by artificial intelligence, the authors suggested explicit ethical frameworks, transparency, and AI literacy. Their research demonstrates that artificial intelligence has the potential to improve education; nevertheless, it must be implemented in a responsible manner in order to prevent the perpetuation of existing inequalities and to safeguard the rights and trust of students.

Chen et al. (2020) AI tutoring systems were extensively researched, and the results showed that they considerably improve student interest and performance. Artificial intelligence teachers provided quick explanations and personalised practice, which encouraged active learning outside of the bounds of the classroom. Students reported higher levels of motivation and confidence, in addition to able to demonstrate gains in their grades. The research came to the conclusion that AI tutors are an efficient way to bridge gaps in big or hybrid classes, which have limited opportunities for individualised instructor help. But the authors emphasised that artificial intelligence should supplement human instruction rather than replace it. The results of their research indicate that the strategic incorporation of artificial intelligence tutoring tools has the potential to improve both the learning experiences and the academic outcomes in higher education.

Woolf et al. (2019) explored the role that artificial intelligence plays in adaptive learning, demonstrating how systems dynamically alter both material and difficulty to meet the requirements of individual students. This ensures that learners are pushed without being overwhelmed, which in turn promotes prolonged engagement and more comprehension. In the study, effective applications were emphasised in disciplines like as mathematics and languages, where adaptability assisted students who were having difficulty making progress. When it comes to avoiding letting technology dominate education, the authors emphasised the need of combining the adaptability of AI with effective pedagogy. The findings of the study indicated that adaptive AI pathways are capable of facilitating personalised and efficient learning, particularly in student groups that are varied and have variable levels of prior knowledge.

Luckin et al. (2020) investigated how artificial intelligence empowers students to selfregulate their learning by directing them to evaluate their progress and establish learning objectives. Students were able to evaluate their own strengths and deficiencies with the use of AI dashboards and feedback systems, which supported the development of autonomous study habits. According to the findings of the study, students improved their ability to plan and evaluate themselves when they actively employed the tools that were designed for them. The over-reliance on AI insights, on the other hand, may result in a reduction in critical review. When applied appropriately, artificial intelligence (AI) may facilitate autonomy and deeper learning; nevertheless, teachers need to teach pupils how to strike a balance between AI input and their own personal judgement.

Bond et al. (2021) In higher education, it was observed that the use of AI-assisted feedback led to greater levels of student satisfaction and motivation. In order to cut waiting times and clarify mistakes more quickly, artificial intelligence was able to provide rapid and personalised feedback on assignments and quizzes. Providing students with quick feedback, which helped them alter their learning tactics and bolstered their confidence, was much appreciated by the students. As a result of the study, it was determined



that the most successful method was to combine AI input with occasional human evaluation. The authors Bond et al. emphasised that artificial intelligence-driven feedback should not completely replace the input of teachers, but it has the potential to considerably improve the learning experience by catering to the students' requirement for prompt and pertinent instruction. **Spector (2021)** cautioned about the possibility of bias in the suggestions made by AI learning. Inadvertently favoring particular groups and maintaining existing disparities in learning chances might be the result of algorithms that have been trained on past data. The research highlighted the significance of both transparencies in the design of artificial intelligence and regular audits to identify bias. Spector emphasised that educators should maintain a critical stance, making certain that the suggestions made by AI are in line with educational objectives, rather than naively believing the outputs of algorithms. His work highlights the fact that although artificial intelligence has the potential to personalise learning, human monitoring and judgement are still necessary in order to prevent unexpected negative outcomes for varied student groups.

Wang et al. (2020) The use of artificial intelligence chatbots to provide instant responses to academic enquiries was proven to minimise student anxiety. Chatbots, which were accessible around the clock, helped students who were studying late or who were reluctant to contact their classmates or professors for help. According to the findings of the study, prompt and regular answers made students feel more confident and assisted them in remaining on track. For more complicated or nuanced problems, however, students continued to place a high value on human advice. AI chatbots, according to Wang et al.'s findings, are most effective when used as a first step in the process of requesting assistance. They make learning support more available without completely replacing personal connection.

Li et al. (2019) academic writing skills of students were shown to be greatly improved by using language tools that were based on artificial intelligence. Before submitting their work, students were able to repair errors and improve their drafts with the use of tools such as grammar checkers and style recommendations. Specifically, among individuals who were not native English speakers, the study found that the quality of writing and confidence levels were better. On the other hand, Li et al. warned against placing an excessive amount of trust on AI, pointing out that students need still master grammatical principles rather than relying solely on AI. Using artificial intelligence (AI) as a tool rather than a replacement for learning has been shown to improve writing skills, according to the research.

Tegos & Demetriadis (2021) investigated the application of artificial intelligence in collaborative learning, in which algorithms facilitated group conversations by proposing prompts and measuring involvement with those suggestions. AI enabled students who were more reserved to contribute more and helped keep debates on track. According to the findings of the study, the use of AI technologies promoted more balanced contact and more in-depth examination of matters. Nevertheless, the authors cautioned that an excessive amount of AI assistance can be perceived as invasive. When appropriately constructed, artificial intelligence has the potential to enhance the dynamics of group learning by fostering inclusive and thoughtful discourse rather than taking over the conversation.

Nouri et al. (2020) highlighted how learning analytics backed by artificial intelligence may be used to proactively identify pupils who are having difficulty. By keeping track on patterns of engagement and statistics on performance, artificial intelligence systems were able to identify learners who were at danger early on, enabling teachers to intervene in a timely manner. Because of this predictive capabilities, instructors were able to provide individualised support to kids before they fell behind. It was emphasised in the study that artificial intelligence should not be used as a substitute for instruction but rather as a tool to improve student retention and achievement. Based on the findings, it appears that incorporating AI analytics into routine academic monitoring can result in the creation of an educational environment that is more responsive and supportive of learners from varied backgrounds.

Selwyn (2019) offered a critical perspective on the growing use of artificial intelligence in the field of education, advocating against placing an excessive amount of confidence in AI for the purpose of intellectual development and deep learning. He claimed that artificial intelligence posed a risk of restricting education to quantifiable outputs and speedy responses, despite the fact that it is capable of performing monotonous chores in an efficient manner. According to Selwyn, real deep learning requires discourse, reflection, and critical inquiry, all of which are components that it is hard for AI tools to accurately replicate. He underlined that these are all components that are necessary for deep learning. Through his research, he suggested that educators should not consider artificial intelligence (AI) to be a substitute for rich, human-centered educational experiences that encourage creativity and critical thinking; rather, they should consider AI to be a supplement to these experiences.



Zhu et al. (2021) studied the influence that artificial intelligence has on the motivation of students in STEM fields and found encouraging results. By providing students with real-time feedback and adaptive challenges, artificial intelligence systems maintained students' interest and inspired them to develop. The findings of the study demonstrated that the use of interactive artificial intelligence apps transformed intangible STEM concepts into more concrete and individualised learning experiences. The authors, on the other hand, observed that the most significant increases in motivation occurred when AI was used in conjunction with supporting instructional tactics rather than when it was utilised on its own. According to the findings of the study, when AI is intelligently incorporated, it has the potential to boost student motivation, particularly in subjects that are tough.

Papamitsiou & Economides (2020) investigated the use of artificial intelligence in monitoring and analysing the learning habits of pupils. Through the processing of enormous amounts of interaction data, artificial intelligence systems were able to recognise patterns such as topic mastery and frequent blunders. As a result of this realisation, educators were able to make proactive adjustments to instruction and personalise feedback. In the study, it was discovered that students benefited from more transparent tracking of their progress and more focused help. Nevertheless, the authors emphasised the significance of using data in an ethical manner and being transparent. The findings of the study demonstrated that artificial intelligence has the potential to enhance our knowledge of how children learn over time, which may lead to improved instructional design.

Ifenthaler & Yau (2020) learning dashboards driven by artificial intelligence were proven to dramatically boost pupils' self-awareness, according to research. Dashboards enabled students to reflect and plan study techniques by providing a visual representation of their progress, areas of strength, and areas in which they needed improvement. According to the findings of the study, when students actively interacted with these tools, they gained greater skills for self-regulation and higher confidence in their academic abilities. The authors cautioned that dashboards had to be user-friendly and should avoid overwhelming users with an excessive amount of data. According to their findings, well-designed artificial intelligence dashboards have the potential to promote metacognitive abilities, which are required for successful autonomous learning.

Khosravi et al. (2020) massive open online courses (MOOCs) were used to investigate artificial intelligence recommendation systems. The purpose of these systems was to assist students in navigating difficult material by analysing user behaviour and making recommendations for appropriate readings, videos, and quizzes. According to the findings of the study, users who followed the recommendations made by AI had higher levels of engagement and completion rates. However, the authors warned that algorithmic bias might potentially influence the way in which students are exposed to concepts. They suggested that the suggestion reasoning be both clear and subject to frequent review. Overall, the study emphasises the need of ethical issues while highlighting the potential of artificial intelligence to personalise large-scale online learning.

Gong et al. (2021) AI learning analytics and their impact on lowering dropout rates were the primary focus of this examination. Using continuous tracking of participation, quiz scores, and forum activity, artificial intelligence algorithms identified students who were not interested and provided them with early help. As a result of putting these mechanisms into place, the study found that the number of students who dropped out of school decreased. The timely check-ins were welcomed by the students, while the data-driven warnings served the instructors well. The authors came to the conclusion that combined with human follow-up, artificial intelligence learning analytics has the potential to make higher education more helpful and responsive, eventually leading to improvements in student retention and results. **Dawson et al. (2020)** The significance of artificial intelligence in formative assessment was examined, with an emphasis placed on the fast and individualised feedback that automated technologies gave on student work. Based on the findings of the study, quick feedback from AI assisted students in identifying gaps and revising their work more efficiently. In addition, educators utilised data from AI to inform their teaching. On the other hand, the authors emphasised that the quality of the input was dependent on the design of the algorithm and suggested combining the feedback from AI with occasional human assessment in order to get greater depth and subtlety. Their findings indicate that artificial intelligence has the potential to improve formative assessment procedures when it is strategically included into teaching practice.

Ferguson et al. (2021) In higher education, artificial intelligence has been highlighted as a crucial driver of data-informed teaching. Artificial intelligence algorithms analysed student interactions and performance, providing insights that could be put into action to improve the curriculum and provide individualised help. In the study, it was found that teachers who embraced artificial intelligence data were better able to alter their teaching tactics to match the varied demands of their students. On the other hand, it cautioned against placing an excessive amount of trust on measures themselves and advocated for careful interpretation. This study highlights



the role that artificial intelligence plays in enabling evidence-based and adaptive instruction while also highlighting the relevance of educator judgement.

Herodotou et al. (2020) The influence of artificial intelligence on critical thinking was investigated, and the findings were mixed. On the other hand, some students became passive consumers of AI suggestions, despite the fact that AI tools assisted students in organising their thoughts and exploring diverse points of view. According to the findings of the study, artificial intelligence is most useful when it encourages introspection rather than providing immediate responses. In order to improve one's ability to think critically, the authors suggested developing artificial intelligence tools that provide a framework for questioning and analysis. Their research highlights the fact that the educational advantages of artificial intelligence are mostly dependent on integration that is intentional and learner involvement.

RESEARCH METHODOLOGY

In order to provide a full picture of the ways in which artificial intelligence (AI) influences the learning habits of higher education (HEI) students, this research makes use of a mixedmethod approach that incorporates both quantitative and qualitative methodologies. An analysis of data from a database including around 5300 students was performed as part of the quantitative component. The objective was to uncover quantifiable patterns such as the frequency with which artificial intelligence was used, fluctuations in study time, and relationships with academic success and confidence. A focused assessment of recent literature, as well as the thematic analysis of open-ended survey results and focus group discussions, were utilised in the qualitative component, which served as a complementary component to this process. In order to collect systematic information on the utilisation of AI tools, perceived benefits, and potential obstacles, a structured questionnaire was devised. It was then analysed using descriptive statistics to describe broad patterns, correlation analysis to examine links across variables, and thematic coding to extract essential qualitative insights about student views and behavioural changes. All of these methods were used to process the data that was obtained.

Data Collection

For the purpose of this study, data was gathered from a broad sample of undergraduate and postgraduate students who were enrolled in a variety of fields of study at a reputable higher education institution (HEI). The final dataset contains replies from roughly 5300 pupils, providing a large amount of breadth and depth for the purpose of analysis. The poll included a number of important characteristics, including the frequency with which artificial intelligence (AI) tools were used, the exact sorts of tools that were utilised (such as chatbots, AI writing helpers, and adaptive learning apps), and the perspectives of students about the ways in which these tools affected their study habits, grades, and general motivation. The period of data collecting lasted from January to April of 2025, which ensured that there was adequate time to acquire a big sample that was representative of the whole. Through the use of this methodical and meticulously planned technique, a solid empirical basis was established for the purpose of analysing both quantitative patterns and qualitative themes that emerged from the students' involvement with artificial intelligence in their academic life.

RESULTS AND DISCUSSION

It is no longer a developing trend but rather a general fact that higher education institutions (HEIs) are beginning to use Artificial Intelligence (AI) tools into their operations. The next part presents the specific results that were produced from the study of data acquired from around 5300 students attending higher education institutions. These results show the patterns, correlations, and qualitative insights that collectively indicate the influence that artificial intelligence has had on the students' learning habits.

Quantitative Findings

Table 1. Frequency of AI tool usage

Usage Frequency	Number of Students	Percentage (%)
Daily	1095	20.7%
Weekly	2470	46.6%
Monthly or occasionally	1198	22.6%
Rarely/Never	537	10.1%
Total	5300	100%

It may be inferred that artificial intelligence has been firmly ingrained in the study habits of students, since over 67.3% of students utilise AI products on a regular basis (daily plus weekly). The rising reliance is shown in the high daily consumption, which accounts for almost one-fifth of all pupils.

Table 2. Impact on Study Hours

Response	Number of Students	Percentage (%)
Reduced study hours due to AI efficiency	2280	43.0%
No significant change	2291	43.2%
Increased study hours (motivated by AI tools)	729	13.8%
Total	5300	100%

Although almost 43 percent of students reported a decrease in their study hours, nearly the same proportion reported no significant change, indicating that artificial intelligence did not consistently mitigate burden. It is worth noting that around 13.8% of individuals reported spending more time studying, frequently being driven by interactive information that was enabled by artificial intelligence.

Table 3. Concerns About Overdependence

Concern Level	Number of Students	Percentage (%)
Strongly concerned	624	11.8%
Moderately concerned	1384	26.1%
Slightly concerned	1282	24.2%
Not concerned	2010	37.9%
Total	5300	100%

A perceived risk of overdependence on AI technologies is acknowledged by around 38 percent of students who are either extremely or moderately worried about the issue. In the meanwhile, around 62% of individuals exhibit a lack of fear, indicating that they view artificial intelligence as more of a facilitator than a potential danger.

Table 4. Perceived Academic Confidence

Perception	Number of Students	Percentage (%)
Increased significantly	1342	25.3%
Increased somewhat	2365	44.6%
No change	1416	26.7%
Decreased	177	3.4%
Total	5300	100%

It is likely that students' ability to quickly obtain explanations, corrections, and feedback is the reason why around 69.9% of students reported an increase in their academic confidence as a result of using AI technologies.

Correlations and Patterns

Correlation between AI tool usage frequency and academic confidence

The Pearson correlation analysis revealed a significant positive correlation coefficient of +0.42 ($p < 0.01$) between the frequency of artificial intelligence (AI) use and perceived academic confidence. This shows that there is a moderate but relevant association: people who utilise AI frequently tend to feel more confidence in their academic abilities.

**Table 5. GPA Changes (Self-reported)**

AI Usage Frequency	Average GPA (before AI)	Average GPA (after AI)	Improvement
Daily	7.1	7.5	+0.4
Weekly	7.3	7.5	+0.2
Occasional	7.2	7.3	+0.1
Rarely/Never	7.2	7.2	0

The students that utilised artificial intelligence on a daily basis had the most significant gain in their grade point average (~0.4 points), showing a more substantial academic advantage resulting from frequent use. Infrequent or non-users had very little to no improvement in their condition.

Changes in Learning Habits Increased use of AI for routine tasks

The results of the poll and the conversations that took place in the focus groups indicate that students are increasingly relying on artificial intelligence tools for ordinary academic tasks. These activities include summarising lengthy articles or lecture notes, correcting grammar and spelling in assignments, and preparing for tests through the use of AI-generated quizzes and flashcards. According to this trend, there is a transition occurring from manual labour to automated help, where artificial intelligence serves as a boost to productivity. As one student put it, "AI makes summarising so quick that I can focus on understanding rather than copying," underscoring the fact that AI minimises the amount of labour that is repetitious and frees up cognitive resources for more in-depth learning.

Reduced manual note-taking and repetitive work

The practice of taking notes manually and in great detail is becoming less common among students, which is another visible change in their learning habits. Instead, a significant number of students now choose highlighting important points and making use of AI capabilities to provide concise explanations or summaries. Taking this reduced technique not only saves students time but also enables them to concentrate on fundamental ideas rather than mechanical transcription. This ease, however, may come at the expense of a lower depth of processing, which may have an impact on long-term memory as well as critical engagement with study materials, as evidenced by past research (for example, Selwyn, 2019).

Efficiency vs. Critical Thinking

The majority of students see the potential drawbacks of over-reliance on artificial intelligence, despite the fact that they value AI's capacity to save time and offer answers in a timely manner. A few of students acknowledged that relying excessively on artificial intelligence might potentially inhibit introspective thinking and critical inquiry. Discussions brought to light the potential dangers of adopting answers provided by artificial intelligence without first verifying them. This conundrum was clearly articulated by a student, who said, "AI makes studying easier but sometimes makes me lazy," therefore emphasising the conflict that exists between efficiency and preserving intellectual rigour.

AI as a support during difficulty

When students are confronted with academic issues, they frequently seek assistance from AI tools rather than asking their classmates or professors. This is because AI tools are their primary source of assistance. The use of artificial intelligence is seen as a source of aid that is both quick and non-judgmental, which is especially helpful during late-night study sessions. A further benefit of artificial intelligence is that it may enhance confidence by providing clarifications and ideas that lessen worry and indecision. According to the summary provided by one of the participants, "Helps when I'm stuck, but I try not to overuse it," which reflects a balanced usage of artificial intelligence as both a tutor and a safety net.

Qualitative Themes (from focus groups & open-ended responses)

There were five primary themes that emerged from the qualitative examination of the respondents' open-ended survey replies and focus group conversations. First and foremost, students highlighted the fact that AI speeds up the revising process and provides quick feedback as two of the most important benefits obtained from the technology. Secondly, the use of gamified artificial intelligence technologies and interactive study aids that made learning more interesting contributed to an increase in motivation.



Thirdly, students expressed their worries about being dependent on artificial intelligence, expressing their fear that excessive usage of AI may affect their ability to think critically and solve problems. Regarding the fourth point, the accessibility topic brought to light the fact that non-native English speakers, in particular, received a significant amount of assistance from AI grammar tools. Lastly, students associated the use of AI to greater grades and less stress related to studying, which led to the common sense that academic performance had increased over this time period.

INTERPRETATION AND DISCUSSION

It is evident that the incorporation of AI into the learning routines of students improves the effectiveness of their studies, their motivation, and their self-reported academic success. Concerns have been raised, however, regarding the influence that this convenience has on the ability to think independently. Students can reap the benefits of artificial intelligence's capacity to simplify difficult work; nevertheless, if they rely on it too much, they run the danger of losing their ability to question, analyse, and think critically, which are abilities that are necessary for academic and professional success. One of the most significant benefits of artificial intelligence is its capacity to personalise learning experiences to meet the requirements of each individual. Whether it is assisting with the correction of grammar, mathematical computations, or the clarification of complex topics, artificial intelligence technologies are able to adapt to the shortcomings and learning speed of each individual student. Because of this personalisation, students are given the ability to concentrate on the exact areas in which they are lacking, which ultimately boosts their overall academic confidence and efficiency. AI has the potential to expand educational disparities, despite the fact that technology has many positive applications. Those who have access to technology and a higher level of digital literacy benefit more from artificial intelligence, whereas those who do not have these tools may lag behind. This difference highlights the necessity for institutions to enable fair access to artificial intelligence tools and training in order to transform technology into a tool that brings people together rather than a tool that divides them.

The results of this study indicate that students who deliberately limit their use of artificial intelligence tools—that is, who utilise these tools to supplement traditional study techniques rather than to replace them—experience better advantages. These students refrain from becoming unduly reliant on artificial intelligence and continue to retain critical engagement. On the other hand, passive users who allow AI to perform the majority of the cognitive work may see advantages in efficiency in the short term, but they run the danger of damaging deeper learning. The research indicates a number of noteworthy patterns in the students' studying habits at higher education institutions. Approximately 67% of students use AI tools on a weekly or daily basis, indicating that there is a significant movement towards the adoption of AI products on a regular basis. There is a notable correlation between the most regular users and larger GPA gains. Even while around 38 percent of students have some reservations about being dependent on artificial intelligence, the vast majority of them see it largely as a helpful facilitator. Summarising material, editing, conducting brief question and answer sessions, and preparing for tests are the most common uses for AI technologies. As a result of this trend, the amount of time spent on everyday chores and on manual note-taking has decreased. Furthermore, around seventy percent of students reported a rise in their academic confidence, which suggests that artificial intelligence plays an essential psychological function in addition to a practical one in the learning process.

CONCLUSION

There has been a significant shift in the learning habits of students as a result of the use of artificial intelligence in higher education institutions (HEIs). The literature and the most recent studies reveal that educational tools driven by artificial intelligence have reimagined the way in which students interact with academic information. These tools include adaptive learning platforms, intelligent tutoring systems, and feedback mechanisms that are controlled by AI. These technological advancements have not only made the educational experience more personalised, but they have also promoted self-directed learning, enhanced time management, and fostered regular study habits. Nevertheless, this shift happens to be accompanied with a number of difficulties. It is possible that an increased reliance on artificial intelligence systems may result in a reduction in critical thinking, an excessive reliance on material provided by machines, and a reduction in human connection. In addition, questions regarding equal learning opportunities are raised when there are differences in access to artificial intelligence technologies as a result of socioeconomic or infrastructure restrictions. Despite these limitations, it appears that artificial intelligence has a generally favourable influence on the learning behaviours of students attending higher education institutions. This is notably true in terms of improving engagement, academic



efficiency, and learner autonomy. Implementing artificial intelligence capabilities in a way that is both ethical and balanced is absolutely necessary for politicians, educators, and technology developers if they wish to make the most of these benefits. This involves incorporating artificial intelligence (AI) into education as a supplement rather than a substitute for traditional pedagogies, encouraging students to develop their digital literacy, and supporting an approach to AI in education that is centred on the human being. Artificial intelligence is not only a technological advancement; rather, it is a driving force behind the growth of educational practices. Although artificial intelligence is still in the process of developing, the deliberate use of this technology in higher education has the potential to provide students with learning experiences that are more adaptable, personalised, and efficient, while also preparing them for the needs of a future that is driven by digital technology.

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