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AI Tutors or Distractions? How AI Affects University Students' Learning Habits In Lower Dir

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Abstract: *Adoption of artificial intelligence (AI) tools, such as ChatGPT, Grammarly, adaptive learning tools and others have swiftly spread in higher education. However, their effectiveness in influencing the learning process and outcome of the students' needs more exploration in developing regions particularly in Lower Dir, Pakistan. This study was designed to describe the frequency and purpose of using AI tools in university students in Lower Dir, to evaluate the relationship between AI uses and students' self-reported learning behaviours, and to investigate if the excessive use of AI is associated with learning outcomes. A cross-sectional survey was conducted of 260 students (130 males, 130 females) from four higher education institutions in Lower Dir, Pakistan. The participants were selected via stratified random sampling. The questionnaire was used as a data collection tool in which the use of AI tools and frequency, learning practices, and self-reported average in grades were assessed. Descriptive statistics and chi-square were used for the analysis.The findings revealed that 78.5% of students use AI tools frequently, with ChatGPT the most often used (68.1%). The most common uses were grammar checking (71.2) and learning hard concepts (64.6). Nevertheless, 42.3 percent of students have consented that they occasionally depend on AI rather than find their own solutions to problems. The frequency of AI usage was positively correlated with self-reported grades, although weakly and significantly ($r = 0.24$, $p < 0.01$). The use of AI was also less by female students compared to male students (mean 2.9 vs. 3.5 on a 5-point scale, $p < 0.05$). AI applications are extensively utilized but not always on in-depth work. Although it is modestly related to improved grades, over-reliance is a problem. Universities are to include AI literacy training and provide equal opportunities to female students.*

Introduction

In the last ten years, Artificial Intelligence (AI) has left research laboratories and entered the mainstream of life, transforming how individuals obtain information, make choices, and educate (Russell and Norvig, 2021). Artificial intelligence has been advocated as a disruptive technology in education that can make instruction personalized, automate grading, and offer 24-hour tutoring (Holmes et al., 2019). But the use of AI tools in the classroom and beyond has outpaced the evidence for their effectiveness, especially in non-Western countries, where infrastructure, digital skills and cultural practices are quite different

from that of the West (Zawacki et al., 2019). AI is a set of computer systems capable of executing functions, which, in general, should be carried out by human intelligence, including language processing and interpretation, pattern recognition, problem solving, and experience-based learning (Miao and Holmes, 2021). AI finds numerous applications in education: intelligent tutoring systems which recognize the level of skill of a particular student, chatbots which respond to questions at any time of the day, writing assistants which check grammar and style, learning analytics dashboards which monitor progress over time (Luckin et al., 2016). All these tools are likely to help make the learning process more effective, convenient, and entertaining, yet the body of evidence regarding such statements is still sparse in most regions of the world (Selwyn, 2019).

Today, university students can use a variety of AI-based applications, most of which are free or inexpensive, such as ChatGPT, Grammarly, Google Gemini, Microsoft Copilot, and other plagiarism detectors and summarization tools (Miao and Holmes, 2021). ChatGPT is a chatbot that can talk and write, respond to questions and explain things, which has gained significant popularity among students worldwide (Khalid and Ahmed, 2023). Another popular writing assistant, Grammarly validates writing against grammar, punctuation, and style mistakes and provides recommendations on how to fix those (Luckin et al., 2016). The purpose of each tool is different, as ChatGPT is frequently used as a brainstorming tool, to explain complex issues and to create drafts, whereas Grammarly is mainly utilized as a tool to polish written work (Tariq et al., 2022). The common feature of these tools is the possibility to receive an immediate personalized response without a teacher or tutor, which is particularly useful in the system of education with a high number of students in classes and a small amount of personal attention (Holmes et al., 2019). Ease of use, however, also leads to a concern related to over-reliance, the integrity of academics, and the possible loss of underlying competencies, including critical thinking and the ability of independent problem-solving (Williamson, 2017). This conflict between AI as an assistant and AI as a distraction is the main focus of the current work.

Advocates of AI in education mention a number of possible advantages that cannot be overlooked (Luckin et al., 2016). To start with, AI can customize learning by adjusting to the pace, level of vocabulary and learning style of a particular student, which cannot be achieved by a single classroom teacher when working with thirty or forty students at once (Miao and Holmes, 2021). Second, AI is able to give instant feedback and studies have found that timely feedback is among the best predictors of learning gain (Hattie and Timperley, 2007). The AI systems can provide such feedback in real-time, be it on a math problem or an essay draft, thus reinforcing proper understanding and correcting any misconceptions before they become a habit (Xu et al., 2020). Third, AI has the potential to decrease the workload of teachers by automating repetitive processes such as grading of multiple-choice questions or monitoring attendance and allowing teachers to concentrate on teaching and having a significant interaction with students (Holmes et al., 2019). Fourth, AI can improve the accessibility of students with disabilities by increasing speech-to-text, text-to-speech, and other assistive technologies that can be facilitated by machine learning (Akgun and Greenhow, 2022). These advantages have increased the amount of investment in AI to drive education, with the global market projected to reach 20 billion by 2027 (Markets and Markets, 2023). When AI works as envisioned, it serves as a digital teacher which aids and augments the inherent learning abilities of students.

In spite of such possible advantages, there are a number of important concerns which have been voiced by critics (Selwyn, 2019). Over-reliance is one of the key issues: providing students with the option to use AI as a source of answers, it is likely that they will not acquire the same persistence and critical thinking as they would have developed when working on challenging content (Williamson, 2017). When

this happens, AI turns into an obstacle to the process of learning, instead of the means of its simplification. A study by Nguyen et al., (2022) revealed that Vietnamese students who engaged in AI chatbots to do their homework scored lower in surprise quizzes as they.

The second issue is the digital divide: students who do not have a stable internet connection or necessary devices cannot utilize AI tools and are disadvantaged in comparison with more affluent classmates (Selwyn, 2019). The third issue is data privacy, where numerous AI applications gather large amounts of user data, and it is not always apparent how this information is stored, utilized, and distributed (Akgun & Greenhow, 2022). The fourth issue is accuracy: in some cases, AI chatbots hallucinate, creating the impression of plausible-sounding, but factually wrong information (OpenAI, 2023). Such an answer, unverified by a student, can cause them to learn something untrue, which can be especially harmful in such subjects as history, medicine, or law where facts are the primary concern (Nguyen et al., 2022). Lastly, it is feared that AI can even amplify the current educational disparities, instead of minimizing them (Sharma and Singh, 2021). All of these issues imply that AI can be a tutor or distracting, but it all depends on how, who, and in which circumstances AI is applied.

The educational technology issues in Pakistan are unique, and therefore, the investigation of the effects of AI is especially urgent (Ahmad et al., 2021). The Pakistan Bureau of Statistics (2023) notes that the internet is available to only 36 percent of the population, with the urban population having more access than the rural population. The rate is even lower in the province of Khyber Pakhtunkhwa, where Lower Dir is situated, especially among female students (Tariq et al., 2022). The quality is very diverse even among people who have access to the internet: slow internet connections, frequent outages, and high-cost Internet packages are frequent complaints (Khalid and Ahmed, 2023). Digital tools have started to be adopted by higher education institutions in Pakistan, although there is disproportionate progress between regions and types of institutions (Higher Education Commission of Pakistan, 2022). Most cities with private universities have learning management systems, computer laboratories, and even courses specifically focused on AI, whereas most rural public universities and colleges are lacking in basic infrastructure, including functional computer laboratories with reliable internet connectivity (Ahmad et al., 2021). According to a survey conducted by Higher Education Commission of Pakistan (2022), only 42 percent of colleges in the public sector had a working computer lab with access to the internet, and in some rural districts, such as Lower Dir, things are quite different across institutions (Tariq et al., 2022). Nevertheless, Pakistani students are not afraid of these issues: many students have their personal smartphones to access online materials, which includes AI tools (Khalid and Ahmed, 2023). In a study of Lahore by Khalid and Ahmed (2023), it was found that 68 percent of university students have used ChatGPT at least once, even though their teachers had not taught them to, indicating that students are currently using AI tools on their own, and in many cases, without supervision or advice. The question whether this self-directed adoption is more productive in terms of students learning (AI as tutor) or incites shortcut-taking and dependence (AI as distraction) is an open question to which this study tries to respond in the particular case of Lower Dir.

The current literature on AI in education has been dominated by studies conducted in the United States, Europe, and East Asia, as most literature available is based on developed nations (Zawacki-Richter et al., 2019). These works are highly informative, yet they might not be applicable directly to Pakistan, where the infrastructure level, digital literacy, and cultural beliefs have significant differences (Ahmad et al., 2021). To take an example, when there are high teacher-student ratios, but low individual attention, AI tools may play a different role, maybe acting as a substitute to unavailable assistance instead of supplementing the existing one (Tariq et al., 2022). In addition, there is generally hardly any research on

gender variations in the use of AI in Pakistani higher education, although the unequal access by male and female students to technology has been reported in rural Pakistan (Ahmad et al., 2021). According to the GSMA (2023), women in South Asia are 15% less likely to have a smartphone than men and 25% less likely to use mobile internet, and in Pakistan, this is a result of cultural norms and safety concerns and lower digital literacy (Sharma and Singh, 2021). Lastly, the majority of the available research quantifies AI use in uncomplicated ways (e.g., yes/no or frequency) without differentiating between various applications of AI use (Nguyen et al., 2022). Checking grammar with AI is not the same as writing an entire essay: the former can be used to aid learning (tutor) and the latter to disrupt it (distraction) (Williamson, 2017). This research thus quantifies the frequency and intent, which can be more precisely analyzed than the earlier studies have done. Overall, although AI tools are becoming accessible to university students in Lower Dir, there is scant empirical data on how they are practically implemented and how they impact learning behaviors and academic outcomes, and most learners are not guided on how to properly or ethically use them, leaving the policy-making community and educators without the data they need to determine whether AI in their classes is used as an assistant or a distractor (Khalid and Ahmed, 2022).

The remainder of this paper is organized in the following way. Section 2 gives a detailed overview of literature on AI in higher education that is available, thematically arranged, according to the theoretical framework, empirical evidence of academic performance, implications on the learning habits, gender and digital access, and research gap in the Pakistani context. Section 3 provides the research methodology such as the study area, sampling plan, data collection tools, and data analysis procedures. Section 4 shows the study results in terms of frequency distributions, cross-tabulations, and chi-square and correlation analysis results. Section 5 provides a conclusion and policy recommendations.

Literature Review

Theoretical framework

There are two theoretical perspectives on which this study is based. The first is the so-called Technology Acceptance Model (TAM) by Davis (1989). According to TAM, the two main factors that determine how a user can accept a new technology is perceived usefulness (the belief that the technology will enhance performance) and perceived ease of use (the belief that the technology will be easy to use). When applied to AI in education, TAM hypothesizes students who perceive AI-based tools to be useful in learning (tutor) and simple to use will engage in more positive and more frequent use. On the other hand, students who are confused by AI or feel it is not helpful can evade it, or those who find it easy enough can use it as a cheat (distraction).

The second one is the theory of learning called the Connectivism which was formulated by Siemens (2005) in the digital age. The argument of connectivism is that learning is not an individual process of cognition but exists within networks of individuals, technologies and sources of information. According to this perspective, AI tools do not substitute thinking but are part of a learning network. The ability of the learner is not to memorize facts but to know how to locate, analyze, and synthesize information that may come in various forms, including AI (Nguyen et al., 2022).. This paper takes a connectivist approach in positing the question of whether students are using AI as one of many nodes (tutor) or as a crutch that impairs other nodes like their reasoning, discussion with peers and consultation with teachers (distraction) .

Empirical evidence on AI and academic performance

Here, the dependent variable is academic performance and the independent variable is AI. The association between the use of AI and student performance has been the focus of many studies. In a

meta-analysis of 146 studies on AI in higher education, Zawacki-Richter et al. (2019) determined that most articles reported positive effects, especially of intelligent tutoring systems and adaptive learning platforms. Nonetheless, the authors have stated that numerous studies have been carried out by the creators of the AI systems themselves, which casts doubt on bias.

Newer studies have provided conflicting findings. Xu et al. (2020) discovered that Chinese university students who wrote with an AI-based writing assistant demonstrated a significant improvement in grammar and vocabulary over an experimental group where only teacher feedback was provided. This effect was most significant among students who were less proficient initially, indicating that AI can assist in bridging the gap. On the other hand, Nguyen et al. (2022) discovered that Vietnamese students who often used AI chatbots to complete their homework scored lower on the surprise quizzes as they had not trained to solve problems on their own. The authors came to a conclusion that AI may become a two-sided sword in accordance with the way it will be implemented in instruction.

Sharma and Singh (2021) conducted a survey of 450 university students in five states in the Indian context. They discovered a higher proportion of students in higher-income families to use paid AI tools, and students in lower-income families to use free but less capable tools. This difference translated into performances differences, even after taking into account previous grades. The paper notes the danger of AI potentially increasing instead of alleviating educational inequality. In Pakistan, there is a dearth in research. In a study by Khalid and Ahmed (2023) on 320 Lahore students, they discovered that 68% of them used ChatGPT, with 45% of them using it on a weekly basis. The majority of the users could share positive experiences, such as time savings and an improved understanding. The research however, did not assess actual grades, but perceptions.

AI as Tutor or Distraction and Impact on Learning Habits

In addition to performance indicators, scholars have studied the implications of AI on learning behaviors and study habits. Lai and Hwang (2016) concluded that students with AI-based learning analytics dashboards demonstrated a better degree of self-regulation: they made more specific goals, reviewed their progress more regularly, and revised their strategies depending on their feedback. In such instances, AI acted as a tutor that facilitated metacognition development.

Nonetheless, effort has been reported to be adversely affected by other studies. Williamson (2017) noted that students who wrote with AI tools dedicated to writing spent less time on planning, writing, and proofreading their materials. Other learners spoke of assigning AI with hard sections of their assignments and finishing in minutes what could have otherwise taken hours. Although such students had their assignments at the right time, they scored low in in-class writing, where AI was not provided. This implies a kind of erosion of skills: the more students are dependent on AI, the less they train and do not lose the fundamental skills. In such cases, AI served as a detractor to the real learning process.

Recently, Nguyen et al. (2022) conducted a qualitative study, interviewing 40 students on the use of AI. Several themes emerged. To start with, students identified AI as a kind of safety net that alleviated fear of making mistakes. Second, a large proportion of respondents shared that they had resorted to AI as a shortcut either when they were exhausted or had procrastinated. Third, students differentiated between the good and bad AI use (e.g., checking grammar, generating ideas, and generating entire essays). But they remarked, it was a gray line in practice. One student said: I begin with asking it to give me ideas, but then I simply copy the paragraphs that it gives me because they already sound good. This quote is an ideal illustration of the clash between tutor and distraction that the current research explores.

Gender and Online Access in Lower Dir

The disparity in the access and use of technology between genders is not new anywhere in the world, however, the difference is especially high in rural Pakistan. The GSMA (2023) indicates that women in South Asia are 15% lower. Less probable than men to possess a smartphone, 25% less probable to use mobile internet. Cultural factors, safety issues, and reduced digital literacy are the reasons behind this gap in Pakistan (Ahmad et al., 2021).

The impacts of these disparities on the use of educational technologies have been explored in a number of studies. Tariq et al. (2022) discovered that female university students in rural Punjab said that they used online learning resources less than their male counterparts not due to a lack of interest but due to access. There were a lot of people who shared smartphones with siblings or parents; had limited data plans or had family restrictions on using the internet. Some people said that they feel awkward when talking to chatbots or forums where their queries can be noticed by male strangers. These results indicate that despite the availability of free and technical AI tools, social and economic accessibility could hinder equal access, which could make AI a cause of inequality instead of democratizing education.

Research Gap

The literature review shows that there are a number of gaps that this study fills. To begin with, the majority of AI studies are on developed countries; not many studies address rural or semi-urban scenarios in Pakistan like Lower Dir. Second, the current Pakistani research is based on small, convenience sample or qualitative interviews; none of them have employed stratified random sampling to derive population parameters. Third, none of the studies has conducted an simultaneous measurement of AI frequency, purpose, learning habits, and academic performance in one sample in this area. Fourth, gender as a mediator of AI effects has not been studied in Lower Dir. Fifth, and, most importantly, no past research has positioned the use of AI through the prism of the tutor versus distraction dichotomy, which defines the main conflict in the way students experience these tools in reality.

Methodology

The research philosophy

The research philosophy of the given study is positivist, which presupposes that the social phenomenon could be measured and analyzed objectively and quantitatively (Creswell, 2014). A quantitative approach is thus employed. Numerical data are gathered, statistical tests are used, and results are presented in terms of probabilities and effect sizes.

Research Design

There is a descriptive cross-sectional survey design. Cross-sectional designs gather information at a single point in time, which gives an account of the prevailing behaviors and relationships (Leedy and Ormrod, 2015). This design fits the research questions, which focus on the current use patterns and associations, but not on long-term causal effects.

The area of study and population

The research site is the Lower Dir district, Khyber Pakhtunkhwa, Pakistan. Lower Dir is a community of about 1.5 million people and it consists of urban (Timergara town) and rural regions. The district is home to seven institutions that offer degrees. They were purposively chosen to represent the types, Government Postgraduate College Timergara, Technical College Timergara, Abdul Wali Khan University Timergara Campus and Commerce College Timergara. The population of interest is all students attending semesters 6, 7, or 8 of these four institutions- about 810 students.

Sampling Technique and Sample Size

The sampling method was stratified random. The stratification variable was gender since the previous studies indicate that there is a difference in access to technology among male and female students. Simple random sampling was conducted in the individual stratum (male and female) by a list of random numbers, which were generated by a computer. Sample size was calculated using Yamane's formula (1967), $n = N / (1 + N \bullet e^2)$, where N = 810 and e = 0.05, yielding n = 268. The target population was defined as 260 (130 men, 130 women) to balance gender.

Data Collection Instrument

A designed questionnaire was created to use in this research. It comprises four items: Section A (demographics: age, gender, institution, semester, smartphone ownership, the type of internet connection), Section B (frequency of AI use: five items on a scale of 5 strongly disagree to strongly agree), Section C (purposes of AI use: eight yes/no items in total, including grammar checking, concept understanding, essay writing and exam preparation), and Section D (learning habits and performance: six L A pilot-test of 30 students was conducted on the questionnaire, and the Cronbach alpha of the Likert-scale items was 0.81, which is a good internal consistency.

Data Collection Procedure

Data gathering was carried out during two weeks in February 2025. The principals of all four colleges gave their permission. The researcher in each college would go to the respective classes when they were in session. The aim of the study was articulated both orally and in a cover letter. Students were assured of anonymity and told that their participation was voluntary. The questionnaires were completed, and the filled questionnaires were put in a sealed envelope. There was no course credit or other incentive.

Data Analysis

The data were entered into SPSS 26. Descriptive statistics (frequencies, percentages, means and SDs) were used to describe all the variables. Pearson Chi-square tests of independence were used to analyze relationships between categorical variables. Pearson's Correlation coefficients were used to correlate continuous variables. A significance level of $p < 0.05$ was used for all hypothesis tests**.**

Limitations

There are a number of limitations. There are limitations of self-reported data, including recall and social desirability bias. The cross-sectional nature precludes causality. The study includes students with and without internet connections, but not those with no internet access, likely underestimating the digital divide. The research is based on students' self-reports of grades. Results might not be applicable to other rural districts in Khyber Pakhtunkhwa.

Results and discussion

Sample Characteristics

The table 4.1 shows the socio-demographic and technological background of the 260 students. Male and female students (130 of each) were equally represented. Most students (64.2) were at their sixth semester, with the rest being 21.5 in their seventh semester and 14.3 in the eighth semester. Ages ranged from 20 to 26 years, with a mean of 22.1 years (SD = 1.4).

In terms of access to technology, 86.9% of students said that they had a smartphone. This percentage however differed across sexes; 94.6% of male students were owners of smartphones as opposed to 79.2% of female students (2 = 11.89, $p < 0.001$). There was also difference in internet access. A majority of students (76.9), 12.3 percent had mobile data and 10.8 percent had no internet facilities outside their campus computer laboratories. The most frequent response given by female students who lacked internet access (16.9%), the most prevalent response was that their families did not allow them to (64%

of the no-internet cases), and then it was that it was too expensive (23%). The most common reason among the male students who were not online (4.6 percent) was no need (55 percent).

Gender disparities in access to technology are also significant as indicated in Table 1. Although the percentage of smartphone ownership is high among male students (94.6%), almost every fifth female students (20.8%) does not have a smartphone. Likewise, female students are almost four times the likelihood of having no internet access whatsoever (16.9% vs. 4.6%). Such differences are statistically significant, and can be meaningful in terms of providing access to AI tools in an equitable manner.

Table 1 Sample Characteristics

Characteristic	Category	Total (N=260) n (%)	Male (n=130) n (%)	Female (n=130) n (%)
Semester	6th	167 (64.2)	84 (64.6)	83 (63.8)
	7th	56 (21.5)	28 (21.5)	28 (21.5)
	8th	37 (14.3)	18 (13.9)	19 (14.7)
Smartphone Ownership	Yes	226 (86.9)	123 (94.6)	103 (79.2)
	No	34 (13.1)	7 (5.4)	27 (20.8)
Internet Access Type	Mobile data only	200 (76.9)	108 (83.1)	92 (70.8)
	Wi-Fi (home/hostel)	32 (12.3)	16 (12.3)	16 (12.3)
	No access	28 (10.8)	6 (4.6)	22 (16.9)
Years Using Digital Devices	Less than 3 years	45 (17.3)	15 (11.5)	30 (23.1)
	3–5 years	112 (43.1)	58 (44.6)	54 (41.5)
	More than 5 years	103 (39.6)	57 (43.9)	46 (35.4)

Frequencies of AI Tool Usage

Table 2 show the frequency of the usage of five typical AI tools by students. Each tool has a table with the percentage of students reporting each level of frequencies selected, and the mean score (1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often, 5 = Always).

ChatGPT is by far the most popular tool. More than two-thirds (68.1%) of the students said they used it often or always, with an average frequency of use of 3.9 out of 5. ChatGPT was never used by only 10.0% of students. The second most frequently used tool is Grammarly where 46.6% of the students use it often or always (mean = 3.3). Other applications, such as Google Gemini, Microsoft Copilot, and others (mainly Photomath and Duolingo) are less popular. It is noteworthy that male students indicated much more frequent use of ChatGPT as compared to female students (mean 4.1 vs. 3.6, $t = 4.21$, $p < 0.001$). A similar pattern was observed for Grammarly (mean 3.5 vs. 3.1, $t = 2.98$, $p = 0.003$). The data indicate that ChatGPT is already becoming a common tool among these students, with 68.1% of them using it frequently or regularly. The other one is Grammarly, which is also popular but not as intensive. The other tools are yet to gain widespread usage. These differences in genders demonstrate that the two most popular tools are more actively used by male students, which indicates that AI might be more of a tutor to male students just because they have the access to it.

Table 2 Frequencies of AI Tool Usage

AI Tool	Never n (%)	Rarely n (%)	Sometimes n (%)	Often n (%)	Always n (%)	Mean (SD)
ChatGPT	26 (10.0)	18 (6.9)	39 (15.0)	89 (34.2)	88 (33.9)	3.9 (1.2)
Grammarly	41 (15.8)	35 (13.5)	63 (24.2)	72 (27.7)	49 (18.8)	3.3 (1.3)

Google Gemini	112 (43.1)	54 (20.8)	46 (17.7)	31 (11.9)	17 (6.5)	2.2 (1.3)
Microsoft Copilot	158 (60.8)	42 (16.2)	33 (12.7)	18 (6.9)	9 (3.4)	1.7 (1.1)
Other (Photomath, Duolingo)	134 (51.5)	44 (16.9)	38 (14.6)	27 (10.4)	17 (6.5)	2.0 (1.3)

Note: Scale = 1 (Never) to 5 (Always); SD = Standard Deviation.

AI Tool Usage Purposes

Table 4.3 show the percentage of students who said they used AI in each of the eight academic purposes. Since students had the option to choose more than one purpose, percentages add up to over 100. The purposes may be classified into two groups: tutor-like (facilitating real learning) and distraction-like (hobgoblin).Checking grammar and spelling (71.2% of students) was the most frequent one. It is more of a tutor application because it aids learners to learn through their errors. The second reason was the most frequent one, the need to learn hard concepts (64.6%), which also is tutor-like. Getting ideas to do assignments (58.5%) is in the grey category because you can use it in a tutor way (brainstorming) or in a distraction way (to prevent originality). Article summarizing (43.1) and text translation (40.4) are typically tutor like when applied correctly.

Moreover, 28.5% of the students also said they used AI to write complete essays or paragraphs. This is a definite distraction type use and a type of academic dishonesty in the majority of policies of institutions. Worse still, 22.3% admitted to using AI to produce citations, which AI tends to forge. The smallest percentage of students (17.3%) said that they used AI to study exams, which is arguably one of the most valuable tutor-like potential uses students currently lack. The results show a tendency with the majority of students utilizing AI on tutor-like tasks (grammar, concept comprehension) and a significant minority (more than a quarter) utilizing AI on distraction-like tasks (writing full essays). The low percentage of people utilizing AI to study exams (17.3) is a missed chance of AI to be used as a tutor.

Table 3 AI Tool Usage Purposes

Purpose	Type	Total n (%)	Male (n=130) n (%)	Female (n=130) n (%)	p-value
Checking grammar/spelling	Tutor	185 (71.2)	85 (65.4)	100 (76.9)	0.045*
Understanding difficult concepts	Tutor	168 (64.6)	92 (70.8)	76 (58.5)	0.038*
Finding ideas for assignments	Gray	152 (58.5)	79 (60.8)	73 (56.2)	0.456
Summarizing articles	Tutor	112 (43.1)	58 (44.6)	54 (41.5)	0.618
Translating text	Tutor	105 (40.4)	55 (42.3)	50 (38.5)	0.534
Writing full essays	Distraction	74 (28.5)	46 (35.4)	28 (21.5)	0.013*
Generating citations	Distraction	58 (22.3)	32 (24.6)	26 (20.0)	0.371
Preparing for exams	Tutor	45 (17.3)	25 (19.2)	20 (15.4)	0.416

*Note: $p < 0.05$. Multiple responses allowed.

Learning Behaviors and Perceived Influences (Tutor vs. Distraction)

Table 4.4 shows the degree of agreement of the students with 6 statements concerning their learning habits and experience with AI. The measured responses were on the Likert scale with 5 points (1 = Strongly Disagree, 5 = Strongly Agree). The percentage that chose each response and the mean score of each statement are indicated in the table. The highest score was on the statement of AI tools save me time when learning (mean = 4.1, SD = 0.9). More than three-quarters (76.5) of the students agreed or strongly agreed. This indicates that students view AI as a real efficiency-enhancing tool- a tutor feature. The second highest agreement was with AI has enhanced my knowledge about challenging issues (mean = 3.8, SD = 1.0), having 63.5% agreeing or strongly agreeing. This is the other tutor perception. Nonetheless, a significant minority (42.3) supported or strongly supported the statement that they sometimes use AI rather than thinking about issues themselves. This shows that the phenomenon of distraction-like over-reliance is a fact, as it affects almost half of students. In the same context, 33.1% concurred or strongly concurred that I would learn less without AI tools, which implies some level of dependency bordering on distraction.

Less agreement was observed on the statement my teachers encourage us to use AI tools (mean = 2.6, SD = 1.1). The percentage of agreement to or strong agreement was only 18.5% with 53.1% disagreeing or strongly disagreeing. This implies that the use of AI is not being proactively instructed, and it is up to students to find their way through the tutor-distraction dilemma. It is evident that students can notice practical AI advantages (time-saving, greater understanding) the tutor functions. Nonetheless, the statistics also indicate a conflict: on the one hand, AI is helpful, on the other hand, it could also stimulate addiction - the distracter side. The absence of teacher support is salient; the majority of students are completely working out the tutor-distraction balance on their own.

Table 4 Learning Behaviors and Perceived Influences (Tutor vs. Distraction)

Statement	Strongly Disagree n (%)	Disagree n (%)	Neutral n (%)	Agree n (%)	Strongly Agree n (%)	Mean (SD)
AI tools save me time when studying	8 (3.1)	15 (5.8)	38 (14.6)	112 (43.1)	87 (33.5)	4.1 (0.9)
I rely on AI instead of thinking myself	22 (8.5)	48 (18.5)	80 (30.8)	73 (28.1)	37 (14.2)	3.2 (1.2)
AI improved my understanding	15 (5.8)	31 (11.9)	49 (18.8)	104 (40.0)	61 (23.5)	3.8 (1.0)
Teachers encourage AI use	68 (26.2)	70 (26.9)	74 (28.5)	32 (12.3)	16 (6.2)	2.6 (1.1)
I would learn less without AI	35 (13.5)	62 (23.8)	77 (29.6)	55 (21.2)	31 (11.9)	3.0 (1.2)
AI makes study more efficient	18 (6.9)	41 (15.8)	63 (24.2)	96 (36.9)	42 (16.2)	3.5 (1.1)

Academic Performance and the use of AI

Table 5 indicates the correlation between self-reported grade average and overall AI usage frequency (a composite score of the five tool frequency items, which were then grouped into Low, Medium and High usage using tertiles). The data indicate a positive gradient: the larger the use of AI, the larger the number of students in higher grade categories. Only 13.1% of low-frequency users indicated having grades of 80% or higher. This increased to 22.3 among medium frequency users. It was 31.4 among the high-frequency users. On the other hand, the percentage of the students in the lowest grade category (below 50) went down by 11.9% amongst low users and 5.7% amongst high users. The statistically significant association was established by running a chi-square test of independence (2 = 15.87, 6, p = 0.014; Cramer V = 0.21). The Pearson correlation of continuous AI usage score and grade category was r = 0.24 ($p < 0.01$).

Table 5 Academic Performance and the use of AI

Grade Average	Low AI Usage (n=84) n (%)	Medium AI Usage (n=86) n (%)	High AI Usage (n=90) n (%)	Total n (%)
Below 50%	10 (11.9)	7 (8.1)	5 (5.6)	22 (8.5)
50–59%	23 (27.4)	18 (20.9)	16 (17.8)	57 (21.9)
60–69%	26 (31.0)	25 (29.1)	22 (24.4)	73 (28.1)
70–79%	14 (16.7)	17 (19.8)	19 (21.1)	50 (19.2)
80% or above	11 (13.1)	19 (22.3)	28 (31.4)	58 (22.3)
Total	84 (100)	86 (100)	90 (100)	260 (100)

Note: $\chi^2 = 15.87$, df = 6, p = 0.014; Cramér's V = 0.21.

Conclusion

This study investigated whether artificial intelligence (AI) plays the role of a digital tutor or distracts university students in Lower Dir, Pakistan. Based on survey data from 260 students from four higher education institutions. The results show that AI tools are widely used among students in Lower Dir, with 78.5% using them frequently. ChatGPT is the most commonly used tool, with a usage rate of 68.1%. This high adoption level suggests that even in rural areas, AI is playing a significant role in education. Most students use AI to check their grammar (71.2%) and to explain difficult concepts (64.6%) - these are tutoring-like features that help with learning. Moreover, 63.5% of students think that AI helps them learn difficult concepts and 76.5% think it saves time. This indicates that AI is beneficial to most students' learning. But, the research also highlights how AI can be distracting. Almost a third (28.5%) of students admitted to using artificial intelligence (AI) to complete their entire paper, and 22.3% used AI to generate references, which AI often invents. Even more concerning, 42.3% of students reported they sometimes "let AI do the thinking". This implies that for many students, AI is a crutch that could hinder learning and thinking skills. There was a weak but significant positive correlation between AI use and students' self-reported grades ($r = 0.24$, $p < 0.01$), suggesting that greater AI use is positively related to grades, but this correlation was not significant. AI is not the key factor affecting academic performance; additional factors, including prior knowledge, study skills, effective teaching, and parental encouragement, are more critical. Analysis showed gender differences. Girls' frequency of AI use was significantly lower than boys' (on a 5-point scale, the girls' average score was 2.9, whereas the boys' average score was 3.5, $p < 0.05$). Girls are less likely to have access to smartphones (with 79.2% having a phone, compared to 94.6% of boys). In addition, 16.9% of girls have no internet connection, compared to 4.6% of boys. This leaves girls out of the benefits and dangers of artificial intelligence (AI). What's more, teachers are largely overlooked in the discussion of AI. Just 18.5% of students indicated their

teachers support using AI, while 53.1% do not. Students are left alone to deal with the tension between learning and distractions caused by AI, without guidance and school policies in this regard.

In a nut shell, AI in the Lower Dir classroom is not altogether good or bad. For many, AI can be a boon - and save time and enhance learning. But for many students, AI distracts them, promoting cheating and over-dependence. The unequal access to AI for girls means that they cannot fully benefit, and without teacher support, all students are left to navigate AI on their own. Without intervention, the potential for distraction and inequity may be increased.

Policy Recommendation

University Faculty

1. Teach AI Literacy in the Classroom 18.5% of students are given guidance from faculty about using AI. Educators should take an hour to show students how to use AI to their advantage (explain a concept, study for an exam, proofread and edit) and misuse (writing a paper, generating fake citations). This will assist the 42.3% of students who use AI for reasoning instead of critical thinking.
2. Change Assignments to Avoid Distractions. Given that 28.5% of students write entire papers using AI, instructors should create assignments that involve students showing their thought process. For instance, ask students to submit drafts with revisions, ask them to describe their problem-solving process and include writing exercises in class during times when AI is not accessible.
3. Show How to Use AI for Exam Preparation. At present, 17.3% of students are already using AI for exam preparation - an avenue that is not being fully explored. Teachers should show students how to pose questions to AI, explain why answers are wrong and give a summary of topics. This will demonstrate a more optimal, "tutor-like" approach. 6.2 To University Administrators.

College Administrators

1. Bridge the Digital Gender Gap There is a significant gap in smartphone use between female and male students (79.2% vs. 94.6% respectively), and 16.9% of female students have no access to the Internet, compared to 4.6% of male students. Administrators should establish female-only computer labs with Internet access; provide female students with laptop loan services; and provide digital literacy training for female students. Otherwise, artificial intelligence will widen the educational divide.
2. Set up an AI Policy. At present, there is no policy on artificial intelligence. Administrators should create a one-page policy outlining acceptable tutoring uses (spelling and grammar check, explanation of concepts, test preparation) and unacceptable disruptive uses (writing full essays, creating fake references). The policy should be included in all course syllabi and displayed in computer labs.
3. Offer Free On-Campus Internet. Almost 11% (and 17% of females) of students do not have internet at home. Universities need to keep their computer labs open in the evenings and on weekends and provide free Wi-Fi in their libraries and common rooms.

Policy makers (Higher Education Commission of Pakistan)

1. Fund Gender Equality Technology Projects. Higher Education Commission should set up a fund to purchase smartphones and offer free mobile data to rural female university students who are unable to afford these. This project should be first piloted in Lower Dir and then rolled out in six months according to the pilot findings.
2. Create National Guidelines for AI in Higher Education. With 42.3% of students preferring to use AI for thinking and 28.5% using AI to write their papers, guidelines are required. The guidelines should include academic integrity, privacy, inclusion and assessment.
3. Mandate AI Training for Faculty. Considering 53.1% of students felt their teachers did not allow them to use AI, the Higher Education Commission (HEC) should ensure all university teachers attend a one-

day AI training workshop in two years. This should include how to redesign assignments to be less vulnerable to AI, how to provide AI literacy education, and how to recognise AI use patterns that may distract students.

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