

 <p>ISSN NO. 2320-5407</p>	<p>Journal Homepage: -www.journalijar.com</p> <p>INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)</p> <p>Article DOI:10.21474/IJAR01/19563 DOI URL: http://dx.doi.org/10.21474/IJAR01/19563</p>	 <p>INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR) ISSN 2320-5407 Journal Homepage: http://www.journalijar.com Journal DOI:10.21474/IJAR01</p>
---	--	---

RESEARCH ARTICLE

ARTIFICIAL INTELLIGENCE IN HIGHER STUDIES: USE OF AI-BASED TOOLS BY UNIVERSITY STUDENTS AND ITS CHALLENGES

Ms. Priya Ralhan

Assistant Professor DAV University, Jalandhar.

Manuscript Info

Manuscript History

Received: 28 July 2024

Final Accepted: 30 August 2024

Published: September 2024

Key words:-

Artificial Intelligence, Higher Studies,
University Students, Challenges

Abstract

The students of the 21st century study in exclusive ways. While some students rely on experiments, facts, and data, others use techniques and tools of artificial intelligence. AI-based tools are transforming higher education by improvising learning experiences, personalizing instruction, and administrative efficiency. Adaptive learning platforms, for example, are AI-driven systems that personalize instructional content to each student's needs, accommodating a wide range of learning styles and speeds. Intelligent tutoring solutions help students gain a deeper understanding of difficult subjects by offering them specific guidance and feedback. It undertakes several artificial intelligence methodologies and learning style models to ascertain the mastering styles of university students. Artificial intelligence approaches in higher education generate effective learning environments for university students' development. To create an empirical basis for this, a survey of students was carried out to analyze the use of AI-based tools that are important to students. This quantitative paper aims to highlight the various AI tools used by university students and the challenges they face while utilizing such tools. For data collection, 60 students were interviewed by the investigator. The simple random technique of sampling will be used and the results of the study reveal that university students are facing various challenges while using AI tools.

Copyright, IJAR, 2024,. All rights reserved.

Introduction:-

AI refers to the attempts made to create computerized systems that can simulate human thought and behavior, as well as the capacity of robots or computers to think and behave like humans (Wartman & Combs, 2018, p.1107). Students could benefit from artificial intelligence to help them providing more individualized education because it gives them access for better learning opportunities (Sekeroglu, et.al, 2019, p.1). In Educational discipline, students as well as teachers are working with artificial intelligence in the form of tasks. In the field of research, it expands the boundaries of academic study and fosters multidisciplinary creativity and collaboration. AI's incorporation into higher education promises to transform teaching strategies, expedite administrative procedures, and provide students the skills they need to succeed in a technologically advanced world as it keeps developing. In the next few years, it will spur innovation and advancements in higher learning, but it will also bring forth a plethora of new difficulties. One of the main issues in higher education is that, because of its sophisticated generative abilities, it can be used to produce assignments, respond to test questions, and generate academic articles without being readily identified by

Corresponding Author:-Ms. Priya Ralhan

Address:-Assistant Professor DAV University, Jalandhar.

anti-plagiarism software that is now available. It is common to list accuracy, dependability, and plagiarism as major problems with AI applications in education. A few factors that affect accuracy and dependability are using skewed data, not knowing everything there is to know, and producing false or inaccurate information (such as making up references). It is also suggested that students' critical thinking and problem-solving abilities may suffer from an overreliance on the AI tool Chat GPT. Higher education institutions (HEIs) have responded to this new threat to academic integrity in different and fragmented ways. Some have rushed to impose complete bans on AI use, while others have begun to embrace it by providing student guidance on how to interact with AI ethically and effectively (Michel-Villarreal, 2023, p.1).

Review of Literature:-

Jain and Jain (2019) attempted to find out the impact of using AI in higher education and reveal that the learning capacities of students will increase to a large extent with the implementation of AI in higher education, even though AI holds significant prospects in higher education. **Gocen & Aydemir (2020)** studied what scenarios and implications can be revealed for future schools after the arrival of artificial intelligence in education and concluded that teachers will have more projects, benefits, and face drawbacks with the arrival of AI in Education. **Kaloudi & Li (2020)** highlighted various research studies based on AI-based cyber-attacks and suggested how to predict future cyber-attack threats. Moreover, **Villarreal, et al. (2023)** reveal the importance and challenges of artificial intelligence in higher education and the findings of the study highlight plagiarism concerns, quality control, and lack of human interaction were some of the main challenges of artificial intelligence. **Borchetia and Hazarik (2024)** Claimed that artificial intelligence is completely changing the global education system. AI is changing the way teachers and students learn is having a huge impact on Indian higher education.

Objectives of the Study:-

- I. To highlight the various tools of AI used by university students.
- II. To study different challenges faced by University students while utilizing AI tools.

Methodology:-

Data was collected from 60 students of DAV University, Jalandhar from which 30 students belong to the stream of Science and the rest of the 30 students belong to the stream of Humanities. Secondary data related to the research topic was collected from magazines, newspapers, e-articles, and journals. A descriptive survey method was used to collect the data and a Simple random technique of sampling was used by the researchers to select the sample of 60 university students. The researcher used a self-prepared interview schedule to gather the information from the students. Percentage was used to analyze the data.

Results and Analysis:-

Table 1:- Responses of the students whether they use AI Tools.

Respondents	Yes	No	% of Yes	% of No
University students	60	0	100%	0%

The above tables indicate that all university students nowadays use various AI tools. Likewise, (J Mayer, 2023, p.2) stated that AI-based tools are changing the landscape of universities.

Table 2:- Responses of the students whether they face any problem while using AI tools.

Respondents	Yes	No	% of Yes	% of No
University students	50	10	83%	17%

The above table reveals that out of 60 students, 50 respondents face various problems like malpractice or misuse of data while using AI tools, on the other hand, 10 respondents did not accept the fact that they face any problem with AI tools as they were using these tools preferably less than others.

Table 3:- Responses of the students regarding whether AI helps in assignments or homework.

Respondents	Yes	No	% of Yes	% of No
University students	45	15	75%	25%

The table exhibits that 45 respondents take the help of AI for assignments, references, homework, and exercise work as it keeps their work easy and time-efficient, on the other hand, 15 students denied the use of AI because they find it difficult to find appropriate tools for their homework.

Table 4:- Responses of the students whether they use AI tools for more than 2 hours.

Respondents	Yes	No	% of Yes	% of No
University students	20	40	33.3%	66.6%

The table no. 4 indicates that 20 respondents used AI for more than two hours. They use it mainly for checking spelling and grammar, also the students who are into Research work use AI for looking into significant research papers. While 40 respondents do not agree with the fact of using AI for more than 2 hours as these students indulge more in social media applications.

Table 5:- Responses of the students on whether they feel addicted to AI tools.

Respondents	Yes	No	% of Yes	% of No
University students	46	14	77%	23.3%

The above table displays that 46 respondents feel an addiction to AI tools. The main reason for this addiction is the ease of work and work proficient language on the other side 14 respondents do not feel addicted to AI mainly because they use it sometimes as per requirement.

Table 6:- Responses of the students whether they feel safe while using AI tools.

Respondents	Yes	No	% of Yes	% of No
University students	19	41	32%	69%

The above table displays the high level of insecurity that university students feel towards the use of AI, as only 19 respondents have said "yes" to safety and 41 have responded "no" which shows their insecurity towards AI tools.

Table 7:- Responses of the students related to their main purpose of using AI.

Respondents	Numbers	Percentage	Responses
University students	55	92%	Assignments
	45	75%	Homework
	17	29%	Language checking
	58	97%	Use with apps like Snap chat
	37	62%	Research work

Table no. 7 represents the major functions for which students make use of AI. Most of the students use it for social media apps and they spend their time on utilization of those apps on the other hand only 17 respondents use it for their language efficiency.

Challenges faced by University students while utilizing AI tools

1. **Transparency:** Transparency is a fundamental prerequisite for the development of "trustworthy AI". Students when interviewed stated that they do not find AI transparent enough also they do not feel safe while using it. 60% of the students reveal that there is a lack of transparency in AI tools.
2. **Accountability** is the main factor that challenges the utilization of AI tools. Accountability refers to the assumption that those who use AI tools would adhere to rules and laws to guarantee the correct operation of AIs throughout their lifecycle. 49% of students feel that they are using fabricated information without any accountability which leads to incorrect outcomes.
3. **Reliability of AI tools:** Since trust is one of the most important and distinctive features of human interactions, it is challenging to determine if AI can be trusted because artificial intelligence is incapable of feeling emotions or being held responsible for its acts. This lack of trust has come up with several major concerns like: fairness and equity with the possibility of bias in AI algorithms especially for students of Mathematics and Science. 67% of the students have serious concerns about the reliability of AI tools.
4. **Issue of Mistrust:** AI decision-making procedures are opaque. It can be difficult for students to understand how artificial intelligence makes decisions. 75% of university students feel unsafe while using AI tools Because AI

systems usually require access to enormous volumes of personal data. It creates a sense of mistrust among them regarding the use of technology freely and safely.

5. **Privacy** is another major worry. This raises concerns about data security and the potential exploitation of private information. Students face problems like being hacked or their personal information gets leaked. 75% of students feel that, their information is always on the verge of being leaked.
6. **Ethical Issues:** At all educational levels, from basic (elementary) schools to universities, the proliferation of educational technology of all kinds, and the logs of interactions it generates, have yielded enormous amounts of student data, but it is still unclear who owns this data, who may access it, how long it will be retained, and other issues, there are a lot of open concerns. 75% of students still struggle, though, with comprehending what information about them is considered "personal" and what kind of ownership or rights they have over their educational logs.

Conclusions:-

AI is a modern science that saves time while working for an individual. Its reach is undeniable when it comes to university students. Research students benefit greatly from it since it allows them to improve the caliber of their research articles. The application of AI in education has expanded thanks to programs like Quillbot, Grammarly, Chat GPT, and Google Scholar. However, we cannot blind our eyes to the challenges that students are facing while optimizing AI tools. University students are unsatisfied with the standards of privacy that AI tools maintain. Also, morality and transparency pose significant hurdles. There are also terrifying reports about AI taking over the world and reports about biased choices that could have an impact on someone's life or well-being. Therefore, any AI-using system must provide a precise rationale for any recommendation it makes regarding a course of action, decision, result, or anything else, so that the human can assess the extent to which the machine agrees with it. The government should be instrumental and work on the challenges, especially regarding the privacy of AI to make it better functioning for students.

References:-

1. Borchetia, B., & Hazarik, M. (2024). Artificial intelligence in education: An overview. *Journal of Emerging Technologies of Innovative Research*, 11(2), 424-428. <https://www.jetir.org/papers/JETIR2402146.pdf>
2. Du Boulay, B. (2022). Artificial intelligence in education and ethics. In *Handbook of open, distance and digital education*. 1-16. Singapore: Springer Nature Singapore. https://link.springer.com/content/pdf/10.1007/978-981-19-0351-9_6-2.pdf
3. Floridi, (2018). AI4People—an ethical framework for a good AI society: opportunities, risks, principles, and recommendations. *Minds and Machines*, 28, 689-707. <https://link.springer.com/article/10.1007/S11023-018-9482-5>
4. Gocen, A., & Aydemir, F. (2020). Artificial intelligence in education and schools. *Research on Education and Media*, 12(1), 13-21. DOI:10.2478/rem-2020-0003
5. Jain, S., & Jain, R. (2019). Role of artificial intelligence in higher education- An empirical investigation. *International Journal of Research and Analytical Reviews*, 6(2)144-150. http://ijrar.com/upload_issue/ijrar_issue_20544069.pdf
6. Menard, P., & Bott, G. J. Artificial intelligence misuse and concern for information privacy: New construct validation and future directions. *Information Systems Journal*. <https://doi.org/10.1111/isj.12544>
7. Michel-Villarreal, R., Vilalta-Perdomo, E., Salinas-Navarro, D. E., Thierry-Aguilera, R., & Gerardou, F. S. (2023). Challenges and opportunities of generative AI for higher education as explained by Chat GPT. *Education Sciences*, 13(9), 856. <https://www.mdpi.com/2227-7102/13/9/856>
8. Kaloudi, N., & Li, J. (2020). The AI-based cyber threat landscape: A survey. *ACM Computing Surveys (CSUR)*, 53(1), 1-34. <https://dl.acm.org/doi/10.1145/3372823>
9. Novelli, C., Taddeo, M., & Floridi, L. (2023). Accountability in artificial intelligence: what it is and how it works. *AI & SOCIETY*, 1-12. <https://link.springer.com/article/10.1007/s00146-023-01635-y>
10. Ryan, M. (2020). In AI we trust: ethics, artificial intelligence, and reliability. *Science and Engineering Ethics*, 26(5), 2749-2767.
11. Sekeroglu, (2019). Artificial Intelligence in Education: application in student performance evaluation. *Dilemas Contemporáneos: Educación, Política y Valores*, 7(1). <https://web.p.ebscohost.com/abstract?>
12. Wartman, S. A., & Combs, C. D. (2018). Medical education must move from the information age to the age of artificial intelligence. *Academic Medicine*, 93(8), 1107-1109. https://journals.lww.com/academicmedicine/fulltext/2018/08000/medical_education_must_move_from_the_information.15.aspx.