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A Study on the Level of Awareness and Use of Artificial Intelligence Tools of Students at Viet - Hung Industry University

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A B S T R A C T

In the context of modern technology, artificial intelligence (AI) has become an indispensable component in many areas of life, from manufacturing to services and education. In the field of education, AI plays an increasingly important role in improving teaching quality and optimizing the learning process. Therefore, research on how students apply and interact with AI tools becomes urgent. This study analyzes survey results on the use of artificial intelligence tools in students' learning activities at Vietnam - Hung University of Technology. Thereby, we hope to provide a comprehensive view of students' level of understanding and application of AI technology in learning. Based on the analysis results, the study will propose specific solutions to optimize the application of AI in education, contributing to building a more effective and advanced learning environment.

Keywords: AI in education, Student use of AI tools, AI for learning

INTRODUCTION

With the increasingly strong development of information technology, the role of artificial intelligence (AI) in life as well as education is becoming increasingly important. The application of AI in education not only opens up new opportunities to improve learning efficiency but also poses many challenges and development potential for both students and lecturers.

Recognizing the importance of AI in education, this article focuses on analyzing the results of a survey on the level of awareness and use of AI tools among students at Viet Hung University of Industry (Vietnam).). Vietnam - Hung University of Industry is a multidisciplinary university, with training traditions and training strengths in the fields of Information Technology, Automotive Engineering Technology, and Electrical - Electronics Technology. The survey was conducted with 390 students studying from the first to fourth year of the faculties: Information Technology, Automotive, Electrical - Electronics, Mechanical - Construction, Management - Banking, Economics. economics. From the analysis of collected information, the article proposes specific measures to optimize the application of AI tools in learning, contributing to improving the quality of education at Vietnam University of Industry - Hung and other universities. This article hopes to contribute to promoting the effective application of AI in education, contributing to improving the quality of education and training high-quality human resources in the current fourth industrial revolution.

LITERATURE REVIEW:

M. Irfan, Yahya Salman Alqahtani (2023): conducted an in-depth investigation of ethical awareness and considerations with students at the University of Limerick. The results show that there are varying perceptions of AI tools on campus, with technology and science students expressing more privacy concerns than other students.

José-María Romero-Rodríguez, María Soledad Ramírez Montoya, Mariana Buenestado-Fernández, Fernando Lara-Lara. (2023): in their study explored the adoption of ChatGPT by university students and suggested that gender is not a determining factor in technology adoption. Factors influencing ChatGPT usage behavior are experience, performance expectations, and habits

Cecilia Ka, Yuk Chan, Wenjie Hu (2023): found that college students perceive artificial intelligence positively for personalized learning, writing support, and research capabilities, but are concerned about accuracy, privacy, and impacts Ethics in higher education.

Thi Hong Nhung Nguyen. (2023): researched and explored the awareness of university students at a university in the North of Vietnam about using Google tools (including Google Classroom, Google Form, Google Meet, Google Sites). The results show that students find Google tools effective for learning English online and first-year female students have higher awareness.

Fernando Almaraz-Menéndez, C. López-Esteban (2023): conducted a survey with students of business administration and management in Spain about university students' attitudes and perceptions towards artificial intelligence. The results show that students are aware of both the positive impact of AI and the risks of using AI in education.

Hazem Ibrahim et al (2023): has shown an increasing trend of using AI tools such as ChatGPT among university students, although many lecturers consider it plagiarism. Research results also show that current AI-written texts are very difficult to detect.

Andrew Cram, Corina Raduescu, Sandris Zeivots, Elaine Huber, René F. Kizilcec (2023): researched 389 students and educators across 2 universities to understand "Educators' and students' perspectives on the impact of AI on assessments in higher education". The results show that educators think AI should be used and critical thinking encouraged. However, students' views are mixed due to concerns about losing creativity

Autumn B. Hostetter, Natalie Call, Grace Frazier, Tristan James, Cassandra Linnertz, Elizabeth Nestle, Miaflora Tucci (2023): researched and found that neither lecturers nor students could detect AI-generated writing. Students see AI as a useful tool for university assignments and other academic purposes

Mahmoud Elkhodr, Ergun Gide, Robert T. Y. Chiu Bo-Suefan Hsueh-Liang Wu, Omar Darwish (2023): demonstrated the use of generative artificial intelligence (GenAI) tool – ChatGPT in higher education as a classroom assistant and a useful learning resource. At the same time, it helps improve performance compared to traditional search engines

OBJECTIVES OF THE STUDY:

The objectives of this study are:

1. Analyze the level of awareness and use of artificial intelligence (AI) tools of students in the university environment.
2. Evaluate the learning activities that students use AI to support.
3. Identify the challenges and difficulties students encounter when using AI tools in their learning process.
4. Propose specific measures to optimize the application of AI tools in education and improve the quality of teaching and learning.

RESEARCH METHODOLOGY:

The research was conducted through a survey with 390 students studying at Vietnam – Hung Industrial University.

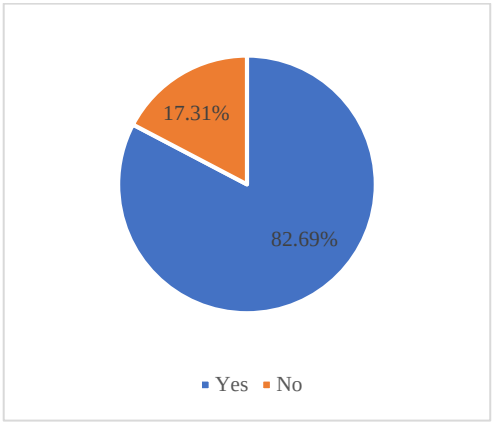
RESULT ANALYSIS:

Table 1: Demographic Information of the Student Respondents

Factor	Options	Percentage	Number of responses
Gender	Male	87.69%	342
	Female	12.31%	48
Field of Study	Economics, Business and Management	15.64%	61
	Information Technology, Engineering Technology	84.36%	329
Year of Study	1st year	32.31%	126
	2nd year	19.49%	76
	3rd year	33.59%	131
	4th year	14.62%	57

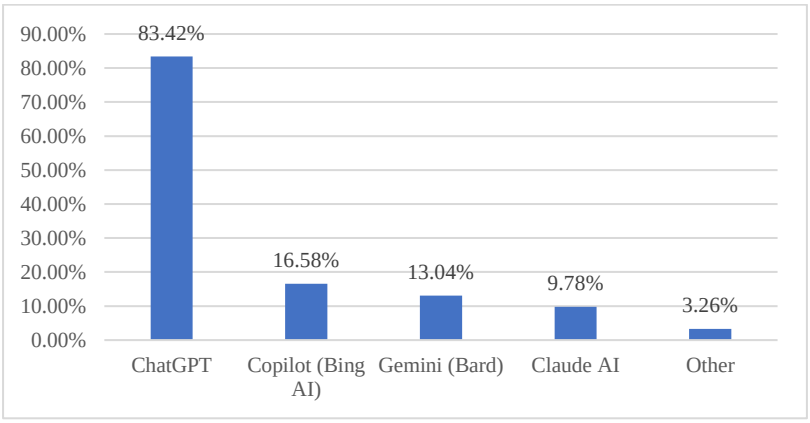
Survey results on student demographics show an uneven gender distribution, with males accounting for 87.69% compared to females at only 12.31%. This is consistent with the reality at Viet-Hung Industrial University, with its strengths being the Information Technology and Engineering Technology majors, and the majority of male students studying these majors. In terms of school years, the distribution of participating students varied across different levels, as follows: first year (32.31%), second year (19.49%), third year (33.59%), and fourth year (14.62%).

Figure 1 : The Percentage of Students Who Have Used AI Tools to Support Their Learning



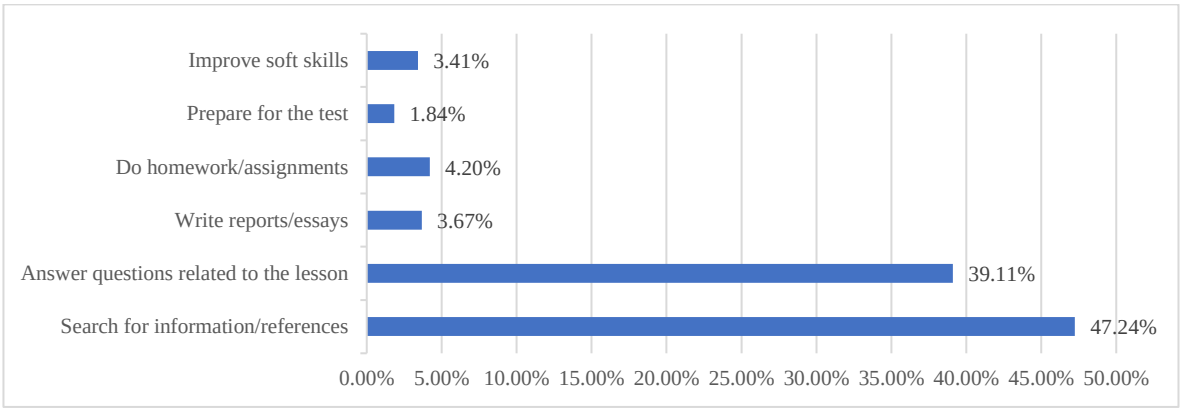
The survey results show that the percentage of students who have ever used AI tools to support learning is quite high at 82.69%. This shows the popularity of using AI in learning, reflecting the development potential of AI technologies in education, as well as student awareness and the benefits they bring. However, there are still 17.31% of students who have never used AI tools to study, there can be many reasons such as: lack of information about AI, lack of skills or fear of negative impacts in using AI tools.

Figure 2: AI Tools Used by Students to Support Their Learning



The survey shows that ChatGPT is the most commonly used AI tool by students with 83.42%. Microsoft's Copilot ranked second with a rate of 16.58%. Other tools such as Gemini (by Google) and Claude AI are also used by some students at a rate of 13.04% and 9.78% respectively. In addition, a small portion of students participating in the survey used other artificial intelligence tools not listed in the above list at a rate of 3.26%. This result shows the diversity in the selection and use of AI tools in the learning process of students.

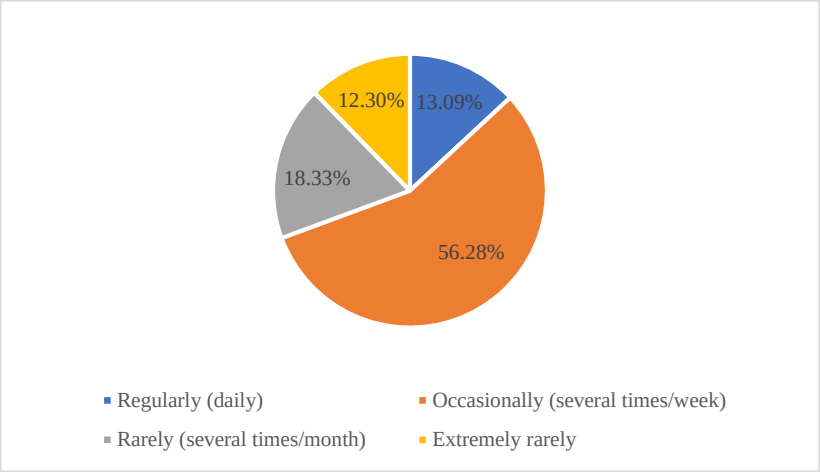
Figure 3: Learning Activities Where Students Use AI Tools for Support



Survey results show that the main role of AI tools in learning is to support information search and answer questions related to lessons, with selection rates of 47.24% and 39%, respectively. 11%. This shows that students are taking advantage of AI to increase research efficiency and strengthen their knowledge base. However, the results also show that the rate of using AI to write reports/essays (3.67%), do homework (4.20%), review for exams (1.84%), and

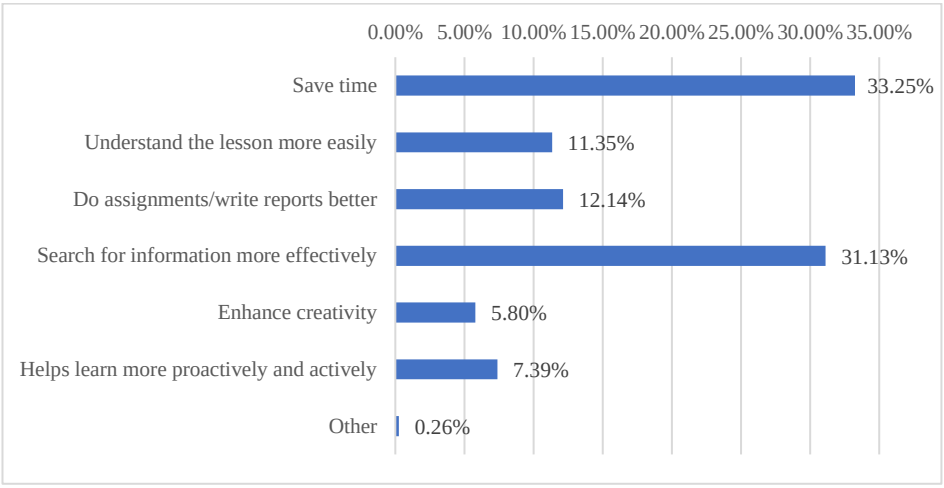
improve soft skills (3.41%) are still relatively low. This result shows that although AI can support many aspects of learning, using them in specific learning activities still has some challenges and difficulties.

Figure 4: The Frequency of AI Tool Usage in Learning by Students



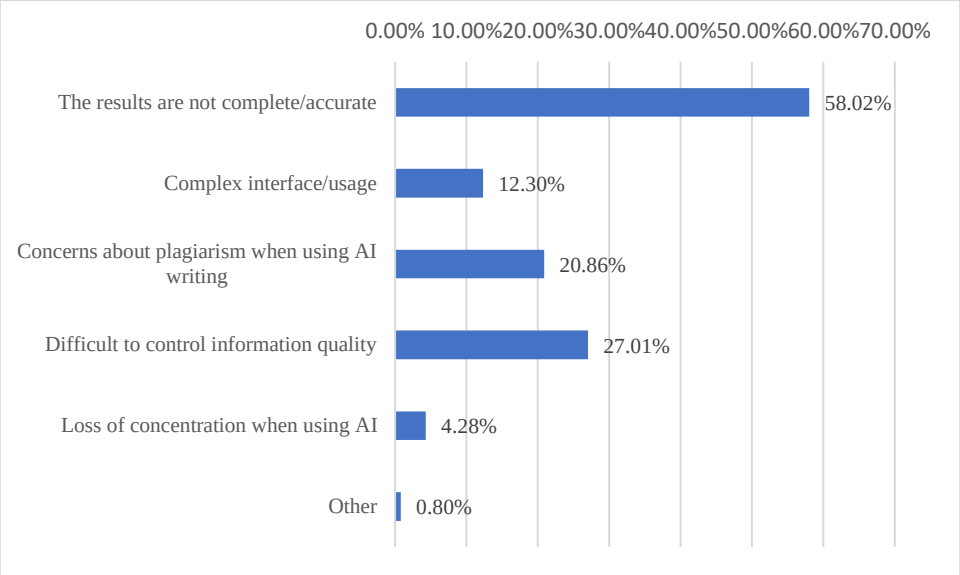
Survey results show that the majority of students use artificial intelligence tools in their studies periodically, with 56.28% using them several times a week and 13.09% using them daily. This shows that AI is gradually becoming an essential part of the learning process for many students. However, there are still 30.63% of students who use AI little or rarely. The reason may be because many students are not familiar with using AI or still have difficulties and concerns during use.

Figure 5: The Benefits of AI Tools in Supporting Students' Learning



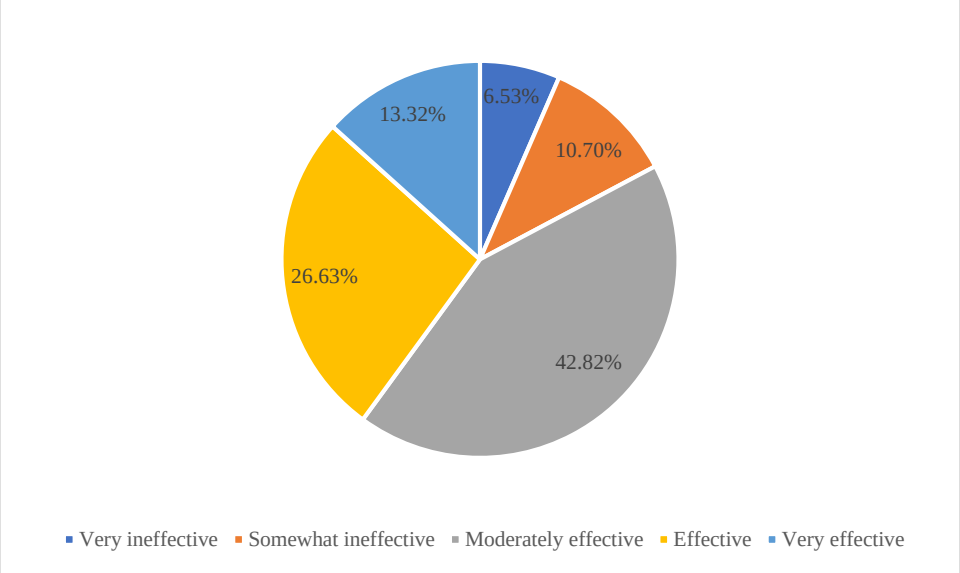
Analysis of survey results shows that artificial intelligence tools play an important role in supporting students' learning process. Some key benefits include saving time (33.25%) and finding information more efficiently (31.13%). This shows that AI supports research, helping students quickly access diverse resources. In addition, some students think that AI helps them understand lessons more easily (11.35%) and perform assignments/write reports better (12.14%). Although fewer students believe AI can enhance their creativity (5.80%) or help them learn more actively (7.39%), these factors still play an important role in improving the experience. student learning. The diversity of ways in which AI supports learning shows the technology's great potential to improve the efficiency and effectiveness of education.

Figure 6: Challenges Faced by Students When Using AI Tools



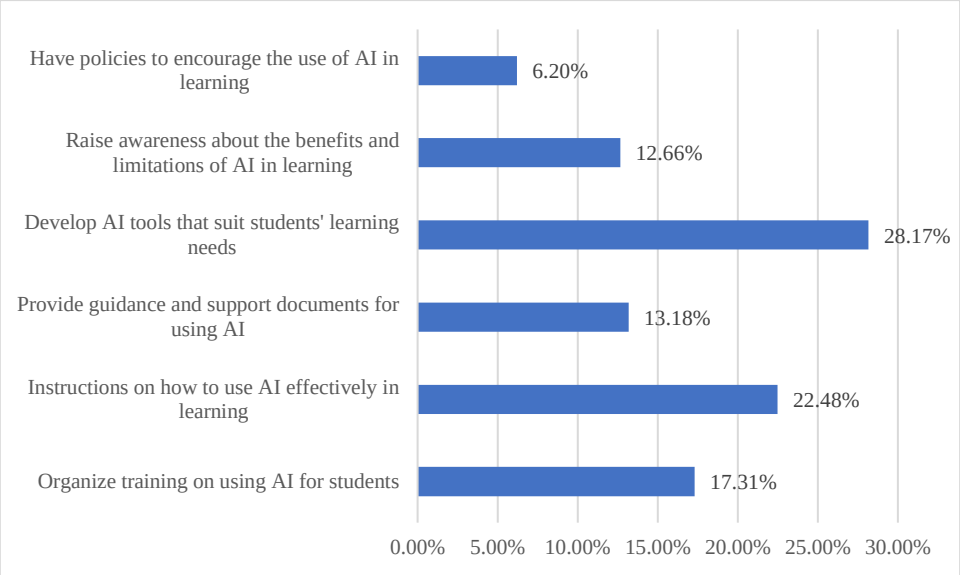
The survey results reflect the difficulties and challenges that students encounter when using artificial intelligence tools. Most students encounter difficulties related to the reliability and information quality of AI tools. Specifically: 58.02% of surveyed students said the results provided by AI were incomplete or inaccurate, and 27.01% of students had difficulty controlling the quality of information. The issue of plagiarism is also a concern of students when using AI tools to write at a rate of 20.86%. At the same time, some students found difficulty with the interface or complex usage of the tools (12.30%), and lost focus when using AI (4.28%). Collectively, these challenges provide important information for improving and developing AI tools to meet user needs and concerns.

Figure 7: Students' Overall Evaluation of the Effectiveness of AI Tools in Supporting Learning



Overall survey results on the effectiveness of artificial intelligence tools in supporting learning show that the majority of students (82.78%) rated the support level as moderately effective or higher for using AI tools in learning. Of which: 26.63% of students rated AI as effective, and 13.32% of students rated AI as very effective. This indicates that AI is playing an increasingly important role in supporting the learning process. However, there are still a few students who think this tool is very ineffective (6.53%) or a little ineffective (10.70%). These results reflect the limitations of AI, such as the accuracy of information, the complexity of the interface, or the limited ability to stimulate creative thinking.

Figure 8: Students' Suggestions/Recommendations for Enhancing the Application of AI in Learning



The results of the survey on suggestions and recommendations for improving the application of artificial intelligence in learning showed some diverse opinions from students. Some prominent comments include organizing training on using AI for students (17.31%) and providing specific instructions on how to use AI effectively in learning (22.48%). In addition, there is a need to develop AI tools that suit students' learning needs (28.17%) and increase awareness of the benefits and limitations of AI in learning (12.66%). Some students also proposed having policies to encourage the use of AI in learning (6.20%). These recommendations provide important direction for administrators and educators to optimize the integration of AI technology into learning environments.

SUGGESTIONS

- Organize training sessions for utilizing AI, consider implementing periodic courses, and furnish comprehensive, practical instructions on effectively employing AI in learning.
- Leveraging the technological groundwork of AI tool provisioning services, the university builds and develops its own AI tools to meet the specific needs of students.
- Provide detailed, easy-to-understand resources and instructions on how to use AI tools in each specific subject and learning activity.
- Develop regulatory documents and policies to encourage the use of AI in learning, based on feedback from the student community. At the same time, ensure the ethical and responsible use of AI in education.
- Create an environment that encourages cooperation and sharing of experiences between universities, businesses and research organizations in applying AI in education.

CONCLUSION:

This research has provided a better understanding of the use of artificial intelligence (AI) tools in university settings and its impact on students. The results show the popularity of using AI in learning, while also reflecting the challenges students face. To improve the learning experience and optimize students' use of AI tools, some of the following solutions are needed:

First, organizing training and providing detailed instructions will help students better understand how to use AI effectively. Second, developing AI tools that suit students' learning needs will facilitate the use of AI in everyday learning. Third, increasing awareness of the benefits and limitations of AI will help students approach technology more confidently and correctly. Ultimately, developing policies that support and encourage the use of AI in education will create a more advanced and effective learning environment.

By promoting the conscious and effective use of AI in learning, universities can take advantage of the technology's potential to improve the quality of education and create learning experiences. valuable for future students.

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