

UNIVERSITY STUDENTS' ACCEPTANCE AND AVERSION TO ARTIFICIAL INTELLIGENCE

Carlos A. Torres-Gastelú, & Karla Enríquez-Ortega
School of Administration, Universidad Veracruzana (Mexico)

Abstract

The increasing adoption of generative artificial intelligence (AI) tools necessitates an evaluation of their impact on students' emotions to ensure a balanced integration into educational practices. The objective of this document is to know the perception of students from a Mexican public university towards the emotional reactions to the use of Artificial Intelligence tools. The survey is made up of ten items rated using a Likert scale ranging from totally disagree, disagree, indifferent, agree and totally agree. The survey was validated through reliability (Cronbach's $\alpha = 0.949$) and content validity (Expert judgment and Literature review). Two dimensions are presented: Acceptance towards the use of AI and Aversion towards the use of AI. The sample was made up of 314 students from two degrees: Information Technologies in Organizations and International Logistics and Customs, of which 56.8% were women and 43.2% men. Data processing was done using descriptive statistics. Results indicate higher levels of acceptance, with students perceiving AI as a facilitator of self-paced learning, task efficiency, and personalized education, while fostering interest in technological trends. Conversely, aversion was significantly lower, with most students rejecting notions of AI as unnecessary, frustrating, or distracting. These findings underscore the potential of AI tools in education and highlight the need for strategies to enhance their acceptance, such as addressing emotional barriers and integrating AI into curricula.

Keywords: *Artificial Intelligence, students, emotional reactions, acceptance, aversion.*

1. Introduction

The advance of Artificial Intelligence has revolutionized the educational field, since these systems adapt to the way each student learns, providing certain benefits (Cota, 2024). However, despite the exponential growth in the adoption of AI tools, questions persist about what are the positions that students perceive and adopt before this emerging technology in their education.

The emotional reactions that may arise are acceptance and aversion to artificial intelligence. Understanding these perceptions could influence the effectiveness of AI integration in educational systems. Enthusiasm, interest, confidence and optimism are manifested in a way that the student is willing to use the tool, on the other hand, fear, lack of confidence or discomfort are part of aversion towards AI.

This article focuses on knowing the level of acceptance and aversion of university students towards artificial intelligence in the educational field; the work is composed of four main sections: literature review, methodological design, results discussion and conclusions.

1.1. Previous studies on the topic

The literature review on the emotional reactions of university students suggests the following classification of articles: Positive perception towards AI use (Idroes et al., 2023; Chan et al., 2023; Bakti et al., 2023; Ravi et al., 2022; Schei et al., 2024), AI implementation for teaching-learning process improvement (Subaveerapandiyani et al., 2024; Grájeda et al., 2024; Almaraz et al., 2023; Zhou et al., 2020; Nidhishree et al., 2024), and finally concerns in students towards AI use (Famaye et al., 2023; Wu et al., 2022; Billy et al., 2023).

These studies investigate how students perceive the role of artificial intelligence (AI) in education. The findings indicate that many students consider AI as a valuable tool that can improve both teaching and learning processes. In addition, they highlight that students find chatbots very useful and motivating AI tools, especially as personal assistants for academic tasks. However, despite the positive perceptions towards these tools, students expressed concerns about the accuracy and reliability of the answers provided by chatbots.

In the same vein, the study by Ravi et al. (2022) showed that students have a generally positive view of artificial intelligence (AI), considering it a beneficial tool for both the teaching-learning process and academic administration.

Subaveerapandiyar et al., (2024) mention the possibility of developing personalized interventions that address students' emotional concerns. This approach can not only reduce anxiety but also promote positive attitudes and successful integration of AI into the academic environment. Similarly, Grájeda et al. (2024) highlight the need for comprehensive training for educators considering the ethical issues of AI use, concluding that its integration in the classroom can improve the learning environment considerably.

Also, Almaraz et al. (2023) raise the importance of strengthening AI training across all academic disciplines to prepare students for the growing impact of artificial intelligence in their future professions.

In addition, Zhou et al. (2020) conclude that AI has the potential to significantly transform teaching and learning by improving educational resources, facilitating collaborative activities, and increasing efficiency in teaching processes.

However, negative emotional reactions are also present. Famaye et al. (2023) found that students show apprehension regarding the potential for AI to facilitate academic fraud, spread misinformation, and affect personal development and career prospects. These concerns underscore the need for clear guidelines and ethical and responsible integration of AI in educational settings. A study by Wu et al. (2022) found that college students exhibited “weak rejection” toward AI-assisted learning environments, suggesting that, in general, there is openness to the implementation of this technology in the educational setting. Factors such as performance expectation, effort, and social influence were positively associated with students' willingness to accept these AI-assisted learning environments. However, psychological risk had a negative impact on students' willingness toward these technologies, indicating that concerns about the effects of AI hinder their acceptance.

Students' emotional reactions play a crucial role in how they perceive both the benefits and drawbacks of artificial intelligence (AI) in education, as mentioned by Li (2023), perceived usefulness and perceived ease of use play a key role in shaping students' attitudes, behavioral intentions, and their actual use of AI systems.

Many studies have highlighted the need to open dialogues to address and clarify misconceptions about AI, which could help students better understand its potential applications and benefits.

2. Methods

This study adopted a quantitative, non-experimental, cross-sectional design with explanatory scope to analyze the emotional reactions of university students towards artificial intelligence, both in a posture of acceptance and aversion towards this tool. A survey composed of ten items on a 5-point Likert scale, whose values range from totally disagree, disagree, indifferent, agree and totally agree.

The reliability of the instrument was evaluated using Cronbach's alpha, obtaining a value of .949, which indicates high internal consistency. Content validity was established through expert judgment and literature review. The study results were structured into two dimensions: Acceptance toward the use of AI (alpha = .854) and Aversion toward the use of AI (alpha = .878).

The survey was applied in person to the students. Prior to its application, informed consent was requested from the participants in which they provided their names and signatures. They were also informed that this was a non-profit study where the confidentiality and anonymity of their responses would be respected. The sample consisted of 314 university students, including men (43.2%) and women (56.8%), selected by random convenience sampling. Most of the students were in their fifth (36.6%), third (28.7%) and seventh (27.1%) semesters, representing 92.4%; the rest were distributed among other semesters.

The bachelor's degrees were Information Technologies in Organizations (64.4%) and International Logistics and Customs (35.4%). The study was carried out in the period August 2024-January 2025 in the School of Administration. Quantitative data was analyzed using descriptive statistics with SPSS version 25 software.

3. Results

This section presents the findings of the analysis of students' emotional reactions to artificial intelligence, evaluated in the dimensions of acceptance and aversion. The results are organized to respond to the objectives set out in the study (Table 1).

3.1. Acceptance towards the use of AI

This dimension assesses the acceptance towards the use of AI in the academic environment expressed in the way in which AI allows them to learn at their own pace, reduces the effort in performing

tasks, helps to overcome academic difficulties, allows them to personalize learning and is attractive for them to learn about this type of tools.

The results show that 55.4% of students feel that they learn at their own pace when using AI. In addition, 54.5% feel that the use of AI reduces the effort needed to complete their assignments. As for overcoming difficulties in their studies more easily with AI 58.3% agree with the assertion, 64.6% of students feel more connected to current technological trends when using AI in their education. 59% of respondents agree that AI personalizes their learning experience, while 61.4% of students find it exciting to discover new AI tools for their studies.

3.2. Aversion toward the use of AI

The dimension of aversion towards AI encompasses students' perceptions of the necessity, frustration, trust, and distraction associated with the use of Artificial Intelligence. It reflects the degree to which students perceive AI as essential or unnecessary in their education, experience frustration or ease when using AI in their assignments, hold trust or distrust towards AI for their tasks, and view AI as a helpful tool or a distraction in their studies.

The findings indicate that at least half of the students (56%) consider the use of AI in education necessary. 64% of the students do not perceive frustration when using AI in their work. Nearly half of the students (48%) trust AI. Finally, 59% of the students do not consider artificial intelligence a distraction.

Table 1. Descriptive statistics.

Statistics	Mean	Median	Mode	Standard deviation
Aversion	2.44	2.25	1	1.059
Acceptance	3.67	3.67	4	.797

4. Discussion

As for trust toward AI, the results show that it varies significantly among students. Some trust AI systems as expert advisors, while others maintain considerable skepticism. This trust is influenced by factors such as perceived accuracy, familiarity with the tools, and previous experiences (Wu et al., 2022). However, more than half of the students surveyed do not trust AI absolutely, especially due to its tendency to generate incorrect or “hallucinated” information (Lepik, 2024). This phenomenon suggests that, although students may start with a high level of trust in AI-generated content, this trust decreases when faced with inaccuracies, reinforcing the need to verify the information provided by these tools.

According to Krasna et al. (2024) students are increasingly using AI to perform tasks that were traditionally done manually, particularly in understanding unfamiliar concepts. Research indicates that while students are proficient in adopting AI technologies, they often review and correct AI-generated responses in more than half of the cases. This shift highlights a generational disparity, as younger students are more inclined to integrate AI into their learning processes, making it a crucial tool for academic support and understanding while the results show that half of the students surveyed do not make this substitution.

In terms of supporting struggling learners, Mallillin (2024) found that AI systems can identify those facing challenges and provide personalized interventions, ensuring that everyone receives the necessary support. Studies confirm that AI personalizes learning by tailoring educational content to individual learner needs, thereby improving engagement and learning efficiency (Supelano, 2024).

Research by Vázquez-Parra et al. (2024) highlights that students' positive perceptions of AI tools significantly influence their motivation and engagement in learning, supporting that university students are indeed excited to discover and engage with new AI technologies.

University students agree that they do not consider AI unnecessary in education, Alvarez-Herrero (2024) found that advantages such as speed, efficiency and personalization of learning are identified. However, he also mentions drawbacks such as lack of personalization and technological dependence. According to Fawns et al. (2024) University students find the use of AI frustrating, as many reported that GenAI tools sometimes provided incorrect information or leading to significant additional work and concerns about the quality and accuracy of the output, in contrast to this, most do not find the use of AI for the completion of their assignments frustrating.

Finally, students show increasing interest in AI education, suggesting that, with proper training and ethical guidelines, their perceptions could evolve positively (Lee et al., 2024). Although some studies indicate that AI might inhibit critical thinking (Jaiteh et al., 2024).

5. Conclusions

The results revealed a perception of high acceptance towards the use of AI. Most of the students expressed that thanks to artificial intelligence they learn in a personalized way at their own pace, reducing the effort needed to complete their tasks, it also helps them to overcome the difficulties they face and generates interest in discovering new AI tools as it makes them feel more connected to current technological trends.

On the other hand, with respect to the students' perceptions about the aversion towards AI, it is concluded that there is no significant presence expressed in that students do not show a rejection towards the incorporation of artificial intelligence, they oppose the idea of considering it unnecessary, frustrating, or a distraction. Nor do they distrust its use.

It should be noted that between two to three of ten students adopted an indifferent position towards the use of AI, which implies the need to generate strategies in the university on the guidelines, policies and training mechanisms to promote the use of AI in the educational environment in order to combat the apparent apathy that some students have and to glimpse the direction that the institution has on the incorporation of this technology.

College students view AI as a valuable and beneficial tool for their learning. Positive perceptions far outweigh negative ones, suggesting fertile ground for effective integration of AI in higher education. However, it is important to address concerns about mistrust and promote greater familiarity with the tool to reduce indifference and maximize the potential benefits of AI in education. Future research could focus on assessing the actual impact of AI on students' academic performance and skill development.

References

- Almaraz-López, C., Almaraz-Menéndez, F., & López-Esteban, C. (2023). Estudio comparativo de las actitudes y percepciones de los estudiantes universitarios en administración y dirección de empresas y en la educación hacia la inteligencia artificial. *Ciencias de la Educación*, 13(6), 609. <https://doi.org/10.3390/educsci13060609>
- Álvarez-Herrero, J. F. (2024). Opinión del alumnado universitario de educación sobre el uso de la IA en sus tareas académicas. *European Public & Social Innovation Review*, 9, 1-18. <https://doi.org/10.31637/epsir-2024-534>
- Bakti, I. K., Zulkarnain, A. Y., Rusdi, M. S., & Syafaq, H. (2023). The Role of Artificial Intelligence in Education: A Systematic Literature Review. *Journal Iqra': Kajian Ilmu Pendidikan*, 8(2), 182-197. <https://doi.org/10.25217/ji.v8i2.3194>
- Billy, I., & Anush, H. (2023). A study of the perception of students and instructors on the usage of Artificial Intelligence in education. *International Journal of Higher Education Management*, 9(2), 66-73. https://ijhem.com/cdn/article_file/2023-09-22-00-30-11-AM.pdf
- Chan, C. K., & Hu, W. (2023). Students' voices on generative AI: perceptions, benefits, and challenges in higher education. *International Journal of Educational Technology in Higher Education* 20, 43 <https://doi.org/10.1186/s41239-023-00411-8>
- Cota-Rivera, E. I., González Correa, M. E., Bernal Marín, L. A., Marquez Montenegro, M. Y., Herrera, A. M., & Martinez Martinez, M. A. (2024). Transforming Education with the Power of Artificial Intelligence: Case Studies. In Ş. Demir & M. Demir (Eds.), *Enhancing Higher Education and Research with OpenAI Models* (pp. 113-140). <https://doi.org/10.4018/979-8-3693-1666-5.ch006>
- Famaye, T., Adisa, I. O., Irgens, & G. A. (2023). To Ban or Embrace: Students' Perceptions Towards Adopting Advanced AI Chatbots in Schools. In G. Arastoopour Irgens, & S. Knight (Eds.), *Advances in Quantitative Ethnography. ICQE 2023. Communications in Computer and Information Science, vol 1895*. Springer, Cham. https://doi.org/10.1007/978-3-031-47014-1_10
- Fawns, T., Henderson, M., Matthews, K. E., Oberg, G., Liang, Y., Walton, J., Corbin, T., Bearman, M., Buckingham Shum, S., McCluskey, T., McLean, J., Shibani, A., Bakharia, A., Lim, L., Pepperell, N., Slade, C., Chung, J., & Seligmann, A. (2024). Gen AI and student perspectives of use and ambiguity: A multi-institutional study. *Proceedings ASCILITE 2024*, 132-134. <https://doi.org/10.14742/apubs.2024.1218>
- Grájeda, A., Córdova, P., Córdova, J. P., Laguna-Tapia, A., Burgos, J., Rodríguez, L., Arandia, M., & Sanjinés, A. (2024). Embracing artificial intelligence in the arts classroom: understanding student perceptions and emotional reactions to AI tools. *Cogent Education*, 11(1), 2378271. <https://doi.org/10.1080/2331186X.2024.2378271>

- Idroes, G. M., Noviandy, T. R., Maulana, A., Irvanizam, I., Jalil, Z., Lensoni, L., Lala, A., Abas, A. H., Tallei, T. E., & Idroes, R. (2023). Student Perspectives on the Role of Artificial Intelligence in Education: A Survey-Based Analysis. *Journal of Educational Management and Learning*, 1(1), 1-15. <https://doi.org/10.60084/jeml.v1i1.58>
- Jaiteh, J., Hasan, M., Karim, A., Mamun, M. A., & Khan, M. S. (2024). Students' perceptions of using artificial intelligence in tertiary education: A phenomenographic study. *Proceedings ASCILITE 2024*, 506-511. <https://doi.org/10.14742/apubs.2024.1233>
- Krašna, M., & Bratina, T. (2024, June). *The use of AI and student population: The change is inevitable*. Paper presented at the 13th Mediterranean Conference on Embedded Computing (MECO), Budva, Montenegro. Retrieved from <https://doi.org/10.1109/MECO62516.2024.10577853>
- Lee, Y. J., Oh, J., & Hong, C. (2024). Exploratory research on understanding university students' artificial intelligence literacy in a Korean university. *Online Journal of Communication and Media Technologies*, 14(3), e202440. <https://doi.org/10.30935/ojcm/14711>
- Lepik, K. (2024). Trust, but Verify: Students' Reflections on Using Artificial Intelligence in Written Assignments. Information Experience and Information Literacy. *ECIL 2023. Communications in Computer and Information Science*, 2042, 27-38. https://doi.org/10.1007/978-3-031-53001-2_3
- Li, K. (2023). Determinants of College Students' Actual Use of AI-Based Systems: An Extension of the Technology Acceptance Model. *Sustainability*, 15(6), 5221. <https://doi.org/10.3390/su15065221>
- Mallillin, L. L. D. (2024). Artificial Intelligence (AI) Towards Students' Academic Performance. *Innovare Journal of Education*, 12(4), 16-21. <https://doi.org/10.22159/ijoe.2024v12i4.51665>
- Nidhishree, M. S., Singh, A. K., Mohan, M., & Kumar, V. K. (2024). Emotional Artificial Intelligence: Methodologies, Benefits, and Drawbacks. *International Journal for Research in Applied Science & Engineering Technology (IJRASET)*, 12(4), 4004-4009. <https://doi.org/10.22214/ijraset.2024.60851>
- Ravi Kumar, V. V., & Raman, R. (2022, October). *Student Perceptions on Artificial Intelligence (AI) in higher education*. Paper presented at the 2022 IEEE Integrated STEM Education Conference (ISEC), pp. 450-454, <https://doi.org/10.1109/ISEC54952.2022.10025165>
- Schei, O. M., Møgelvang, A., & Ludvigsen, K. (2024). Perceptions and Use of AI Chatbots among Students in Higher Education: A Scoping Review of Empirical Studies. *Education Sciences*, 14(8), 922. <https://doi.org/10.3390/educsci14080922>
- Subaveerapandiyar, A., Radhakrishnan, S., Tiwary, N., & Guangul, S. M. (2024). Student satisfaction with artificial intelligence chatbots in Ethiopian academia. *IFLA Journal*. <https://doi.org/10.1177/03400352241252974>
- Supelano Londoño, M. L. (2024). Incidencia de la inteligencia artificial en el aprendizaje de los estudiantes universitarios. *Plumilla Educativa*, 33(2), 1-24. <https://doi.org/10.30554/p.e.2.5153.2024>
- Vázquez-Parra, J. C., Henao-Rodríguez, C., Lis-Gutiérrez, J. P., & Palomino-Gámez, S. (2024). Importance of University Students' Perception of Adoption and Training in Artificial Intelligence Tools. *Societies*, 14(8), 141. <https://doi.org/10.3390/soc14080141>
- Wu, W., Zhang, B., Li, S., & Liu, H. (2022). Exploring Factors of the Willingness to Accept AI-Assisted Learning Environments: An Empirical Investigation Based on the UTAUT Model and Perceived Risk Theory. *Frontiers in Psychology*, 13, 870777. <https://doi.org/10.3389/fpsyg.2022.870777>
- Zhou, W. (2020). Sociocultural Theory and Its Implications in College English Teaching and Learning in the Age of Artificial Intelligence. *Journal of Physics: Conference Series*, 1(1646), 012142. <https://doi.org/10.1088/1742-6596/1646/1/012142>