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*Scientific Articles*

# Inteligencia artificial: Apropiaciones y ética en el proceso de aprendizaje de lenguas en estudiantes de pregrado en México

## *Artificial Intelligence: Appropriation and ethics during the language learning process in undergraduate students in Mexico*

## *Inteligência artificial: apropriações e ética no processo de aprendizagem de línguas por estudantes de graduação no México*

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## Resumen

La alfabetización digital se ha convertido en un elemento esencial del proceso de enseñanza-aprendizaje, sobre todo dentro de las instituciones de educación superior, esto a partir de la pandemia de Covid-19 ya que, hubo un traslado forzado hacia plataformas de tecnología educativa. Este fenómeno dio como resultado que se develaran las grandes desigualdades regionales existentes en diversos territorios, sobre todo el desconocimiento del uso de tecnologías de la información, comunicación, conocimiento y aprendizaje digital (TICCAD); aunado a ello, se puede mencionar que es a partir del año 2022 cuando se

popularia el uso de inteligencias artificiales, siendo estas últimas las más usadas por el sector estudiantil, derivando de ello, sure una vorágine de ventajas y retos que representan a la alfabetización digital. Por tal motivo, este texto analiza los usos que estudiantes de la Licenciatura en la Enseñanza del Inglés hacen de la inteligencia artificial, mostrando los beneficios que tiene respecto del aprendizaje de lenguas y también los desafíos que enfrentan los estudiantes al encontrarse con un sinfín de datos e información que se obtienen a través de las búsquedas en línea. Para esta investigación se utilizó una metodología cualitativa a través de un enfoque hermenéutico que permitió interpretar en profundidad cómo los estudiantes utilizan la tecnología y las inteligencias artificiales, así como la falta de conocimiento sobre las regulaciones éticas en su aplicación a la vida cotidiana y por supuesto, la académica.

**Palabras clave:** Inteligencia artificial, TIC, Universidad.

## Abstract

Digital literacy has become a crucial component of the teaching and learning process, particularly within higher education institutions. This process began with the Covid-19 pandemic, which forced school systems to move towards educational technology platforms. This phenomenon revealed significant regional inequalities, particularly regarding the lack of knowledge about information, communication, knowledge, and digital learning technologies (ICTs). Furthermore, the widespread use of artificial intelligence (AI) began in 2022, with AI becoming the most common tool among students. This has led to a whirlwind of advantages and challenges for digital literacy. Therefore, this text analyzes how students in the bachelor's degree in English Language Teaching use artificial intelligence, highlighting its benefits for language learning as well as the challenges students face when confronted with the vast amount of data and information obtained through online searches. This research used a qualitative methodology through a hermeneutic approach that allowed for an in-depth interpretation of how students use technology and artificial intelligence, as well as the lack of knowledge about ethical regulations in their application to daily life and, of course, academic life.

**Keywords:** Artificial Intelligence, ICT, University.

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**Resumo**

A alfabetização digital tornou-se um elemento essencial do processo de ensino e aprendizagem, especialmente nas instituições de ensino superior. Essa mudança teve início com a pandemia de Covid-19, que impulsionou a adoção de plataformas de tecnologia educacional. Esse fenômeno revelou significativas desigualdades regionais, particularmente em relação à falta de conhecimento sobre tecnologias de informação e comunicação (TICs). Além disso, o uso generalizado da inteligência artificial (IA) teve início em 2022, tornando-se a ferramenta mais comum entre os estudantes. Isso gerou uma série de vantagens e desafios para a alfabetização digital. Portanto, este texto analisa como os estudantes da Licenciatura em Ensino de Língua Inglesa utilizam a inteligência artificial, destacando seus benefícios para o aprendizado de línguas, bem como os desafios que os estudantes enfrentam ao se depararem com a vasta quantidade de dados e informações obtidos por meio de buscas online. Esta pesquisa empregou uma metodologia qualitativa com abordagem hermenêutica, permitindo uma interpretação aprofundada de como os estudantes utilizam a tecnologia e a inteligência artificial, bem como sua falta de conhecimento sobre as normas éticas em sua aplicação na vida cotidiana e, naturalmente, no ambiente acadêmico.

**Palavras-chave:** Inteligência artificial, TIC, Universidade.

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# Introduction

Education is one of the pillars of the social structure of the contemporary world; therefore, the inclusion of educational technology has been indispensable in recent decades and is now one of the most widely used tools by educational communities, especially universities. However, in recent years there has been a surge in the use of artificial intelligence as a means of obtaining information.

This research focuses on the relationship between undergraduate students and artificial intelligence, specifically those enrolled in the Bachelor's Degree in English Language Teaching at the School of Languages, San Cristóbal Campus, of the Benemérita Universidad Autónoma de Chiapas (UNACH). Based on this, the uses that students make of artificial intelligence were analyzed, particularly platforms such as *ChatGPT* and *Gemini* (these being the most frequently used platforms). In this regard, the skills and latent risks that students face in their daily academic lives were identified.

A fundamental aspect of using artificial intelligence in higher education lies in theoretical considerations related to a transformative approach. It is essential that technology be innovative in the classroom; therefore, artificial intelligence is ultimately a field of analysis for investigating the tasks performed on a computer through similarities with human thought (Vera-Rubio, Bonilla-González, Quishpe-Salcán, & Campos-Yedra, 2023). Thus, the practical application of this research focuses on university communities that utilize artificial intelligence with ethics as a cross-cutting principle in educational and technological processes, through mechanisms and strategies related to teaching and learning.

## Globalization and educational technology: Regulatory policies for the use of ICTs and AI in the Mexican education system

A fundamental part of the current educational process lies in the inclusion of information and communication technologies in the classroom. For this reason, their presence at various educational levels has been evident for two decades, resulting in numerous studies being conducted over time, not only on education from the perspective of Information, Communication, Knowledge and Digital Learning Technologies (ICTs), but also on global phenomena related to historical, political and social elements.

Undoubtedly, globalization has been a watershed moment in the life and structure of societies; therefore, it is considered a defining element in the contemporary world. The urgent need for interconnection in the phenomenon of globalization has resulted in diverse exchanges at the economic, political, educational, and cultural levels. How can we know this? Simply by considering that in today's daily life, thanks to the whirlwind of technological advancements, we can observe the convergence of diverse communities worldwide, which are now breaking down geographical barriers—due to virtuality—to establish connections around a specific topic. Therefore, it is now common to see the formation of physical and virtual communities united by a particular element.

According to Durán González, Rivero Zambrano, Alfaro Ponce, and Gayosso Mexia (2018), globalization is not a recent process; in fact, it is believed to be a transformation that began several centuries ago, stemming from the human need to be connected with others and to establish agreements that improve the economic, political, and social conditions of various nation-states. However, globalization is now more prevalent than ever thanks to Information and Communication Technologies (ICTs), which have brought not

only nations closer together but also individuals in general. Therefore, ICTs in the educational world have been the subject of numerous studies over the last twenty years, and their impact has been so significant that they are now referred to as information, communication, knowledge, and digital learning technologies.

According to UNESCO (2005), the inclusion of these technologies in education stems from the information society, which refers to technological and infrastructural advancements, while knowledge societies focus on the intangible dimensions of the information society, that is, issues centered more on society, ethics, culture, and politics. Based on this, the United Nations Educational, Scientific and Cultural Organization states the following:

> There are always different forms of knowledge and culture that contribute to the building of societies, including those heavily influenced by modern scientific and technological progress. We cannot accept that the revolution in information and communication technologies should lead us—by virtue of a narrow and fatalistic technological determinism—to foresee only one possible form of society. (UNESCO, 2005, p. 17)

Based on the above, it is established that a fundamental part of the processes related to information and communication technologies must be permeated by critical thinking in order to create genuine knowledge societies, where the emergence of new societies is also promoted, since it is essential to leverage the knowledge and expertise shared by the community. Some of the challenges that arose twenty years ago included the constant concern about having a fragmented society, the digital divide stemming from social inequalities, the commodification of knowledge, and the promotion of individualism (UNESCO, 2005). Today we see that the risks identified in 2005 are (to a large extent) coming to pass. For this reason, it is essential to create policies within educational spaces, especially universities, that regulate the use of information and communication technologies, help to reduce the digital divide, and, now with the inclusion of artificial intelligence in academic life, prioritize its ethical uses, especially if critical thinking is considered a fundamental axis.

It is noteworthy that in recent years, regional differentiation and the digital divide have deepened. According to Durán González et al. (2018), globalization and technological development have created significant disparities between economically developed countries and those still striving to consolidate their economies. The former have greater access to technology and, consequently, increased production, communication, and information.

Therefore, the authors suggest two avenues for assisting disadvantaged countries. First, they propose financial support, which could focus on improving the infrastructure of academic spaces in educational institutions and providing scholarships to offer better learning opportunities to students in the process of acquiring knowledge. Second, they propose the implementation of strategic proposals and policies to improve the population's quality of life and, in the case of educational institutions, to promote access to educational technology, technological learning spaces in classrooms, and, of course, the necessary training to reduce digital illiteracy.

Thus, the authors establish that UNESCO emphasizes the importance of ICT inclusion based on digital literacy:

> The successful integration of ICT practices into classrooms depends on the implementation of non-traditional learning environments, combining new technologies with new pedagogies in virtual learning environments. One of the most impactful factors is based on ICT competency standards for teachers, ranging from digital or technological literacy and knowledge deepening to knowledge creation. (Durán González et al., 2018, p. 17)

Therefore, it is essential to have policies or regulations that allow for the better use of technology in academic spaces. In this regard, Navarrete Cazares (2023) conducted a study on the use of educational policies to include information and communication technologies in the national education system. After an exhaustive search for texts on the subject, the author reviewed texts from 2012 to 2021 in order to analyze this phenomenon and report on what has been written about it. In general, it is mentioned that there are no educational policies that regulate both the inclusion of educational technology in the classroom and its use within institutions. Furthermore, an important factor was identified in Mexican society: there is a lack of development of strategies focused on teacher training; that is, there are no regulations on digital literacy in the country, which results in inequality in terms of access to digital knowledge.

However, in the last five years, there has been a growing concern and attention to regulations regarding the use of ICTs, especially AI, in Higher Education Institutions. Examples include the National Autonomous University of Mexico, the University of Guadalajara, the Veracruzana University, and the Meritorious Autonomous University of Chiapas, to name just a few. It should be noted that the integration of artificial intelligence into daily life and the academic field presents two perspectives on its use. First, the ease of

information retrieval and, therefore, its popularity among students. Second, misinformation regarding its use, precisely due to a lack of resources that contribute to digital literacy, especially regarding the use of artificial intelligence in the classroom.

Based on this, Muñoz Martínez (2020) mentions that throughout its history, Mexico, specifically since the administration of President Miguel de la Madrid, has made various attempts to incorporate educational technology. However, it wasn't until the late 1990s that these efforts intensified. Subsequently, each presidential term has seen a new technology integration program implemented, demonstrating a constant concern for its inclusion but also revealing a lack of follow-up on these programs. The author also notes that ICTs have advanced so rapidly that they are now integrated into people's daily lives, especially those of students.

In this regard, López de la Madrid, Flores Guerrero, and Tejeda Mercado (2021) mention that educational policies should be implemented or modified according to the needs that arise in a given time and place. In this sense, it would be necessary to propose educational policies that focus on the use of artificial intelligence in the classroom, since it is an innovative tool, currently underexplored, and requires regulation of its use. Because it is a user-friendly interface that provides information *immediately* , it might be assumed that it can be used for academic work, and while this is possible, it is essential to understand the guidelines on citing and referencing when obtaining information using ICT and IAG. Furthermore, it is crucial to understand the advantages and risks involved in the immediacy of the information available.

## Benefits and risks of Artificial Intelligence in Higher Education Institutions

Education has undergone various changes throughout history, adapting to the needs of each era. However, for these changes to be equitable and fair for all members of the student community, it is necessary to create opportunities for professional development in digital literacy and the use of artificial intelligence. One way to guarantee the democratization of knowledge is through educational policies, which are actions and decisions made by governmental, administrative, and institutional entities to guide and regulate the educational system. These policies can encompass different aspects such as education funding, curriculum, teacher training, and learning assessment, among others. Currently, there are educational policies regarding the use of technology in the classroom

for higher education students. These policies focus on access and equity to ensure that all students have access to technology. Institutions can facilitate the use of computers and internet access for members of their university community.

The use of technology in higher education classrooms in Mexico began in the last decade of the 20th century. However, in 2007, the Digital Inclusion Plan was launched. This plan aimed to provide access to Information and Communication Technologies (ICTs), especially in marginalized areas, to improve educational quality and promote equity. Following this plan, more initiatives emerged to further bridge the digital divide for students throughout Mexico. In 2013, the Digital Inclusion Tablets Pilot Program was implemented. This program, established for the 2013-2014 school year, aimed to promote "the use of tablets by students as a means to develop basic ICT skills" (Government of Mexico, 2015, p. 4).

Usually, programs aimed at combating the digital divide in education only focus on basic and upper secondary levels, but at the higher level none have been implemented so far since, in the case of upper secondary institutions, each one has to find its own resources to be able to integrate the use of technology in the classroom.

In 2020, the world was threatened by the COVID-19 pandemic, an event that led education to migrate to the virtual world. Each educational institution in the country adopted the necessary tools available to them to continue the teaching and learning process. Thus, both teachers and students trained themselves to cope with this new way of teaching and learning. Teachers and students relied on various platforms to continue with classes; among the most used platforms for videoconferencing were *Google Meet*, *Microsoft Teams* , and *Zoom* .

To address the changes taking place, higher education institutions trained their faculty to use the necessary tools for this new teaching method. Once they had mastered these tools, the faculty then trained their students to use them correctly. It's important to consider that most higher education students are digital natives; here is a definition from the Mexican government:

> Digital natives are those children, adolescents, and young adults born from 1990 onward who possess a different visual and psycho-cognitive capacity, allowing them to more quickly assimilate the appropriate and effective, though not necessarily the most optimal, use of the so-called New Information and Communication Technologies (ICTs). (Government of Mexico, 2017, para. 2)

The convergence of digital natives and digital immigrants gave rise to a new approach to teaching and learning, resulting in students discovering new tools to further their academic development, making it more dynamic and diverse. It took several decades for the technological revolution to incorporate Artificial Intelligence (AI) as a key element of education today.

According to the Spanish government (2023), artificial intelligence is *software* that creates systems capable of performing tasks such as learning, reasoning, and perception—tasks that require human intelligence. The concept of Artificial Intelligence was coined by John McCarthy in 1956 and presented at the Dartmouth Conference, where some of the leading scientists of the time gathered to discuss the possibility of creating a machine that could think like a human.

In recent years, the popularity of artificial intelligence has grown in schools and workplaces. UNESCO (2023, p. 15) defines it as "the ability of a system to interpret external data, use this data to achieve specific goals, and carry out actions that maximize the chances of success in a given task." Therefore, students find in artificial intelligence a tool that helps them obtain information quickly and without having to navigate through multiple websites to find the data they need. The user-friendly interface offered by artificial intelligence allows students to use it quickly. However, one of the biggest challenges arises when users treat this information as a reliable source. Furthermore, it should be noted that some individuals, unaware of proper citation practices for artificial intelligence in academic work, could engage in unethical practices.

The above does not mean that there should be any stigma attached to using AI; in fact, it is an extremely useful tool that can help expand knowledge, as long as it is used ethically and honestly to achieve the purposes of the teaching-learning process.

*software* have been created . While they can be targeted at any audience, they have been primarily considered for academic use. One of the most widely used is *ChatGPT* , whose name comes from the acronym for *Chat Generative Pre-trained Transformer* . Created in 2022, it functions as a dialogue where the user can ask questions or create instructions, and the generative artificial intelligence responds in a user-friendly way using data from the internet. Other programs used include *Google* 's *Gemini* and *Microsoft* 's *Copilot* ; both also rely on question-and-answer mechanisms to gather information.

For a search (using artificial intelligence) to yield the desired results, it's essential to effectively manage *prompts* . A prompt is a request made to the AI to perform a specific

task. The success of these *prompts* hinges on knowing precisely what the user wants to achieve. To accomplish this, the instruction must be specific and clear, detailing all necessary information. Without clarity, the resulting information will be inaccurate.

One of the dangers, or benefits, of using AI and Genetic Artificial Intelligence (GAI) lies in how users handle the information obtained. Therefore, its use requires regulations that benefit the various sectors that utilize it. In the educational context, another element to consider is the integration of ethics as a cross-cutting academic principle for students when using artificial intelligence as a tool to complement their teaching and learning process. It is essential to transmit knowledge and ethical principles to the university community so they can apply artificial intelligence as a means to strengthen their technological skills and knowledge, and thus, develop critical thinking skills so they can objectively analyze and evaluate the information obtained from AI.

Undoubtedly, the above represents a challenge for higher education institutions. According to Tecnológico de Monterrey (2024, para. 9), UNESCO establishes the existence of six challenges needed for the sustainable development of the use of artificial intelligence in the classroom, which are:

1. To create comprehensive public policies, with inclusion and equity.
2. Preparing teachers for AI-powered education.
3. Empowering AI in education.
4. Develop inclusive, high-quality data systems.
5. Ensure that research at AIDE is meaningful.
6. Ensure ethics and transparency in the collection, use, and dissemination of data.

Therefore, promoting the use and application of artificial intelligence in the classroom through ethics will project benefits for teachers and students, one of them undoubtedly being the formation of authentic knowledge societies, which are characterized by creating content that benefits society.

However, artificial intelligence brings with it a multitude of benefits, most notably the generation of more personalized learning. Some AI-powered programs detect each student's needs and provide feedback and recommendations that help them better understand the study material. This leads to active learning, an approach in which students actively participate in the learning process, taking an active role in constructing their own learning

(Vera, 2023). These kinds of advantages can be obtained from applications like *ChatGPT* or *Gemini*, provided they have a suitable and well-designed *prompt* .

As for the benefits for teachers, certain tasks can be automated, such as grading exams, correcting assignments, and providing feedback on homework. One advantage is that by saving time on these activities, teachers can focus on others, such as creating materials or interacting with students to help them resolve their doubts or support those who need it most.

Despite these benefits of artificial intelligence in the classroom, it is important to mention that it is only a tool that can be useful during the teaching-learning process and, of course, taking into consideration higher-level students, the benefits can be even more useful; an example of this is this research, where the use of IAGen in students of the Bachelor's Degree in Teaching English and their appropriation of technology and languages to enhance their learning was analyzed.

## Methodology

A fundamental part of the research process is defining its method, techniques, and constructing indicators. Therefore, this research is qualitative in nature. According to Hernández Sampieri, Fernández Collado, and Baptista Lucio (2014), this type of work is characterized by the collection and analysis of data obtained through research questions and objectives. This type of investigative process is crucial for gaining an in-depth understanding of what occurs in a specific time and place regarding a particular phenomenon.

Based on the above, it is established that this research has an interpretive paradigm, that is, it will focus on hermeneutics, which according to Álvarez-Gayou Jurgenson (2003) focuses on the following:

> Hermeneutics is defined as the theory and practice of interpretation, and it has a long historical development. Hermeneutical theory began to take shape in medieval discussions of biblical interpretations, primarily those made by the Church Fathers. As a modern discipline of textual interpretation, hermeneutics was formalized in the 18th and 19th centuries; at the end of the latter, the philosopher Wilhelm Dilthey proposed textual hermeneutics as a methodology for the social sciences. In the 20th century, this theory underwent transformations in its scope and methodology, becoming the basis

of a philosophical approach to the analysis of human understanding and behavior.

Therefore, for this research, hermeneutics plays a vital role since the uses that students of the Bachelor's Degree in Teaching English at the Benemérita Universidad Autónoma de Chiapas have with respect to technology in the classrooms were analyzed, specifically the use of artificial intelligence.

To carry out the research process, the structuralist method was taken into consideration, which according to Grajales García (2018) is about studies that address an approach focused on the organization of societies, whether large or small, and how this organization has a set of rules, norms and specific behaviors of a given space, in this case, it is about the linking of TICCAD and IA with the students.

Therefore, it is an explanatory case study, which aims to account for the use of artificial intelligence in third and seventh semester students of the Bachelor's Degree in Teaching English, this because the first are students who are one year after starting the undergraduate degree (20 students) and the second, because they are one year away from graduation (18 students), this allowed to cover the uses, concepts and ideologies of the student experiences.

Finally, in the fieldwork, participant observation was used, which allowed working directly with the groups; structured interviews, to learn specifically how they use artificial intelligence; and a questionnaire to characterize the population with which we will work.

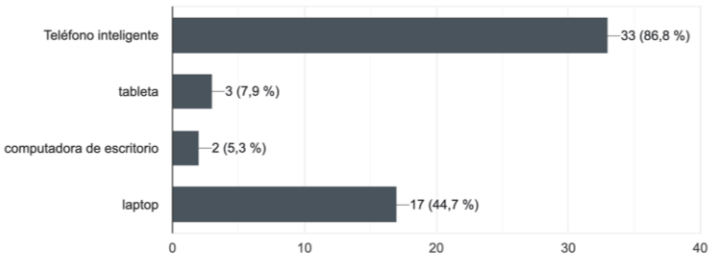
## Results

Undoubtedly, artificial intelligence is a tool present in the academic and daily life of the university community. Based on this, it can be noted that the 38 participating students confirmed they have internet access at home, although they also indicated that they access it through prepaid mobile data plans. However, within the School of Languages, the students stated that they use the university's network, which they access by entering their university email credentials. This greatly benefits the students because it keeps them constantly connected.

Regarding the use of Information, Communication, Knowledge, and Digital Learning Technologies and Artificial Intelligence, students have indicated that although they are familiar with these technologies and browse the internet daily, they do not all access them through the same devices. In fact, 86.8% report using a smartphone, primarily for quick

searches or accessing social media. Graph 1 illustrates the trend in device usage for internet access.

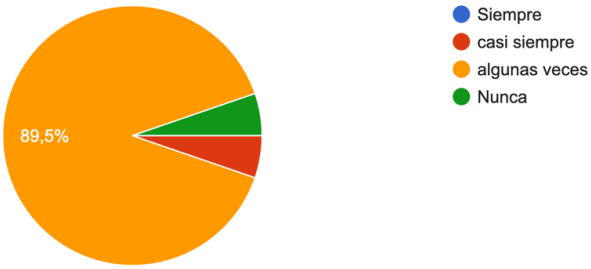
**Figure 1.** Devices for connecting to the internet




Note: Original work

Despite being connected at home, via telephone, or at university, students mentioned that not all of them use artificial intelligence to perform searches. According to graph 2, the frequency with which students use AI as a fundamental element of their daily and academic practices can be observed:

**Graph 2.** *Frequency of AI use*

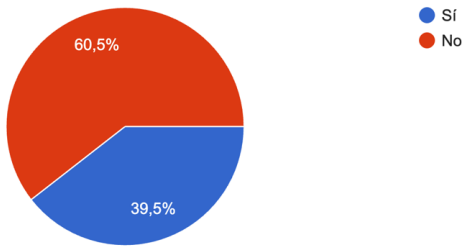



Note: Original work.

As can be seen, 89.5% of the population mentioned using artificial intelligence sometimes, 5.3% stated that they use it almost always, while 5.3% suggested they have never used artificial intelligence. Although most students use it, there are some who have never accessed these platforms. However, it is important to mention that search engines like *Google* already offer automatic, quick searches through AI, which appears as the first option. This serves as a fast way to access knowledge, giving users the opportunity to learn more about a topic with just one click.

A fundamental part of this research lies in the use that students make of artificial intelligence in their academic training; in this regard, those who use it state that they are unaware that it can be cited in academic work. The following percentages are observed in graph 3:

**Figure 3.** *Use of AI: Do students make the corresponding citations?*




Note: Original work.

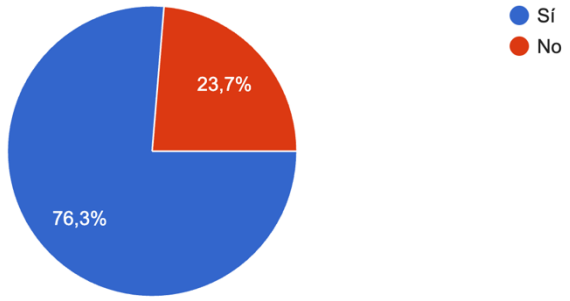
In this regard, 60.5% of the student population is unaware that information obtained from artificial intelligence must be cited, while 39.5% state that they do know that citations and references must be included, but do not know how to do so. This reveals a highly interesting finding: the student population is ignorant of AI citation rules in academic work. This may be due to two reasons. The first relates to the use of artificial intelligence as a relatively new tool, where students are unaware of the need for ethical considerations regarding the handling of data obtained online. The second is the need to integrate the use of ICTs and AI into research methodology seminars so that projects not only incorporate information from these tools, but also ensure that the data is handled ethically, with social responsibility, and critical thinking.

In addition to the above, one of the text's main ideas is highlighted: the need for internal guidelines within educational communities, in this case, higher education institutions, to ensure the proper use of AI in academic settings. In this regard, the Benemérita Universidad Autónoma de Chiapas has demonstrated great vision regarding technological innovation in recent years, placing particular emphasis on the ethical use of artificial intelligence and, consequently, the development of critical pedagogies.

Based on the above, critical thinking was considered as a cross-cutting theme in the use of information from AI. It was established that it is essential for the university community to

verify if the information obtained from AI is reliable. In this regard, the students responded as follows:

**Chart 4.** Do you verify that AI information is reliable and true?

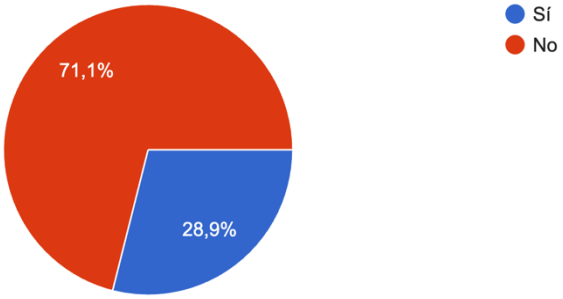



Note: Original work.

Based on Figure 4, it is established that the strategies used by 76.3% of the population are: 1) asking the Generative AI where it obtained the information and requesting redirection to the corresponding pages, and 2) manually verifying the information obtained from artificial intelligence (specifically searching for the references provided by the AI). However, it is observed that 23.7% of the population states that they do not verify the accuracy of the information obtained from AI, resulting in a significant risk regarding the data being consumed.

When students were asked about the advantages and disadvantages of using AI for academic purposes in their undergraduate studies (Bachelor's Degree in English Language Teaching), 86.8% stated that AI has been beneficial in their learning process. This is because the tool functions as a language mentor, correcting their pronunciation and spelling. However, 13.2% stated that it has not helped their learning process because they were unaware of the mentoring functions that AI can generate from a well-constructed *prompt* . Regarding disadvantages, 68.4% of students mentioned that the greatest danger lies in the unreliable information available online, while 31.6% stated that they have no experience using artificial intelligence for academic purposes. This last point highlights the importance of training the university community, especially those who teach classes. Regarding this, the students responded as follows:

**Chart 5.** *Do your teachers encourage you to use AI as a support tool in your teaching-learning process?*




Note: Original work.

Based on graph 5, the urgency of generating teacher updates on the inclusion of the use of artificial intelligence in the school curriculum is established. In this sense, the Benemérita Universidad Autónoma de Chiapas, through its New Educational Model, has included precisely this area, which, in the short and medium term, will provide the possibilities of guaranteeing the teaching of AI for academic purposes through ethics by updating teachers and students.

Taking the above into consideration, it is important to mention that artificial intelligence is increasingly occupying more academic spaces and becoming part of the daily life of the university community. For students, it is essential that new study plans and programs address the need to integrate AI into academics through its ethical, responsible, and critical use. Therefore, updates on ICTs and AI play a fundamental role in university strategies, not only at the Benemérita Universidad Autónoma de Chiapas, but also at higher education institutions throughout the country.

## Discussion

According to the results presented in the previous section, it is established that artificial intelligence, especially generative intelligence, is a tool that is consolidating itself as the favorite for information searches and is used as a personalized assistant that improves the teaching-learning process in general; however, with regard to language teaching, it is positioning itself as a substantive element - which although not well known by the academic community, it can be seen that it is on the way to being used in more and more spaces - to improve aspects such as style correction, grammar assistant and pronunciation.

This offers several advantages, since students can sometimes feel intimidated about expressing themselves in another language in front of others. In this sense, virtual assistants are very useful. According to Escobar Hernández (2021), one of the main benefits of using AI in languages is adaptive learning. That is, platforms that use this type of technology have the ability to predict what is being written or searched for. An example of this is the *Grammarly app* , which, although initially developed to detect grammatical errors in English, can now, with the inclusion of AI, predict (by analyzing the words that have been written) the words that will be used later, including the use of *phrasal verbs* .

Another study that has shown the viability of using AI for language learning is presented by Salas Flores, Sánchez Cervantes and Hernández Molinar (2025), who have conducted a study on how AI impacts language learning for international business. Among their results, they establish that 78% of the participants considered that the application of AI for language teaching has substantially improved their learning ability in the context of international relations. However, they also mention that these tools do not replace interaction with other human beings, especially when learning another language.

On the other hand, Bounif (2026) states that the benefits of using AI for language learning have resulted in multiple advantages, as it has ceased to be a secondary resource and has become a transformative agent in the classroom. His analysis is based on the identification and analysis of 46 articles published between 2022 and 2025 focused on language learning with AI, showing that the benefits demonstrated in various academic settings are cognitive and linguistic, pedagogical, and motivational. In other words, the use of these tools not only focuses on the development of autonomous learning and critical thinking, but also improves the learner's self-esteem because it increases their confidence in expressing themselves in another language.

The aspects mentioned from other research are related to the results obtained in this study since the students of the Bachelor's Degree in Teaching English at the School of Languages, San Cristóbal Campus, use applications such as ChatGPT to improve grammatical elements and oral communication. Of course, this does not guarantee that language learning will be fluent, but it is an element that ensures the improvement in cognitive structures when learning a new language, especially in the training of trainers in teaching English.

However, one of the limitations highlighted in the study is connectivity. These applications function by maintaining an internet connection, and although students reported having constant access, the reality is that if they lack this connection at certain times, they cannot

access the suggested platforms. This stems from various problems, such as socioeconomic factors that prevent students from having cell phone plans or prepaid service, and the poor connectivity in the city, particularly at the School of Languages on the San Cristóbal Campus, where there are areas with insufficient network power. Nevertheless, one of the major advances in this regard is the increasingly better university connectivity network, allowing students to access IAGen by logging into their institutional email accounts. This also guarantees free access to technology within the facilities of the Benemérita Universidad Autónoma de Chiapas.

Despite the above, significant progress has been made in language learning at the University. One of these advances is the increased engagement of the student community with the use of generative artificial intelligence to improve the skills required for language learning, especially English and the additional languages currently being studied: French or Italian. In this regard, the Meritorious Autonomous University of Chiapas (UNACH) has created more courses and diplomas focused on the use of artificial intelligence in academic settings. This is part of the university's ongoing updates. These efforts are related not only to the use, application, and appropriation of AI but also to the development of critical thinking and ethics as essential elements in current educational processes. The result is an academic-university space more committed to society, education, and, of course, the generation of innovative knowledge that impacts UNACH students. In the case of the School of Languages at the San Cristóbal Campus, whose role is based on training trainers specializing in teaching English, it is necessary to consider technological integration to improve the learning process and, at the same time, innovate pedagogical processes with applications that young people use, prioritizing ethics and critical thinking when using artificial intelligence.

## Conclusions

The use of artificial intelligence is becoming increasingly common, especially among those in areas with connectivity (however minimal). This interaction with AI surged following the COVID-19 pandemic, a period in which the tool became popular and has since established itself as one of the most widely used and a favorite among young people due to its speed in generating information on virtually any topic.

Therefore, analyzing how students use AI has become a central focus of socio-educational research, as more and more users are turning to it to access specific data. In this context, the text establishes how globalization has positioned technology as a tool that has revolutionized education worldwide; however, a lack of understanding regarding the use of the data it provides could be one of the essential challenges for education.

Therefore, throughout this document, emphasis is placed not only on the globalization process and its impact on regional areas, but also on how artificial intelligence presents both risks and a vast field of opportunities. An example of this is found in the results section, where it can be seen that students use AI to learn or reinforce their knowledge of English or their additional language (Italian or French). This point is crucial to the research because, although not everyone is familiar with these strategies—most of which are free—it opens up a huge window of opportunity for leveraging technology in the field of education.

Based on the above, it is concluded that a fundamental part of consolidating the use of technology, especially AI, in university settings depends particularly on how ICTs are perceived by the authorities. In this sense, the Benemérita Universidad Autónoma de Chiapas is in a stage of renewal in the face of the technological challenges that arise today. For this reason, it has recently announced the upcoming publication of its New Educational Model, in which—among other relevant points—the importance of the use of AI for academic and research development is highlighted, where ethics plays a crucial role in the acquisition of scientific knowledge, including the use of artificial intelligence.

Given the innovative role universities now play in diverse social and regional spheres, it is urgent to provide the university community with ongoing training in digital literacy, the use of ICTs in the classroom, and, of course, the application of artificial intelligence. At the Benemérita Universidad Autónoma de Chiapas, continuous training is available to all staff and students; however, it is essential that these courses be permanent, innovative, and cutting-edge, as demanded by the New Educational Model.

However, there are challenges to the use of artificial intelligence. One example is students' lack of knowledge about data use and how to handle it, such as citing and referencing, to name just one of the latent risks. Nevertheless, higher education institutions and those of us who work within them have the responsibility to foster critical thinking in the classroom. In this sense, we contribute to improving two situations: first, related to students' consumption of cybercultural and data information from their daily lives; and second, how they can

apply critical thinking and their digital skills to improve academic and, of course, social spaces.

Finally, it's important to mention that artificial intelligence is merely a tool that, in the educational context, can substantially improve the teaching and learning process. Specifically, for students in the Bachelor's Degree in English Language Teaching, a broader perspective has been presented on how generative artificial intelligence is a crucial element for language learning. These tools can correct grammatical, syntactic, and spelling errors, which are essential components of language acquisition. Furthermore, they can assist shy students, as AI is a digital tool that helps them correct specific language details without direct interaction with another individual. Currently, tools like *ChatGPT* and *Gemini have been used* , which can be accessed for free (although paid versions are available). However, the free versions can be used without any issues. It's worth noting that special emphasis has been placed on students to use these tools ethically and with academic and social responsibility, as they are simply agents that enhance knowledge through critical thinking.

## Future lines of research

The use, application, and appropriation of artificial intelligence is a phenomenon that is increasingly researched in various sectors. Therefore, the future lines of research for this project lie, first and foremost, in Education. This is because there are both benefits and risks associated with its use in educational settings, especially when approached from a hermeneutic or phenomenological perspective regarding the digital consumption patterns of academic communities (in this case, universities). Furthermore, for those focusing on ICT-AI research, this research is substantial because it allows us to understand how the evolution of technology as a means of communication and knowledge generation impacts various sectors, specifically educational ones in this text. It is also useful in areas related to the Sociology of Education because, based on structural elements of society (such as education and educational technology), analyses can be conducted regarding the influence of ICT and AI on current socio-educational actions and their impact from the perspectives of ethics and critical thinking, as well as future analyses on digital literacy. Finally, and no less importantly, another future line of research focuses on language teaching. This stems from the fieldwork carried out in this study, which highlights the potential of using IAGen as a personalized language tutor for the academic community, especially the university community focused on the language teaching and learning process.

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