

## AI tools applied in the classroom: A new teaching approach

### Las herramientas de la IA aplicadas en el aula: Un nuevo enfoque docente

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#### Classification:

Area: Engineering  
Field: Engineering  
Discipline: System engineer  
Subdiscipline: Computer Sciences

 <https://doi.org/10.35429/JAC.2025.9.23.1.1.7>

#### History of the article:

Received: August 15, 2025

Accepted: November 30, 2025

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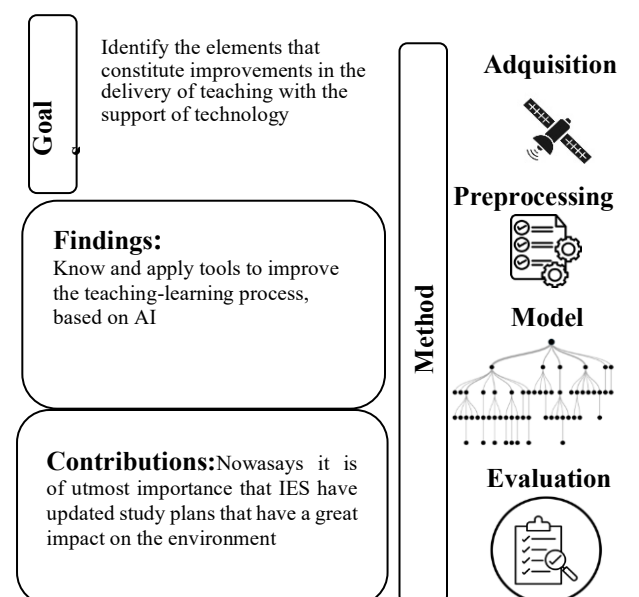


#### Abstract

Teaching today is undergoing a whirlwind of significant changes, both in the content and in the way in which the teaching-learning process is delivered. This has led to the integration of a wide variety of technological tools that help students not only acquire knowledge, but also be able to identify how they can project these processes into research work, established improvement proposals, and generate valuable tasks that significantly contribute to promoting progress in all areas of education.

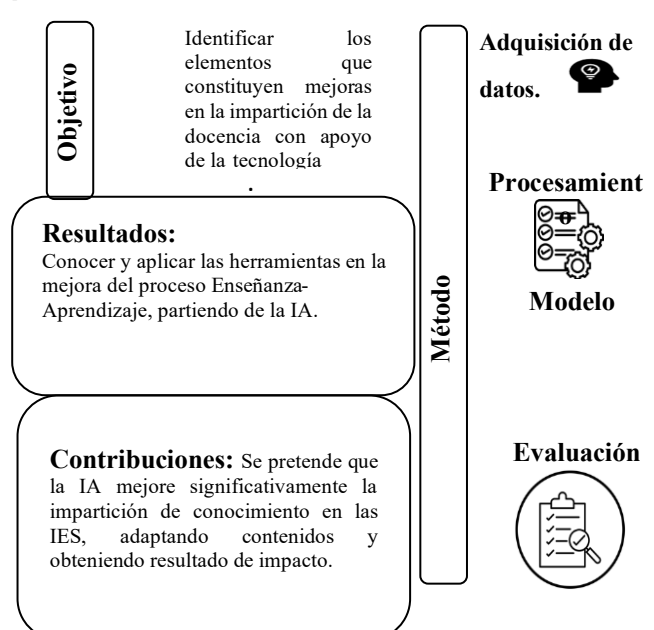
#### Resumen

La docencia en la actualidad, está atravesando por una vorágine de cambios significativos, tanto en los contenidos como en la forma en que se imparte el proceso enseñanza-aprendizaje, ello ha dado pauta a que se puedan integrar una gran diversidad de herramientas tecnológicas que coadyuvan a que los educandos no solo adquieran conocimientos, sino además, sean capaces de identificar la forma en que pueden proyectar esos procesos en trabajos de investigación, propuestas de mejora establecidos y generar tareas de valor que contribuyan significativamente a promover los avances en todas las áreas de la educación



Artificial Intelligence, teaching, learning, meaningful knowledge, digital tools

Area: Strengthening the scientific community



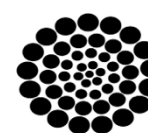
Inteligencia Artificial, enseñanza, aprovechamiento, conocimiento significativo, herramientas digitales

**Citation:** Escamilla, Regis Daisy & Martínez, Bahena Elizabeth. [2025]. AI tools applied in the classroom: A new teaching approach. Journal Applied Computing. 9[23]1-7: e1923107.



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## Introduction

Education is the foundation of knowledge, upon which the significant progress of a people, a community, and a nation depends. That is why advances in this area are essential, and this is also reflected in the content and the way it is taught, what type of resources will be used to support it, and what audience it is aimed at.

Undoubtedly, one of the great advances in recent times is the emergence of Artificial Intelligence [AI], which, although initially focused on information processing, adaptability and process improvement in companies, soon became linked to all areas of human life, with technology being one of the most favoured branches. and therefore, the emergence of various tools and applications to improve education has also undergone a drastic change.

In many ways, AI has become such a major transformation process that it has been tangibly integrated into the technological, social and economic spheres, offering task automation, increasing basic services, generating significant achievements in medicine, etc. However, it should also be noted that not everything has been for the benefit of human beings, since, along with the emergence of Artificial Intelligence, there are situations of risk in terms of job losses, inequality, discrimination within the algorithms generated in searches, security and governance.

The evolution of AI also leads us to human, social and personal evolution, transforming the way we live our daily lives. That is why we also face significant challenges involving a more complex world, where it is necessary to generate increasingly powerful and efficient technologies, while at the same time ensuring that individuals' privacy is not invaded and that ethical and legal limits on their use and application are respected and valued.

## AI and Education

One of the main ideas about Artificial Intelligence is that it is a technology capable of helping to solve problems and generate meaningful learning without the need for human assistance, focusing on three aspects:

A] STUDENTS. AI has the capacity to generate educational spaces that respond to the needs of students, promoting the application of more inclusive and specialised areas of learning for the target population.

B] TEACHERS. Using AI tools in teaching has the advantage of reducing workload and allowing for more time to be spent on personalising content and generating greater adaptability when creating lessons that include tools that benefit the teaching-learning process.

C] EDUCATIONAL SYSTEMS. Some of the support provided by AI can enable the automation of curricula that meet the diverse needs of users. Personalised tutoring is another tool that can be of great help in significantly reducing school dropout and/or withdrawal rates. [Educational AI, 2024].

### Box 1



**Figure 1**

AI and Education

Source: (IA Educativa, 2024)

However, despite the wide range of benefits that the use of Artificial Intelligence brings us, we cannot ignore the fact that there are limitations to its dissemination and access. One of the main limitations is access to technological tools. Without internet in remote areas, this causes a bias in information. Another difficulty is the reluctance of teachers to incorporate technology into the teaching process. There is still too much reliance on books and traditional education, which, although they are a significant part of education and have great scientific support, are limited to reference content, rather than access to the infinite resources that are currently available on the information superhighway.

## Artificial Intelligence Tools for the Classroom.

While it is true that there are currently various resources that use AI and allow users to operate them with little knowledge of technology, it is also important to emphasise the contributions they make to their implementation in classrooms.

It is also important to note that some are part of platforms that, although excellent in terms of content and user interfaces, are not free to access, which can further increase the difficulty of accessing the information they contain. Therefore, on this occasion, we will limit ourselves to showing some that, in our opinion, have more advantages in their implementation.

A] **NotebookLM**. It is part of the Google environment. In addition to being easily accessible, it is free and, as well as taking content that can be constantly fed into it, it gives us access to documents and information from large databases and can interpret, process and generate new content from articles, videos and other documents simultaneously. [SOCIAL MEDIA SYLLABUS, 2025]

Some of its most important advantages are that its responses are reliable, it allows content to be converted to audio, which diversifies the way in which content can be delivered, and, being a generative intelligence, it constantly feeds itself and is a free tool.

One of the disadvantages of this content is that it does not offer customisation options on the GUI and the way in which information is shared in the free mode.

## Box 2



**Figure 2**

NotebookLM Logo

*Fuente:* (SOCIAL MEDIA SYLLABUS, 2025)

A] **GAMMA APP**. Although this tool was designed for business and collaboration, it offers many options for displaying information, creating presentations, infographics, etc. However, it is also very useful for creating lessons, multimedia content, study guides, access to interactive tasks, etc. [Gamma.app, 2025]

One of its advantages is that it allows for the inclusion of various types of formats to present the information generated, which facilitates the design process for those who create the content.

ISSN: 2531-2952.

RENIECYT: 1702902

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It is credit-based, so the more content that is generated, the more credit is used up, making it necessary to sign up for a payment plan.

## Box 3



**Figure 3**

Gamma App

*Source:* (Gamma.app, 2025)

A] **UIZARD**. For more specialised users, it has a highly intuitive interface that, with just a few instructions, develops all the content, allowing you to visualise applications, complete user interfaces and redesign options that were already working, all from a very attractive environment. Among its main advantages is the fact that it greatly simplifies the creation of designs from instructional sketches and offers a wide variety of templates that are also adaptable to the user's needs. [Uizar, 2025]

One of the main disadvantages is that, in order to access all its capabilities, you have to upgrade the plan and pay for it.

## Box 4



**Figure 4**

Uizard

*Source:* [Uizar,2025]

A] **Ohmydots**. This is a gamification tool that focuses on reinforcing classroom teaching activities. However, it has the advantage of being highly visual, which easily attracts students to participate in the activities, so it does not feel like just learning. [Ohmydots!, 2025]

Although it is a great source of feedback, this tool is limited to exercises with a linear structure, so it does not promote new projects or learning that go beyond what is proposed.

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**Box 5****Figure 5**

Gamification

Source: (Ohmydots!, 2025)

It is important to note that, although there is a wide variety of resources that use Artificial Intelligence to enhance content, it should be borne in mind that, even today, the vast majority require payment plans in order to obtain all their benefits. Therefore, it is necessary to identify which ones offer content that is useful for what you want to project to your students.

**Why introduce AI tools into the classroom?**

While it is true that there is a wealth of content on the web that can be accessed in real time, the emergence of Artificial Intelligence has been a game-changer in teaching, as, in addition to bringing us even closer to education, it has also allowed us to access countless capabilities that would otherwise result in many hours of consultation in front of technological devices.

Not to mention that allowing different ways of presenting the same information to students is a great help. The personalisation of content, as well as immediate tutoring, greatly enriches the ability to convey knowledge and ensures that it is interpreted correctly. The abstraction of content, its improvement, its translation through reinforcement activities, etc., is an infinite resource of possibilities that privilege the teaching experience, and AI undoubtedly plays a favourable role in this.

**Case study: Use of Artificial Intelligence [AI] tools in the classroom. Methodology**

Currently, AI tools are used in various activities and/or areas such as education, the latter being the area on which this research focuses, and which has key players, namely teachers, students and the education system. It is extremely important to identify whether these players are prepared to use the various AI tools, whether they are using and implementing them in their various areas of knowledge, as well as the benefits or disadvantages of bringing them into the classroom from their point of view.

The objective of the research will be to analyse the impact that AI tools have had on the education system, as well as which tools are most widely used.

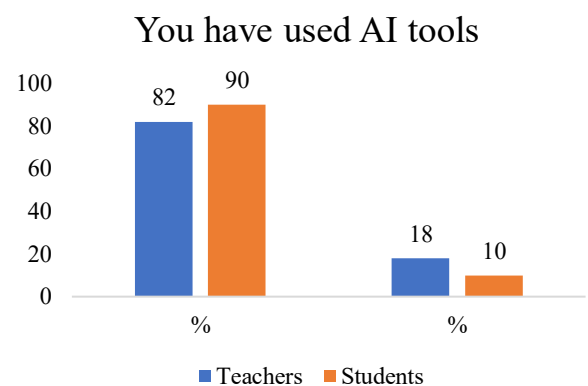
The study was carried out at a Higher Education Institution [HEI], which offers nine engineering degrees, of which only those degrees that are most aligned with technology will be sampled, namely Systems Engineering and Technology Engineering. Both programmes have approximately 600 students enrolled and 45 teachers, who will be taken into account to carry out the research.

The research will be organised as follows: first, identifying which AI tools teachers and students use; then analysing the uses they give to AI tools; and finally, the impact this could have on the education system.

The first survey was conducted to determine whether they had ever used AI tools.

The results showed that 82% of teachers had used some AI tool and 18% had not used any.

However, in the case of students, 90% have used them and 10% have not. This indicates that the majority of both students and teachers have used AI tools at some point, as can be seen in the graph in the [Escamilla, 2025].

**Box 6****Figure 6**

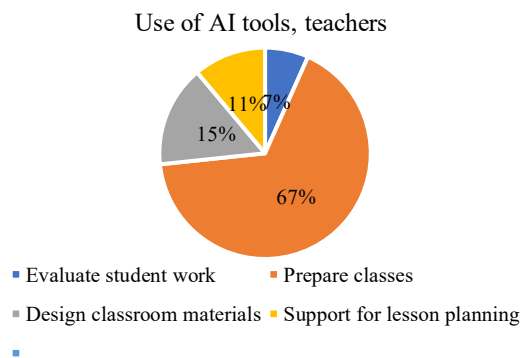
Graph showing the use of AI tools by teachers and students

Source: (Escamilla, 2025)

On the other hand, to follow up on the survey, questions are asked about how these tools are used. Most teachers use them to prepare their classes, as they mention that they give them ideas to make their classes more attractive than they had planned.

Some others use them to design class materials or as support for planning classes, as well as for evaluating student work. In the following graph shown in [Escamilla, 2025], shows the percentages that are latent in class preparation, as already mentioned, since from their point of view it provides them with ideas to be more dynamic and keep students from getting bored, as they observe that it is increasingly necessary to entertain students with innovative classes and materials so that they are more attracted to each of the classes.

**Box 7**



**Figure 7**

Chart showing various uses of AI tools from the teacher's perspective

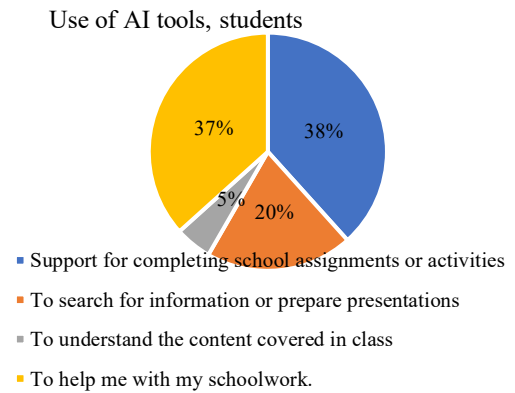
Source: (Escamilla, 2025)

To follow up on the research, students are also surveyed to find out how they use the various AI tools, as it is extremely important to determine how they are used. Now that we have seen how AI is used from the perspective of teachers and students, it is important to look at the impact this may have on the education system, as perceived by teachers who are concerned that students using AI tools for their various academic activities may damage academic quality or student development both inside and outside the classroom.

Escamilla [2025] presents a graph from a survey of teachers which shows that, for them, the use of AI tools by students is not entirely bad, but that this may change depending on how they are used.

According to the survey, 40% of students use them for support and up to 68% use them to do all of their work. They perceive this because they realise when a student submits schoolwork done entirely by an AI tool.

**Box 8**



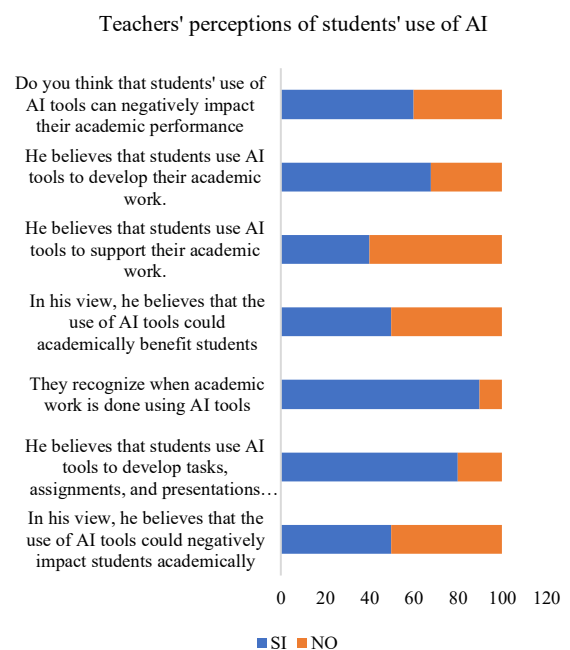
**Figure 8**

Graph showing various uses of AI tools from the student's perspective

Source: (Escamilla, 2025)

Likewise, 60% believe that if students make greater use of tools to complete their work in its entirety, it may affect their academic quality.

**Box 9**



**Figure 9**

Graph showing teachers' perceptions of students' use of AI tools

Source: (Escamilla, 2025)

Based on this latest survey of teachers, it can be observed that teachers do not view the use of AI tools for the development of their academic activities negatively, as long as they are used as a support, since this can broaden or deepen knowledge from various perspectives, not just those addressed in class. The problem would arise when these tools are used exclusively for development without verifying the information provided by AI, as this could lead to other issues such as a loss of analysis from the student's perspective and academic maturity in their training during their degree programme.

## Results

The results based on the surveys conducted in this research process show that 86% of students and teachers are familiar with and/or have used some of the AI tools, with a large percentage of teachers mentioning that they use them to support their classes, as they provide them with ideas to make them more attractive and contribute new techniques that allow them to innovate in their classrooms and make them more engaging.

However, on the student side, the survey shows that they have a high percentage of use of these AI tools to support some of the general academic class activities, as well as using them to support them in the total solution of some other activities, perhaps making the process of developing activities easier for them.

Likewise, teachers' perception of students' use of AI tools is that they can identify when students use them as support and when they use them for total development, since teachers can detect this when assignments are handed in. On the other hand, they consider that the use of various AI tools can contribute a lot to students as long as they are used only as support.

Otherwise, in the long run, if the use of these tools by students is not controlled, instead of benefiting them, they could affect academic quality because they can gradually diminish students' learning and thus have a negative impact. Therefore, it is important to use them under strict consent as support for certain activities, which is good, but always in a balanced way.

## Acknowledgements

We would like to thank the Technological Institute of Higher Education of Cuautitlán Izcalli for its financial support for this article.

## Conclusions

Currently, technologies have brought great benefits in various areas, including education. but on this occasion, the tools provided by artificial intelligence have greatly supported both teachers and students, facilitating certain tasks and providing ideas for innovation. However, it is recommended that they be used as support for various academic tasks or as part of the teaching-learning process without being so invasive that academic quality is lost sight of.

Today's AI tools can be of great help in supporting the development of various activities as long as they are only a support, since leaving everything to be solved by these tools could be detrimental in the long run, especially in the field of education, since a classroom should always be innovating by providing new tools or ways of sharing and acquiring learning using the much-talked-about AI.

## Declarations

## Conflict of interest

The authors declare that they have no conflict of interest. They have no known competing financial interests or personal relationships that could have appeared to influence the article reported in this article.

## Area of study

The study was conducted at the Higher Education Institution, as this is where the sample of teachers and students was taken in order to collect the data that was analysed, which will be used in the future to develop the proposal for the use of technological tools.

## Contributions of authors

*Martinez-Bahena, Elizabeth*: Contributed to the foundations on which it was implemented, with the state of the art, theoretical framework, type of research, and contribution to the writing of the article.

*Escamilla-Regis, Daisy*: Contributed to the main idea of the project, the type and design of the field research, the instrument, data collection and results, as well as the writing of the article.

### Availability of data and materials

The images were obtained from the free platform; the tables and graphs are our own work, with data obtained by applying the instrument within the institution.

### Funding

This work was funded by the Technological Institute of Higher Studies of Cuautitlán Izcalli.

### Abbreviations

IES	Higher education institution
IA	Artificial Intelligence

### References

#### Basic

*Escamilla, D.* [18 de agosto de 2025]. Herramientas IA para estudiantes. 10.

*Gamma.app.* [15 de 08 de 2025].

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