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Evaluación cuantitativa y cualitativa del impacto de la inteligencia artificial en la satisfacción, eficacia, gestión del tiempo y reducción del estrés laboral en la jornada laboral docente ecuatoriana presencialmente o fuera del plantel

Quantitative and qualitative evaluation of the impact of artificial intelligence on satisfaction, efficiency, time management, and reduction of work-related stress in the on-site and off-site workday of Ecuadorian teachers

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Palabras claves:
docencia, jornada laboral, presencial, fuera del plantel, inteligencia artificial, ANOVA.

Resumen

Introducción: Este estudio revela el impacto de la inteligencia artificial (IA) en cada una de las actividades de la jornada laboral docente presencialmente o fuera del plantel en función de mejora la satisfacción, eficiencia y tiempo, calidad de trabajo y reduce el estrés laboral en docentes. Revelando resultados favorables para la asistencia de las IAs en comparación a la forma habitual de hacer dicha jornada laboral. Este estudio destaca la relevancia de la IA en la educación, alineándose con la legislación educativa ecuatoriana. **Metodología**: Es un estudio utiliza encuestas y análisis estadísticos para evaluar la efectividad de métodos tradicionales y asistidos por la IA en cada una de las actividades de la jornada laboral docente presencialmente o fuera del plantel en Ecuador. Se usaron análisis con ANOVA y Tukey, análisis estadístico basado en los porcentajes y análisis cualitativo en función de las respuestas obtenidas en el cuestionario. Las plataformas de AI educativas MagicSchool AI y Megaprofe fueron fundamentales en este análisis. **Desarrollo**: La jornada laboral docente en Ecuador regulada por la LOEI se divide en actividades dentro y fuera del plantel. Este estudio analiza cuantitativa y cualitativamente cada actividad de la segunda sección. Se utilizó un enfoque ANOVA y Tukey para comparar métodos tradicionales y asistidos por IA, revelando mejoras en nivel se satisfacción, eficiencia, calidad del trabajo y reducción de estrés con IA. La muestra incluye 20 docentes de diversas regiones e instituciones educativas del Ecuador, asegurando una representación objetiva de su realidad laboral. **Resultados y análisis**: La asistencia de las AIs educativas MagicSchool AI y Megaprofe fue estadísticamente significativa para cada una de las actividades de la jornada laboral docente presencialmente o fuera del plante en términos de, satisfacción, eficiencia, calidad del trabajo y cualitativamente desde la perspectiva docente hay reducción de estrés usando las IAs. **Conclusiones**: La asistencia de las AIs educativas mejora significativamente la satisfacción, eficiencia y calidad del trabajo docente, de la jornada laboral fuera del plantel. Además, cualitativamente, los docentes perciben una notable reducción del estrés al utilizar estas herramientas.

Keywords:
teaching, workday, on-

Abstract

Introduction: This study reveals the impact of artificial intelligence (AI) on each activity of the teaching workday, both in-person and

site, off-site, artificial intelligence

remotely, in terms of improving satisfaction, efficiency, time management, work quality, and reducing teachers' work-related stress. The results show favorable outcomes for AI assistance compared to traditional methods. This study highlights the significance of AI in education, aligning with Ecuadorian educational legislation. Methodology: This study uses surveys and statistical analyzes to evaluate the effectiveness of traditional and AI-assisted methods for each activity in the teaching workday, both in-person and remotely, in Ecuador. ANOVA and Tukey tests were used, along with statistical analysis based on percentages and qualitative analysis of the questionnaire responses. The educational AI platforms MagicSchool AI and Megaprofe were fundamental to this analysis. Development: The teaching workday in Ecuador, regulated by the LOEI, is divided into activities inside and outside the school. This study quantitatively and qualitatively analyzes each activity in the second section. An ANOVA and Tukey approach was used to compare traditional and AI-assisted methods, revealing improvements in satisfaction, efficiency, work quality, and stress reduction with AI. The sample includes 20 teachers from various regions and educational institutions in Ecuador, ensuring an objective representation of their work reality. Results and Analysis: The assistance of educational AIs, MagicSchool AI and Megaprofe, was statistically significant for each activity in the teaching workday, both in-person and remotely, in terms of satisfaction, efficiency, work quality, and qualitatively from the teachers' perspective , indicating a reduction in stress using AIs. Conclusions: The assistance of educational AIs significantly improves the satisfaction, efficiency, and work quality of teachers' workdays outside the school. Additionally, qualitatively, teachers perceive a notable reduction in stress when using these tools.

Introduction

In the contemporary educational context around the world, the integration of artificial intelligence (AI) is positioning itself as a transformative tool that promises to improve the work of teachers in their working day. This study focuses on analyzing the quantitative and qualitative impact of AI tools exclusive to education, in the teaching workday in person or outside the school. The research covers a spectrum of activities regulated by the

Ministry of Education of Ecuador that include activities such as pedagogical updating, class preparation, teaching materials and learning environments, review and grading, report preparation, preparation of learning recovery activities, research and academic publications, and student participation.

The main objective of this study is to evaluate, through statistical and qualitative analysis, the significant differences in the performance of these activities with and without the assistance of the AIs presented in this study. ANOVA analysis and Tukey's method comparison test were used to determine statistical significance, supporting the findings with the corresponding resulting data and analysis diagrams of the same. Additionally, qualitative information was collected to understand the impact of AI on reducing teacher work stress and the perception of quality of the work performed.

Preliminary results indicate that integrating AI into educational activities not only saves time, but also improves the perceived quality of work and significantly reduces teachers' work stress. These findings align with previous studies suggesting that AI can play a crucial role in modernizing educational processes, allowing teachers to focus on more creative and pedagogically valuable tasks.

The relevance of this study lies in its ability to offer a detailed and quantifiable understanding of the benefits of AI in the Ecuadorian educational environment. With a focus on continuous improvement and educational innovation in accordance with the provisions of article 29, article 36 literal h, article 347 literal 8 of the Organic Law of Intercultural Education in force to date in Ecuador, the results obtained provide a solid basis for the broader implementation of AI tools in educational institutions, promoting a more effective, satisfactory and less stressful education for teachers.

This study contributes to the growing body of literature on the integration of technology in education, offering empirical evidence on the tangible benefits of using AI in daily teaching practice. As technology continues to advance, it is essential to explore and understand how these tools can be used to improve educational quality and the well-being of educators. It should be noted that this study is a consequence of the work "Evaluation of artificial intelligence assistance in teaching work at the Digna María Beatriz Cerda Neto Educational Unit, Pujilí-Ecuador", which addresses the evaluation of AI in the teaching workday at the educational institution.

Methodology

The methodology of this study is quantitative, comparative and qualitative, combining the application of an evaluation form and statistical analysis (Finol de Franco and Vera Solórzano, 2020), since this study is based on the application of surveys and the qualitative and statistical analysis of the data obtained, since the effectiveness of two

methods of executing the activities of the teaching workday in person or outside the school has been evaluated, one in a traditional way and the other assisted by artificial intelligence (AI), a study was designed that combined statistical analysis and surveys of the participants.

The inclusion criterion of the sample, in reference to the participating teachers, was based on the willingness and immediate availability to participate in the study, since the present analysis includes teachers from different institutions located in various regions of Ecuador. These teachers carried out the activities of the teaching workday in person or outside the school (Ministry of Education, 2024) in a traditional way, after which they did the same but used an AI-assisted system. Subsequently, a survey was conducted to the teachers to evaluate their experience in both methods. The survey included questions about satisfaction, effectiveness and time, quality of work, and reduction of work stress. The results of the survey were analyzed using descriptive and inferential statistics, such as mean, standard deviation, and analysis of variance (ANOVA). In addition, a linear regression analysis was used to identify the variables that significantly influenced teacher satisfaction and productivity for this type of teaching workday.

Method 1: Execution of activities of the teaching workday, in person or off campus, assisted by artificial intelligence.

According to (Jiménez Zambrano et al., 2024) they have shown that the use of Artificial Intelligence in teaching work in the institution can improve the efficiency, satisfaction and productivity of teachers when carrying out tasks in this area of the workday such as recording grades, planning, meetings, coordination with other areas, and even supervision and control. In addition, the implementation of these technologies has shown potential to reduce burnout and improve the quality of life of teachers (Hashem et al., 2024).

Exclusive selection of artificial intelligence for teachers

Because (Magic School AI, 2024) is an artificial intelligence platform designed to assist in education designed to assist teachers around the world, in order to reduce their workload to better engage with their students, focus more on teaching and direct support to students and reduce work stress (World Economic Forum, 2024).

This platform is widely used and appreciated by more than two million educators worldwide, suggesting a robust validation of its effectiveness in assisting teachers (Magic School AI, 2024). In addition, it offers a wide range of around 60 AI tools that were applied to the fulfillment of the activities of the teaching workday, in person or off campus.

The project (Megaprofe, 2024), developed by José Antonio Tamayo and Vicenç Yll Escot, seeks to maximize the potential of artificial intelligence (AI) technologies in the

educational environment, encouraging teachers and students to take full advantage of these tools in their learning process. The goal is to provide resources and tools that train educators and foster an enriching and stimulating educational environment adapted to the individual needs of each student. This project has more than 13 AI tools focused on teaching work, blogs and multimedia, among other resources, which is why it was selected to be part of this study.

Method 2: Carrying out the activities of the teaching workday in person or outside the school, in a traditional way

The traditional method of doing things dates back years and unfortunately in remote areas of difficult access to date it still occurs, where the use of ICTs is mostly limited, outside the educational institution, especially in remote sites where the presence of electricity or WiFi signal is fluctuating, limiting the effectiveness, time management and teacher satisfaction in these activities.It relies heavily on basic tools such as one-to-one interaction or phone calls, use of computers with basic desktop packages, and the like. Thus, this approach requires careful time management and is highly dependent on the immediate skills and tools available to the teacher.

On the other hand, this style of teaching, depending on the case, even with good access to ICTs, could generate in most caseswork stress due to the demanding nature of this profession (Cuchipe Reinoso)et al., 2020), such as Sick Building Syndrome (SBS) which mostly affects women or given the teacher's susceptibility it is also possible to contract burnout syndrome (TrávezOsorio et al., 2024).

Evaluation form for AIs versus the traditional method in the execution of the activities of the teaching day in person or outside the campus

This evaluation questionnaire is designed to evaluate the two methods of carrying out the activities, as follows, the level of agreement with each statement was selected using a scale from 1 to 5, where 1 = Dissatisfied and 5 = Totally Satisfied, for each of the activities that according to (Ministry of Education, 2024) are designated to be carried out in person or outside the educational institution, the following table details how it was carried out.

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Table 1

Structure of the evaluation questionnaire of the MagicSchool and MEGAPRODE AI tools in the activities of the teaching workday in person or outside the school versus the traditional method of executing these activities

Section	Description	Aim
1	⚠ Before STARTING⚠ Step 1: Take into account your teaching activities, as shown in the graph named "Teaching workday" Step 2: Use the artificial intelligence (AI) tools shown in each of the activities in the graph named "Teaching work day in person or outside the campus" "Well-used AI performs around 80% of the work, the remaining 20% is up to the teacher." Vicenç Yll Escot, creator of MEGAPROFE. • Magic Tools - MagicSchool.ai • Home Teaching area - MEGAPROFE Step 3: I evaluated AI in relation to how it normally performs its teaching work without the assistance of artificial intelligence.	Instruct participating teachers on what they need to do before proceeding with the assessment.
2	⚠ After doing the above mentioned in the graph, I evaluated the Intelligence in☞Teachers' work day IN PERSON OR OFF SCHOOL	Knowing which of the two AI platform options in education is best for the teaching workday IN PERSON OR OFF SCHOOL

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Table 1

Structure of the evaluation questionnaire for the MagicSchool and MEGAPRODE AI tools in the activities of the teaching workday in person or outside the school versus the traditional method of executing these (continued)

Section	Description	Aim
3	Artificial Intelligence Evaluation Please indicate your level of agreement with each statement using a scale of 1 to 5, where 1 = Dissatisfied and 5 = Completely Satisfied.	The attendance of the AIs is evaluated in each of the activities corresponding to the teaching workday IN PERSON OR OUTSIDE THE SCHOOL as stipulated by the (Ministry of Education, 2024) of Ecuador and regulated by the LOEI, in relation to doing the same activity without the assistance of the AIs.
4	Overall Assessment of Artificial Intelligence I evaluated AI; MEGAPROFE and Magic Tools - MagicSchool.ai interchangeably	Comprehensively evaluate the assistance of AIs to the teacher in the following functions: • Efficiency and time • Quality of work • Work stress

Development

According to (Ministry of Education, 2024) the teaching workday consists of important divisions which are; In the educational institution and the other In person or outside the campus. This study is based on the activities that the second section encompasses, as shown in the following figure. However, the study by (Jiménez Zambrano et al., 2024), entitled "Evaluation of artificial intelligence assistance in teaching work at the Digna María Beatriz Cerda Neto Educational Unit, Pujilí-Ecuador" carried out the analysis of the first division, therefore, the present analysis is consecutive to the aforementioned.

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Figure 1

Teachers' work day in person or off campus

Source: (Ministry of Education, 2024)

HeCompliance with the teaching workday is regulated by Ministerial Agreement No. MINEDUC-MINEDUC-2023-00005-A (Ministry of Education, 2023), which establishes that this workday must be strictly complied with by all teachers of public educational institutions of the Ecuadorian education system, so that the teaching workday, whether in person or outside the school, should ideally be 2 hours a day during working days, giving a total of 10 hours a week, said activities are:

- Pedagogical update
- Class preparation, teaching materials and learning environments
- Review and rating
- Reporting
- Preparing learning recovery activities
- Research and academic publications
- Student preparation

The sample analyzed consists of 20 teachers from educational units in Aloasi, Sigchos, Latacunga, El Tingo, la Esperanza Pujilí, all cities in Ecuador, with which different realities of teaching work were analyzed in person or outside the institution, approaching in a much more objective way the teaching reality in Ecuador.

This study justifies its relevance by revealing the importance regarding;efficiency and time, quality of work, challenges and solutions, training and capacity building provided

by the assistance of AIs to teachers in each of the activities that make up the teaching workday in person or outside the school versus the traditional method of doing things, all of this in line with article 29, article 36 literal h, article 347 literal 8 of the LOEI of Ecuador (National Assembly of Ecuador, 2011) in which mention is made of good educational quality and participation in educational technologies of the National Education System, so that the implementation of AI in accordance with the LOEI would improve educational quality and the teaching work environment, thus supporting the relevance of the implementation of technological innovations in Ecuadorian educational contexts.

One-way analysis of variance (ANOVA) is a statistical method that allows for the evaluation of significant differences in the means of three or more groups, allowing for the identification of patterns and trends in the data. To determine whether there are significant differences between method 1 and method 2 of doing the activities of theteaching work day in person or off campus, the ANOVA statistical approach will be used, according to (Cortina and Nouri, 2000).

To collect information on the use of these two methods, a questionnaire was designed covering the working day.in-person or off-campus with AI assistance and carrying out activities in a traditional manner. Subsequently, an ANOVA analysis was performed in Minitab 18 to determine if there is a significant difference with 95% confidence between the use of AI in educational tasks and traditional methods. The activities were renamed with variable names to be placed in Minitab 18, which are presented in the following table.

Table 2

Name of variables for Minitab.18 based on the evaluated activities

Evaluated activities	Variable names for minitab.18
Pedagogical upgrade with artificial intelligence assistance	APIA
Regular pedagogical updating	AP
Preparation of classes, teaching materials and learning environments with the assistance of artificial intelligence	PMAAIA
Preparation of classes, teaching materials and learning environments on a regular basis	PMAA

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Table 2

Name of variables for Minitab.18 based on the activities evaluated (continued)

Evaluated activities	Variable names for minitab.18
AI-assisted review and grading	RCIA
Regular review and grading	RC
AI-assisted reporting	EIIA
Preparing reports on a regular basis	EI
Preparing learning recovery activities with the assistance of artificial intelligence	PARAIA
Preparing learning recovery activities on a regular basis	FOR
Research and academic publications assisted by artificial intelligence	IPAIA
Regular academic research and publications	IPA
Student participation with artificial intelligence assistance	PEIA
Student participation on a regular basis	PE

The parameters of the ANOVA analysis will determine whether there is a significant difference between teaching tasks in person or off campus with the assistance of artificial intelligence (AI) and in a traditional way. For this, a high average value is required in the analysis of the means, since the teachers evaluated the level of satisfaction according to each statement using a scale from 1 to 5, where 1 represents dissatisfaction and 5 represents total satisfaction, the high average value is the most appropriate for this study.

To assess the effectiveness, time, and quality of work in general in the activities of the teaching workday, in person or off campus, with the use of artificial intelligence (AI), a statistical analysis was carried out based on the percentages of the responses obtained in the questionnaire. Since the questions had closed response options, this approach allowed an objective quantification of the results, without requiring a statistical analysis as complex as the analysis of variance (ANOVA) used to evaluate each of the activities of the in-person teaching workday individually.

The analysis of work stress reduction was conducted using a qualitative approach, based on teachers' responses to an open-ended question. They were asked: "Do you think that the use of AI reduces stress in the workday and would improve the quality of teachers' work life?" Teachers' responses allowed for a detailed and in-depth analysis of their perceptions and experiences regarding the impact of AI use on their work stress and quality of work life.

Finally, as a limitation of this study, it was found that, in the majority of educational units located in rural areas of Ecuador, where internet, electricity or cell phone services are intermittent, it prevents the use of AIs in the teaching workday in person or outside the campus.

Results and analysis

Quantitative analysis based on satisfaction with the completion of the teaching workday in person or outside the campus

ANOVA analysis for each of the activities of the teaching workday in person or outside the campus, in all cases equal variances were assumed, with 95% confidence and a significance level of 0.05.

Pedagogical update

To determine whether the level of satisfaction with the assistance of the AIs in the execution of pedagogical updating is the same as that execution carried out on a regular basis, a one-way ANOVA analysis and a Tukey analysis were performed.

Table 3

One-way ANOVA: AI-assisted pedagogical updating compared to regular pedagogical updating

Hypothesis	Description
Null hypothesis	All stockings are equal
Alternative hypothesis	Not all stockings are created equal
Level of significance	α = 0.05

NOTE: Equality of variances was assumed for the analysis.

Table 4

Analysis of Variance for AI-assisted Pedagogical Updating, compared to regular Pedagogical Updating

Fountain	GL	SC Ajust.	MC Ajust.	F value	p-value
Factor	1	8,100	8,1000	23,14	0.001
Mistake	8	2,800	0.3500		
Total	9	10,900			

According to the p-value reflected in table number 4 of 0.001, there is a statistically significant difference between what indicates that the null hypothesis is rejected and the

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alternative hypothesis is accepted; that is, with 95% confidence there is a significant difference between carrying out pedagogical updates with the assistance of AIs, compared to carrying out pedagogical updates in the usual way.

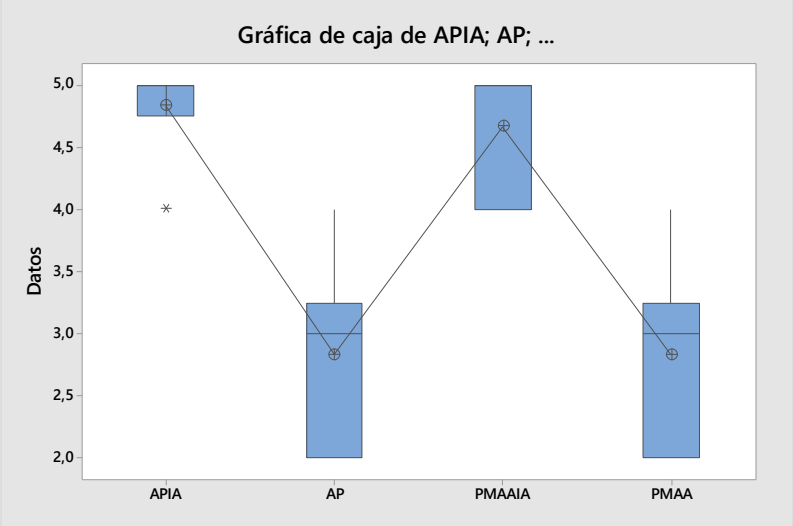
Preparation of classes, teaching materials and learning environments

For the statistical analysis between Class Preparation, Teaching Materials and Learning Environments with Artificial Intelligence (PMAAIA), compared by ANOVA, with the execution of class preparation, teaching materials and learning environments in the usual way (PMAA), the result of the analysis of variance gives a P value of 0.001 (table 4) which shows that there is a significant difference with 95% confidence between PMAAIA and PMAA.

Furthermore, the results of the Tukey comparison with 95% confidence in the comparison between the difference of the means of PMAAIA and PMAA. On the other hand, the box plots of the statistical analysis between these methods show that the median of PMAAIA is similar to that of APIA, implying that the highest level of satisfaction for teachers is to carry out the activity assisted with the AIs; that is, PMAAIA.

Figure 2

Boxplot for comparison of APIA; AP; PMAAIA and PMAA



Review and rating

According to the ANOVA statistical analysis, calculated with 95% confidence and according to the p-value of 0.001, there is a statistically significant difference between the completion of Review and Grading assisted with Intelligence tools and the same activity without it, in addition this is evidenced in the following interval graph.

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Analysis of Variance for significance between the performance of Review and Qualification assisted with Intelligence tools and the same activity without it

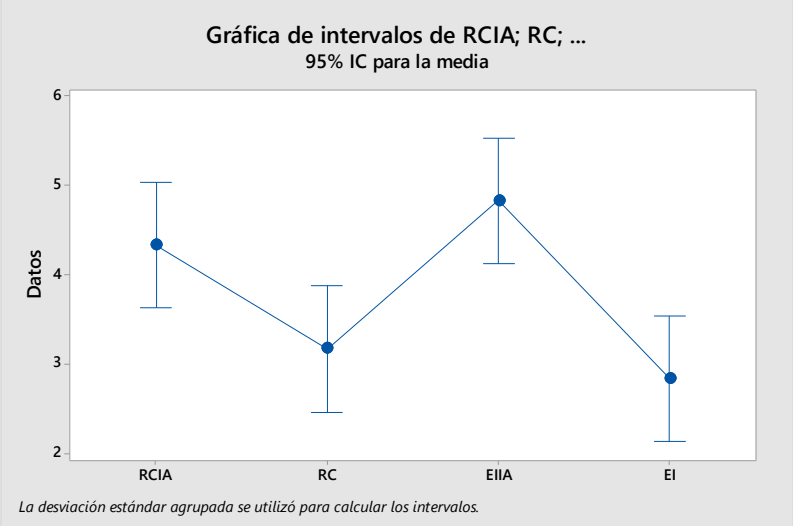
Fountain	GL	SC Ajust.	MC Ajust.	F value	p-value
Factor	3	16,13	5,3750	7.77	0.001
Mistake	20	13.83	0.6917		
Total	23	29.96			

Reporting

Regarding the preparation of reports according to the p-value of 0.001 (Table 5) of the one-way ANOVA analysis, it reflects that there is a significant difference between doing the assisted activity with artificial intelligence and without it. For this purpose, the interval graph for RCIA; RC; EIIA and EI was presented.

Figure 3

Interval plot for RCIA; RC; EIIA AND EI



This graph resulting from the Tukey comparison shows the confidence intervals for the mean with 95% confidence, through inferential statistics the confidence intervals for the mean of each method were obtained, since in the questionnaire the teachers selected the level of satisfaction according to each statement using a scale of 1 to 5, where 1 = Dissatisfied and 5 = Totally Satisfied, confidence intervals of higher value were selected, corresponding to ELLA with 4.833 and 4.333 for RCIA, respectively, these values are shown in the following table.

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Table 6

Group information using Tukey's method and 95% confidence

Factor	N	Average	Group		
EIIA	6	4,833	TO		
RCIA	6	4,333	TO	B	
RC	6	3,167		B	C
EI	6	2,833			C

Note: Means that do not share a letter are significantly different.

Preparing learning recovery activities and research and academic publications with the assistance of artificial intelligence

In statistics, a p-value of zero indicates a virtually zero probability of obtaining the observed results under the null hypothesis, suggesting strong evidence against it, implying statistically significant differences between performing PARA and IPA with and without AI assistance. In the context of your study, a p-value of 0.001 already shows significant differences between AI-assisted review and grading and the same activity without them. A p-value of zero would further reinforce this conclusion, indicating that the observed results are not due to chance and there is a clear difference between the evaluated methods (Box et al., 2005) (Moore et al., 2005). On the other hand, p-values of zero are not exactly zero, but extremely small so that in this case the statistical software Minitab was able to round these values to zero which are lower than the software's precision limit (Minitab, 2024).

Table 7

Analysis of Variance for PARAIA; FOR; IPAIA and IPA

Fountain	GL	SC Ajust.	MC Ajust.	F value	p-value
Factor	3	16,833	5,6111	11.61	0.000
Mistake	20	9,667	0.4833		
Total	23	26,500			

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Table 8

Grouping information using the Tukey method and a 95% confidence level PARAIA; PARA; IPAIA and IPA

Factor	N	Average	Group	
IPAIA	6	4,667	TO	
PARAIA	6	4,500	TO	
IPA	6	3,000		B
FOR	6	2,833		B

Note: Means that do not share a letter are significantly different.

Statistically, according to ANOVA, with 95% confidence with the comparison of Tukey methods, the preparation of learning recovery activities and Research and academic publications with the assistance of artificial intelligence presented a higher level of satisfaction.

Student participation

This graph resulting from the Tukey comparison shows the confidence intervals for the mean with 95% confidence. Using inferential statistics, the confidence intervals for the mean of each method were obtained. The confidence intervals with the highest value were selected, corresponding to PEIA with 3.833. In this section, the values for Research and academic publications with assistance from artificial intelligence continue to be significantly different from IPA, which confirms the previous section.

Table 9

Comparison of IPAIA, IPA, PEIA and PE with Tukey's method and 95% confidence

Factor	N	Average	Group	
IPAIA	6	4,667	TO	
PEIA	6	3,833	TO	B
IPA	6	3,000		B
PE	6	2,833		B

Note: Means that do not share a letter are significantly different.

According to the P value of 0.003 (Table 10), the null hypothesis is rejected and the alternative hypothesis is accepted; that is, according to the ANOVA analysis, there is a statistically significant difference for teachers when carrying out Student Participation assisted with the AIs than when carrying out it without them. These values are shown below in the box plot.

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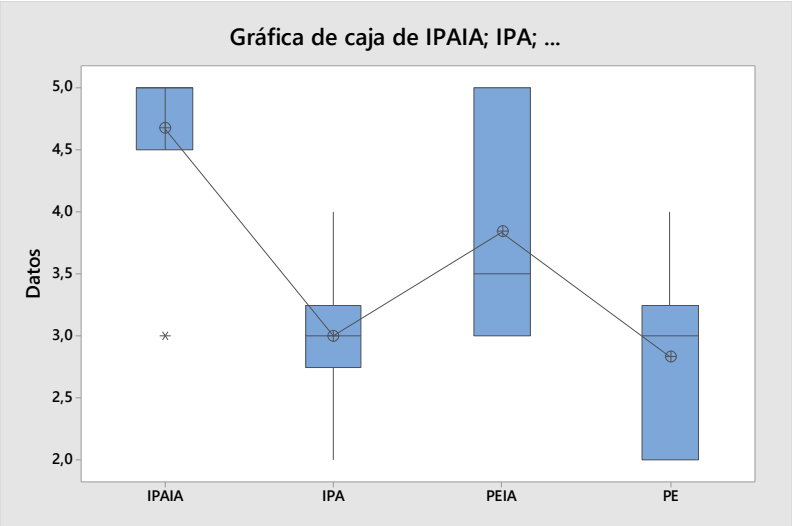
Table 10

Analysis of Variance for IPAIA, IPA, PEIA and PE

Fountain	GL	SC Ajust.	MC Ajust.	F value	p-value
Factor	3	12.83	4,2778	6.58	0.003
Mistake	20	13.00	0.6500		
Total	23	25.83			

Figure 4

Chart of tables for IPAIA, IPA, PEIA and PE



Quantitative analysis based on efficiency and time in carrying out the teaching workday in person or outside the campus

Of the teachers who responded to the question: "How much time do you estimate you save by using artificial intelligence compared to the traditional method for each activity?", 50% indicated that they save around one hour, 33% indicated that they save two hours, and 18% stated that they save more than two hours in carrying out these activities.

Quantitative analysis based on the Quality of Work in carrying out the teaching workday in person or outside the campus

According to the teachers' answers to the question: "Do you think that the quality of the work done is better with artificial intelligence or with the traditional method for each activity? (1 = Much worse, 5 = The same, 10 = Much better)", 50% stated that the quality

of the work is much better, 83% indicated that it is the same, and 16% expressed that it is much worse.

Qualitative analysis

Qualitative analysis based on work stress reduction

For the teachers who participated in this study, the use of Artificial Intelligence (AI) in education is a valuable tool for the activities of the teaching workday, both in the classroom and outside of it. Educators state that the use of AI significantly reduces monotonous and repetitive activities, allowing teachers to focus on improving education and not on administrative tasks. In addition, it allows them to dedicate more time to carrying out more enriching and stimulating activities. In addition, teachers emphasize that AI allows them to carry out activities in a more dynamic and diverse way, which is reflected in a significant reduction in work and intellectual stress in the execution of the aforementioned actions. In fact, 100% of the participating educators state that they reduced their work and intellectual stress.

It is important to emphasize that the participants in this study take into account that what is generated by AI must always be reviewed to avoid becoming dependent and to ensure that the content is in line with the planned educational objectives.

Conclusions

- It is concluded that for the activities of the teaching workday in person or outside the school, which are: pedagogical updating; preparation of classes, teaching materials and learning environments; review and grading; preparation of reports; preparation of learning recovery activities; research and academic publications and student preparation, statistically there is a significant difference with 95% confidence between using the tools provided by the AIs compared to the execution of the same activities on a regular basis. It was found that in all cases it is statistically more satisfactory to use the AIs.
- Quantitative analysis of effectiveness and time in implementationThe study of the teaching workday in person or off campus reveals that the majority of teachers who participated in this study have experienced significant time savings. 50% of teachers indicated saving approximately one hour, while 33% indicated saving two hours and 18% indicated saving more than two hours compared to the traditional method. Regarding the quality of work, the results are equally impressive. According to the teachers' responses, 50% consider that the quality of work is much better with artificial intelligence, while 83% indicate that it is the same. Only 16% expressed that the quality of work is poor.

- The qualitative analysis based on job stress reduction reveals that the use of Artificial Intelligence (AI) in education has proven to be a valuable tool for teachers, reducing monotonous activities and allowing them to focus on improving education. In addition, it allows them to dedicate more time to enriching and stimulating activities, and to carry them out in a more dynamic and diverse way, which significantly reduces work and intellectual stress.

Conflict of interest

There is no conflict of interest in relation to the submitted article.

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