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REVIEW

Educational Intervention with Artificial Intelligence at the Maryland Educational Unit

Intervención Pedagógica con Inteligencia Artificial en la Unidad Educativa Maryland

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ABSTRACT

The paper presented a pedagogical intervention plan focused on technological innovation through the implementation of artificial intelligence (AI) at the Maryland Educational Unit. The proposal was based on the guidelines of National Education Law No. 26.206 and UNESCO's approaches, which highlighted the importance of ensuring inclusive, equitable, and quality education adapted to the challenges of the digital age. It analysed how AI, through tools such as Chat GPT, chatbots and augmented reality, offered new possibilities for personalising learning, improving teacher time management and enriching curriculum content. Teacher training was promoted as an essential axis for effectively integrating these technologies and generating real change in school practices. Digital literacy was understood as a key competence for both students and educators in a context of constant technological transformation. The research included previous experiences, such as the study by the University of Pent Flacso, which demonstrated how the use of AI enhanced 21st-century skills such as critical thinking, creativity and collaboration. It was concluded that educational change did not depend exclusively on technological tools, but on a critical and conscious reinterpretation of teaching practice. The project highlighted that AI strengthened the role of teachers as mediators and facilitators, promoting transformative education in line with the demands of a globalised world.

Keywords: Artificial Intelligence; Educational Innovation; Digital Literacy; Chat GPT; Augmented Reality.

RESUMEN

El trabajo presentó un plan de intervención pedagógica centrado en la innovación tecnológica mediante la implementación de la inteligencia artificial (IA) en la Unidad Educativa Maryland. La propuesta se basó en las directrices de la Ley de Educación Nacional N° 26.206 y en los planteamientos de la UNESCO, los cuales destacaron la importancia de garantizar una educación inclusiva, equitativa y de calidad adaptada a los desafíos de la era digital. Se analizó cómo la IA, a través de herramientas como Chat GPT, los chatbots y la realidad aumentada, ofreció nuevas posibilidades para personalizar el aprendizaje, mejorar la gestión del tiempo docente y enriquecer el contenido curricular. Se promovió la formación docente como eje esencial para integrar eficazmente estas tecnologías y generar un cambio real en las prácticas escolares. La alfabetización digital fue entendida como una competencia clave tanto para estudiantes como para educadores, en un contexto de constante transformación tecnológica. La investigación incluyó experiencias previas, como el estudio de la Universidad de Pent Flacso, que demostró cómo el uso de la IA potenció habilidades del siglo XXI, como el pensamiento crítico, la creatividad y la colaboración. Se concluyó que el cambio educativo no dependió exclusivamente de las herramientas tecnológicas, sino de una resignificación crítica y consciente de la práctica docente. El proyecto resaltó que la IA fortaleció el rol del docente como mediador y facilitador, promoviendo una educación transformadora, acorde con las demandas de un mundo globalizado.

Palabras clave: Inteligencia Artificial; Innovación Educativa; Alfabetización Digital; Chat GPT; Realidad Aumentada.

INTRODUCTION

The purpose of this work is to develop an intervention plan based on educational technological innovation, with the application of Artificial Intelligence as a resource, to promote new learning scenarios in the Maryland Educational Unit.

As UNESCO considers,[1] artificial intelligence (AI) in education has great potential to address critical challenges and transform teaching and learning practices to help ensure inclusive, equitable, and quality education for all.

We will analyze the implementation of AI at the Maryland Educational Unit. We will consider the significance of educational advancements, particularly in the context of AI, which offers tools for communication and information access, enabling people to communicate, interact, and educate themselves, thereby gaining equal opportunities.

With the implementation of training, access to educational resources in the computer lab will be facilitated, improving student responses and encouraging greater participation in learning. Key challenges in modern education can also be addressed, such as adapting to the individual needs of each student, optimizing teachers' time and resources, and accelerating progress toward educational goals.

Chatbots are traditional programs for answering specific questions and recognizing keywords. Chat GPT interprets and analyzes the context behind a question to provide the most accurate and appropriate response. Virtual reality is the representation of scenes or images that give the impression of real existence.

Carbonell[2] understands educational innovation as: "(a) set of ideas, processes, and strategies, more or less systematized, through which changes in current educational practices are introduced and brought about".

Educational innovation is a significant change in the teaching-learning process that is aimed at improving academic quality.[3] This plan seeks to facilitate the task, and its implementation can benefit the teaching-learning process by providing innovative and up-to-date tools for the development of skills and competencies in students.

As indicated in the document (https://www.igualdadycalidadcba.gov.ar/SIPECCBA/publicaciones/Estado_de_situacion_TIC_en_Cba_-_30_DE_DIC.pdf)

ICTs are here to stay and are a requirement of today's society.[4] They cut across all areas of activity and are the key to inclusion in the Knowledge Society.[5] But education is a complex social phenomenon. Therefore, a transformative ICT policy must be based on planned action that starts from an understanding of the current situation to set the objectives to be achieved and how they will be completed, while maintaining a pedagogical perspective throughout the process.

To make effective use of artificial intelligence (AI) tools in education, teachers must acquire new skills and competencies. This involves understanding how AI can improve the learning process, making informed decisions about its implementation in new educational products, possessing data analysis skills to leverage the information provided by AI, developing management capabilities to administer both human and technological resources, adopting a critical perspective on the impact of AI on human life, and fostering digital skills among students.

DEVELOPMENT

National Education Law No. 26.206, passed in 2006,[6] represents a crucial step in the process of restoring education to build a more just society, and its content and objectives aim to solve the problem of inequality.

As stated in ARTICLE 3—Education is a national priority and constitutes a State policy for building a just society, reaffirming national sovereignty and identity, deepening the exercise of democratic citizenship, respecting human rights and fundamental freedoms, and strengthening the economic and social development of the Nation.

Its objective is to address the challenges of a society where universal access to quality education is a prerequisite for complete social integration. It regulates the exercise of the right to education and learning enshrined in Article 14 of the National Constitution. Similarly, the National Education Law stipulates in Article 3 that education is a national priority, builds a just society, reaffirms national sovereignty and identity, and respects democratic citizenship and human rights, and stipulates that it constitutes a national policy to deepen the exercise of fundamental freedoms.

Educational intervention is a series of actions involving motivation, pedagogy, methodology, and evaluation, carried out by institutional or individual agents. These actions are carried out to implement a pre-established program and help the target individuals or groups achieve the objectives defined in that program. Any attempt

to transform the educational reality must begin with a profound reflection on the type of intervention to be carried out, as suggested by Freire and Andrade.[7]

Essentially, an intervention aims to bring about change, usually in knowledge, attitudes, or practices. This change was evaluated by comparing data before and after the intervention,[8] emphasizing the importance of using a precise methodology in this process.

As defined by UNESCO,[9] digital literacy is the ability to access, manage, understand, integrate, communicate, evaluate, and create information from digital technologies for employment, adequate work, and entrepreneurship, through safe and relevant use. This includes computer literacy, ICT literacy, and media literacy, to empower people to adopt a critical attitude towards the use of information and digital technologies.

As stated by the United Nations Educational, Scientific and Cultural Organization (UNESCO), Review and dynamically define the roles of teachers and the competencies they need in the context of teacher policies, strengthen teacher training institutions, and develop appropriate capacity-building programs to prepare teachers to work effectively in educational environments with a strong presence of artificial intelligence.

Following this line of thinking and considering the reality of education and virtuality, it is necessary to investigate what new teaching tasks can be designed in the field of online science today. Today, the use of artificial intelligence and its associated technologies can be effectively demonstrated and analyzed in the classroom, making it essential to understand this to comprehend its applicability.

Chat GPT is a computer program based on what we know as Artificial Intelligence. It generates texts like a computer robot that chats. When you enter its page, ask a question and it will immediately provide an answer... it generates tailored responses:

1. To the context of the question
2. The user's request
3. The degree of training of its algorithms.

Therefore, if two users ask the same question, they may receive similar answers, but not identical ones.[10]

Alegría Blázquez Sevilla states that augmented reality can be described as extra data obtained by observing an environment through the camera of a device with special software. This additional information can be presented in various formats, such as images, image carousels, audio files, videos, or links.

Some of the applications of augmented reality, according to Blazquez Sevilla, include:

- In laboratories: The teacher incorporates information into the different elements of the laboratory, allowing students to access this information.
- In fieldwork, it allows the object of study and knowledge to be related in the same time and place. For example, tours of the city can be taken to visit notable sites and discover relevant information about those places, such as statues, buildings, monuments, among others. Similarly, species, geographical features, and other elements can be identified.
- To visit events such as exhibitions, seminars, conferences, meetings, etc. Through attendees and speakers, QR codes can be included on informational posters, brochures, and catalogs. This is an exciting resource as it is a way to include a large amount of information related to the event.
- Augmented reality is added to electronic or paper books using text, illustrations, headers, footers, etc. as information triggers, and in many cases, additional information is included, such as the author's biography, footnotes, videos that expand on the action, additional text, and audio.
- For visits outside the classroom and as an educational supplement. Museums, galleries, factories, and companies incorporate augmented reality into their tours, providing visitors with comprehensive and visually appealing information. In addition to learning about the subject of the visit, students develop the skills that using this technology provides.
- Augmented reality has proven to be a tool that significantly facilitates the learning process and the development of interdisciplinary skills in areas such as biology, art, history, design, languages, geography, etc.

Augmented reality is radically changing the world of education by offering new learning opportunities. The benefits gained in the teaching-learning process include immersive experiences, personalized learning, the promotion of collaborative work, and the simulation of real-life situations.

In addition, augmented reality has applications in different educational areas, which broadens teaching possibilities and provides more enriching learning experiences.

These tools are essential in a technologically globalized world. Fortunately, Argentina is at the forefront of new technologies due to its significant development and export of technological services. In this context, children must begin engaging with ICTs from primary school. This project essentially aims to promote the use of new technologies among teachers and students, preparing them to use and apply digital tools.

Based on the research carried out by the University of Pent Flacso: Artificial Intelligence and Active Learning: Research and Design of Teaching Strategies with AI in Schools, which investigated and promoted the inclusion of

artificial intelligence in various educational proposals. Assuming that learning is an active process during which students acquire knowledge about the activities planned by the teacher.[11]

The objective of this project was to design teaching strategies with activities where students use artificial intelligence, focusing on the potential of this technology and promoting key skills such as communication, critical thinking, collaboration, and creativity, also known as key skills for the 21st century.

The conclusions reached by this research were as follows: Greater employability of critical thinking, reflection, comparison, and analysis skills. Strategies were developed for practical discussion based on the formulation of essential questions. The classroom environment was considered a good place to foster collaboration among students. Creativity and innovation were developed through inspiration, curiosity, new challenges, and exploration of different possibilities. This activity allowed students to try out new technologies and use creative approaches in the classroom. Instead of eliminating technology, teachers are considering how to formally integrate tools like Chat GPT into their teaching methods, recognizing the benefits of using them openly and exercising caution against hidden use. This change in attitude shows the importance of adaptability and flexibility in education, especially in the age of digital technology and artificial intelligence.

CONCLUSIONS

The implementation of an intervention plan based on educational technological innovation through the use of artificial intelligence (AI) represents a fundamental advance in the transformation of teaching and learning processes, especially in school contexts such as the Maryland Educational Unit. This proposal, aligned with the principles of National Education Law No. 26.206 and the guidelines of international organizations such as UNESCO, has the central purpose of ensuring inclusive, equitable, and quality education capable of responding to the demands of a society immersed in the digital age.

The work carried out shows that artificial intelligence is not just another technological tool, but rather an integral resource capable of redefining educational environments, enabling adaptive, personalized, and efficient teaching methods. Through the use of tools such as Chat GPT, intelligent chatbots, and augmented reality, teachers can optimize time, improve attention to diversity, and enrich curriculum content with interactive and immersive experiences. This promotes more meaningful learning that is aligned with 21st-century skills: critical thinking, communication, collaboration, and creativity.

In this context, digital literacy emerges as an essential component of the educational process, as it equips both teachers and students with the skills necessary to function in contexts characterized by the speed of information, constant transformation, and the intensive use of technologies. Therefore, teacher training and institutional planning around ICT cannot be addressed as isolated actions, but rather as part of a comprehensive educational policy that includes ongoing professional development, the development of new teaching practices, and the thoughtful incorporation of emerging technologies.

Indeed, the educational intervention proposed in this project recognizes that change does not come about solely through the introduction of technological resources, but through the reinterpretation of traditional school practices based on an innovative, conscious, and well-founded approach. As highlighted by Freire, Andrade, and other authors cited, intervening in education involves acting intentionally, with a critical eye, and with the firm conviction that technology is a means to achieve substantial improvement in learning, not an end in itself.

Likewise, the experience analyzed through the research background of the University of Pent Flacso shows that the use of AI in classrooms, far from displacing teachers, strengthens their role as mediators of knowledge, facilitators of educational experiences, and guides for autonomous learning. By integrating tools such as Chat GPT in an open and regulated manner, a paradigm shift is generated in which technology ceases to be an external instrument and becomes a structural component of teaching strategies.

This intervention plan represents a relevant and necessary response to the current challenges facing the education system. It promotes the construction of inclusive, dynamic, and innovative school environments in which artificial intelligence and ICT are articulated with solid pedagogical principles and educational policies committed to equity and social justice. Educational transformation through AI is not a future utopia, but a present reality that requires strategic decisions, political will, and an active commitment from all those involved in the educational process. Only then will it be possible to build a truly transformative education, capable of preparing new generations to successfully face the challenges of a digital, globalized, and interconnected world.

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