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VENTANAS AL CONOCIMIENTO

Relationship between children with ADHD and the family environment:

a systematic review

Teacher-researchers:

Evaluation of research quality based on efficiency, efficacy, and effectiveness

Other Subjects

Evaluation of academic performance by applying ICT in teaching and learning processes

Use of digital workspaces by primary school teachers in France

Management indicators and decision-making

in national educational units of Maracaibo, Venezuela

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Editorial

Education at the crossroads: Digital realities, persistent inequalities, and new paradigms

Dear academic reader community,

This issue of our journal stands as a deliberate mosaic, where each investigative piece illuminates a critical facet of the complex contemporary educational landscape. The eight articles gathered here, along with the final conference paper, do not constitute a random collection but a carefully arranged reflective itinerary. This journey guides us from the concrete transformation of classrooms toward the deepest human challenges, passing through management frameworks and ethical imperatives, to culminate in a fundamental reflection on the very foundations of knowledge. The proposed sequence —from Schneewele to Medina Borges— is not chronological but conceptual, revealing an intrinsic dialogue between the digital, the human, the organizational, and the philosophical.

We open this dialogue on the ground of immediate practice. The study by **Manuel Schneewele** on the **PrimOT** platform in France places us at the heart of the everyday digitalization of primary school. His analysis demonstrates widespread adoption and effective integration of this digital workspace, normalizing its use in pedagogical routines. This success, however, is not an endpoint but a starting point that immediately forces us to look beyond the tool.

Because technology is implemented in complex human contexts. The revealing systematic review by **Celia Gallardo Herrerías** on the **relationship between the child with ADHD and the family environment** reminds us forcefully that the educational process transcends digital or physical space; it is rooted in bidirectional emotional and relational dynamics. The cycle of negative emotionality, parental styles, and clinical symptomatology described shows that any pedagogical innovation —including digital ones— must be sensitive to the student's psychosocial well-being and their support system. One cannot optimize teaching without understanding these fundamental interdependencies.

Precisely, the effectiveness of the digital tool when the human context is considered is strengthened by the research of **María Elena Di Tillio Cárdenas and Luis Alejandro Lobo Caicedo**. Their quantitative evaluation confirms that the pedagogical application of ICT in subjects like Geography and History **significantly favors academic performance.** This empirical finding validates the direction indicated by Schneewele, but, like him, its authors warn: success depends on teacher training and strategic suitability. The tool is powerful, but its power is channeled by professional competence and contextual awareness.

Faced with this reality of digitized classrooms and complex human realities, the question arises about the leadership that can guide these transformations. The research by **Beisy Lisbeth Romero Luzardo** on **Conscious Educational Management** offers a paradigmatic answer. In a BANI (Brittle, Anxious, Non-Linear, Incomprehensible) world, it proposes transcending traditional managerial models towards a **Conscious Transpersonal Educational Administration**. This approach cultivates ethical, resilient, and collaborative leadership, integrating mindfulness and integral human development. It is the necessary framework for managing institutions that must simultaneously integrate technology

(like PrimOT), welcome diversities (as in ADHD cases), and enhance learning (through ICT), all with wisdom and adaptability.

How does this conscious leadership translate into the daily practice of management? The study by **Deinny José Puche Villalobos and Savier Fernando Acosta Faneite** in Maracaibo provides a crucial piece by demonstrating, with quantitative evidence, the **positive correlation between management indicators and effectiveness in decision-making**. For administrators, this relationship is particularly strong. Conscious management does not dispense with data; it requires and humanizes it. Indicators are the compass, but consciousness is the ability to navigate with it in turbulent waters.

Excellence in management and teaching must, in turn, be supported by the quality of the knowledge generated and transmitted. The work by **Jossarys Gazo Robles** on evaluating the **research quality of university teachers** based on efficiency, efficacy, and effectiveness positions research as the fundamental pillar of the educational ecosystem. Without rigorous scientific production, digital tools, inclusive strategies, and management models lack a valid and reliable knowledge substrate.

Advancing in this layer of critical thought, the analysis by **Thais Raquel Hernández Campillo** on **artificial intelligence literacy and content curation** in France points to the horizon of complexity we face. It is not enough to use technology (Schneewele) or measure its impact (Di Tillio and Lobo); it is now imperative to develop critical and ethical competence to interact with AI systems. Content curation emerges as the key skill to discriminate, contextualize, and give meaning to information in an algorithm-mediated environment. It is the necessary antidote against misinformation and superficiality.

However, all this conversation about digital vanguard and critical thought may seem abstract when contrasted with realities where the basics are in question. The reflection by **Mário Adelino Miranda Guedes** on **access to primary education in Angola** is an unavoidable ethical reminder. The figure of 22% school exclusion confronts us with persistent inequality as the greatest global educational challenge. The socioeconomic, geographic, and health factors limiting access in Angola and so many other places demand that any innovative paradigm include, as its first mandate, the fight for equity. We cannot debate AI while millions of children do not even have a classroom.

Finally, to give coherence and depth to this mosaic of realities —digital, emotional, managerial, critical, and unequal— we turn to the conference by **Rosa María Medina Borges, "Philosophy or Philosophies?"**. Her radical questioning of the single canon and her defense of the plurality of knowledges provides us with the ultimate philosophical framework. Education at the crossroads does not need a monolithic answer but the capacity to dialogue with **multiple paradigms**. Her reflection validates the necessary coexistence and dialogue between technological efficacy, human sensitivity, conscious management, investigative rigor, critical literacy, and social justice.

In conclusion, the sequence of this issue reveals to us a journey from the tool toward meaning. It shows that digital reality (Schneewele, Di Tillio and Lobo, Hernández Campillo) is inseparable from human reality (Gallardo Herrerías, Miranda Guedes), and that both require new paradigms of management (Romero Luzardo, Puche and Acosta) and professional practice (Gazo Robles), all under a plural and critical philosophical gaze (Medina Borges). The crossroads is not a dead end but an in-

tersection where the direction to take will depend on our capacity to integrate, with wisdom and justice, all these dimensions. The articles presented here not only diagnose this crossroads but offer valuable lights to navigate it.

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Use of digital work spaces by primary teachers in France

Uso de espacios digitales de trabajo por maestros de enseñanza primaria en Francia

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Abstract

The study presents an analyze of implementing the PrimOT platform as a digital workspace in the Central France academic region. The methodology employs a mixed-methods approach, including administering a questionnaire to primary school teachers and conducting semi-structured interviews with school principals. The results offer insights into the level of interaction with the platform, as well as perceptions and satisfaction, the use of digital tools for learning, and PrimOT's impact on various aspects of the educational environment. The study concludes that PrimOT has been widely adopted by teachers, effectively integrating into daily teaching, and learning routines. However, areas for improvement and challenges are identified to maximize the platform's potential in response to the evolving needs of the educational setting.

Keywords: educational technology, teacher, primary education, learning.

Resumen

El estudio presenta un análisis de la implementación de la plataforma PrimOT como espacio digital de trabajo en la academia de la región central de Francia. La metodología utilizada se sustenta en la perspectiva mixta de la investigación social, mediante la aplicación de un cuestionario a maestros de escuelas primarias y de entrevistas semi-estructuradas a directores educativos. Los resultados permitieron comprender el nivel de interacción con la plataforma, así como la percepción y satisfacción, la utilización de herramientas digitales para el aprendizaje y el impacto de PrimOT en diversos aspectos del entorno educativo. Se concluyó que PrimOT ha sido ampliamente adoptada por los maestros, integrándose de manera efectiva en las rutinas diarias de enseñanza y aprendizaje. No obstante, se identificaron áreas de mejora y desafíos para maximizar el potencial de la plataforma, según las necesidades cambiantes del entorno educativo.

Palabras clave: tecnología de la educación, profesor, enseñanza primaria, aprendizaje.

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Introduction

The adaptation of educational systems to digitalization has been transformed into a central axis in today's society. In that sense, diverse countries and organizations allocate programs and budgets to equip schools with devices, connectivity, and digital educational platforms. In the case of the European Union, the Digital Education Action Plan (2021-2027) is adopted, an initiative aimed at a high-quality, inclusive, and accessible digital education that has as its object to support the adaptation of education systems to the digital age (European Commission, 2021).

Due to the global confinement originated by COVID-19, the work environment and daily life are increasingly linked to digital tools. It is thus how the massive use of online educational platforms impacts and integrates into the daily work of different educational actors such as teachers and students. The above implies not only having the necessary infrastructure, it also requires a better capacity to navigate, understand, and effectively utilize technologies.

As part of the digitalization of education in France, the Digital Workspace (Espace Numérique de Travail) is introduced to modernize pedagogy and school management tools. Its implementation, in the French educational system, in the year 2020, responds to a superior level of digital education, in that it promotes opportunities to modernize the management and organization of educational institutions. The definition of the term alludes to *"an ensemble intégré de services numériques choisis et mis à disposition de tous les acteurs de la communauté éducative d'une ou plusieurs écoles ou d'un ou plusieurs établissements scolaires dans un cadre de confiance défini par un schéma directeur et par ses annexes"* [a set of chosen digital services made available to all actors of the educational community of one or more schools or one or more educational establishments within a trusted framework defined by a master plan and its annexes] (Ministère de l'Education Nationale et de la Jeunesse. Direction générale de l'enseignement scolaire, 2024). In practical terms, it can be conceptualized as an integrated digital platform composed of communication and collaboration services, information and documentation, support for student life, pedagogical and educational production, as well as other useful services.

The digital workspace is also denominated, by the academic community, as a digital educational platform. Both terms are framed within the process of educational digitalization, allow the development of new forms of school organization and management, update pedagogical strategies and practices in the classrooms, in addition to promoting the relationships between educational structures. In relation to the above, diverse studies focus their analyses on the incorporation of digital contexts into education, attending to their use by students (Jiménez y Fernández, 2021; Rivera et al., 2024; Velasteguí, 2019; Flores y Meléndez, 2024) and their employment by teachers and professors of different educational systems (Barragán et al., 2024; Chávez, 2021; Mujica, 2020; Chugh et al., 2023).

On the other hand, Jacovkis et al. (2022) explains how the adoption of educational digital platforms influences the family sphere. The introduction of digital workspaces into the French educational system constitutes a support for the relationship between the school and the family. In this manner, it aims to strengthen the cooperation between parents and the school in the territories, involving the family in school life. On the other hand, it seeks to improve the communication between the institution and the parents, in a context of trust and transparency. In that sense, the security and confidentiality of the handled data is guaranteed by applying the General Data Protection Regulation of the European Union (Conseil européen, 2018).

The implementation of digital workspaces in French academies is realized and financed by the local authorities, who offer personalized accompaniment to the users. Said digital tools promote a discourse of change centered on the potential benefits of technology. According to statistics from the Ministry of Education, more than 90% of public colleges and lycées currently count on a digital workspace, which represents an increase with respect to the year after its implementation. Nevertheless, its incorporation in primary schools is progressive but limited (Ministre de l'Éducation nationale et de la jeunesse, 2023).

As has been expressed previously, digital workspaces have generated a change in the practices and relationships among the actors involved in the school context. In that sense, this investigation yields as principal results an analysis of the utility, the usability, and the acceptability of the digital workspace by primary school teachers. It is considered that these spaces can create links among their users, in addition to being a source of pedagogical innovation and facilitating co-education. The idea that they can facilitate access and communication with a distant public is also highlighted.

Another of the investigation's results is to determine the impact of educational digital platforms on diverse aspects of the educational environment, as well as the challenges in the implementation and adoption of these technological tools, from the perspective of primary school administrators. Despite the possibilities offered by educational digital platforms, discrepancies persist between the institutional discourses, the platform designers, and the perceptions of the educational actors.

In correspondence with what is described and based on the review of academic literature, a theoretical void related to the scarce generation of investigations in French primary education is confirmed, which examine the uses of digital workspaces as a central piece of contemporary educational systems and the global educational agenda. In this manner, this inquiry exposes as an objective to analyze the utilization of digital workspaces in primary schools belonging to the Orléans-Tours Academy, located in the central region of France.

Contextual framework of the study

With the purpose of fundamenting the ideas expressed previously and of situating the reader in the context where the investigation is developed, a characterization of the Orléans-Tours Academy and of the digital environment PrimOT is presented. These sections allow establishing the study in a specific educational context, whose digital policies, institutional structure, and technological resources directly influence the observed teaching practices. In investigations of a descriptive-interpretative nature, the comprehension of the institutional and technological framework is key for the rigorous analysis of the data.

Characterization of the Orléans-Tours Academy

Located in the Centre Val de Loire Region, to the South of Paris and part of the Île-de-France region, it is one of the thirty academies that compose the educational system of France. Its headquarters is found in the city of Orléans and has under its charge the supervision and management of the educational institutions of six cities that integrate the region. The educational supervision includes the implementation of national educational policies at a regional level in primary schools, secondary schools, and universities. Another of its functions is the management of human resources, above all teachers and administrative personnel, as well as the administration of the budget assigned for education in its jurisdiction.

The Academy ensures the quality of education through the evaluation of academic results and the implementation of improvement programs. In that sense, it promotes educational innovation and the use of new technologies in the classrooms. For this, it provides continuous training for teachers, facilitating their professional development and mobility within the educational system.

The students corresponding to the Academy have diverse support services, such as professional and personal orientation, scholarships, and financial aid. In turn, they have programs for inclusion and academic success, also adapted for students with special needs.

The themes of the research projects that the Orléans-Tours Academy promotes are related to educational innovation taking into account the development of modern pedagogical methods, with the integration of digital technologies in teaching and the promotion of educational research. In this manner, it plays a crucial role in the educational development of the region, contributing to growth and social cohesion. Furthermore, it works in collaboration with local authorities, businesses, and other organizations to promote an education that responds to the needs of the labor market and society in general.

In that sense, it can be affirmed that the Orléans-Tours Academy is a key entity in the French educational system, dedicated to guaranteeing a quality education, adapted to the needs and challenges of its region. Its labor is framed, principally, in administrative management, support for students and teachers, and the promotion of educational innovation. Nevertheless, among its challenges can be cited the rapid implementation of national educational reforms and the maintenance of educational quality due to budgetary restrictions. Likewise, among the opportunities that the Orléans-Tours Academy possesses are the strengthening of collaboration with regional and national actors, the application of new technologies and innovative pedagogical methods, as well as the promotion of student and professional mobility programs. The implementation of digital workspaces, starting from the year 2021, provides a cohesive environment that enables teachers to perform their work functions in a more efficient and flexible manner, taking advantage of the benefits of technology to overcome physical or geographical limitations. These virtual platforms integrated by diverse tools and computer applications allow, also, collaborative work among teachers and other actors of education.

The digital workspace PrimOT in the Academy of Orléans-Tours

The digital workspace PrimOT, acronym for Primaire Orléans-Tours, is an online service, under paid subscription, available in early childhood education centers and in the primary schools that belong to the Orléans-Tours Academy.

The purpose of its launch, on December 1st, 2021, was to facilitate administrative and educational management, as well as to improve communication among the different actors of the educational community (teachers, students, parents, and service administrators). Accessible from any device with internet access, it integrates educational and pedagogical tools and resources. In turn, it offers a service to families that allows the monitoring of school life and the activities of their children, as well as communication with teachers.

Figure 1

PrimOT Interface

Nota: Taken from https://www.primot.fr/auth/login

PrimOT is supported on the Beneylu platform interface, destined principally to communication, administrative and pedagogical management in the primary schools of France. In this manner PrimOT presents as essential characteristics: the organization of classes, the management of schedules, academic monitoring, the availability of unlimited resources and learning tools, school-family communication, as well as collaborative work student-student, teacher-teacher. Although it possesses an intuitive design for users of all ages, it guarantees the security of personal data and the sensitive information shared by the users. In that sense, the access control manages the permissions so that only authorized persons can access certain information.

Figure 2

Notebook tool, used to organize the development of the class and the activities of the students

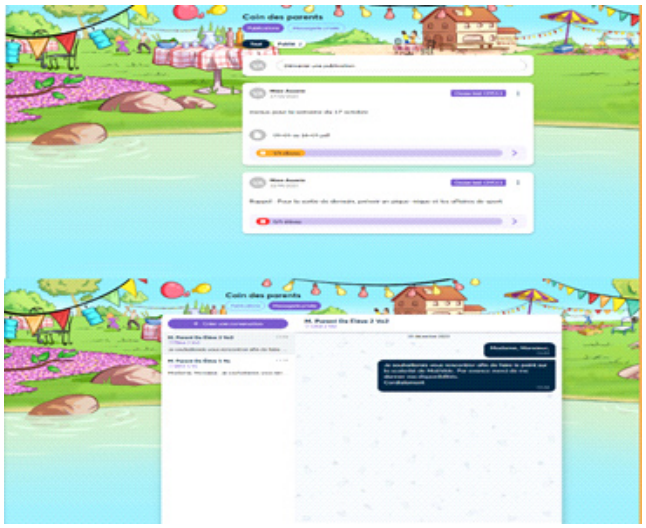
Note: Taken from https://www.snc.recia.fr/interface-et-outils-primot

The users of the mentioned platform are the teachers, the students and their families, the school principals, the municipal administrators and public establishments for intercommunal cooperation, administrative structures that promote intermunicipal cooperation to improve the quality of local public services.

According to its user typology, PrimOT differentiates the services it provides: for classes and schools it makes available textbooks, multimedia content for learning, digital library, class challenges, news bulletin, school report, activity agenda, and messaging. For municipalities and public establishments it offers services such as a blog, "parents' corner", publication of municipal information, cafeteria menus, news, leisure center activities, among others. Furthermore, it provides a media library for sharing documents, account creation, and personalization of the digital space with logos and links to external services used by schools and families.

Figure 3

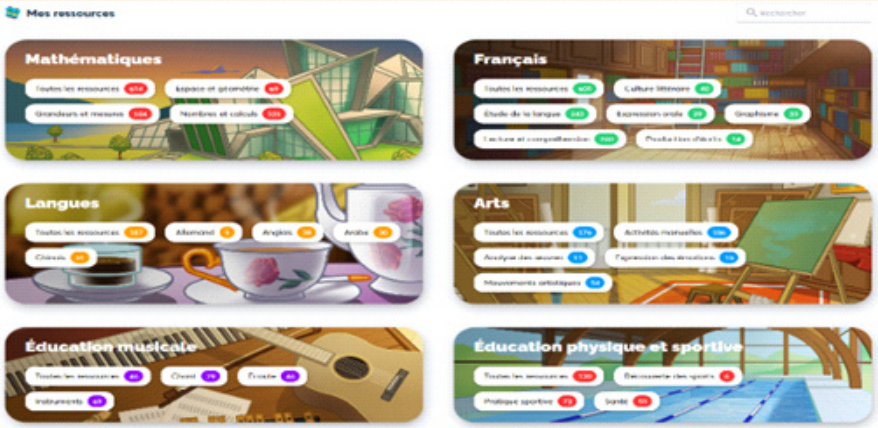
Instant messaging tool "The Parents' Corner", dedicated to transmitting information to families and to parent-teacher communication



Note: Taken from https://www.snc.recia.fr/interface-et-outils-primot

Figure 4

Multimedia resources of the platform as support for the different subjects



Note: Taken from https://www.snc.recia.fr/interface-et-outils-primot

The implementation of PrimOT has brought diverse advantages to primary education in the central region of France, among which are cited its ease of use, its intuitive ergonomics, the performance of work functions in a flexible manner through its dissimilar services, and the security it offers in data treatment. Some years after its deployment in the Academy of Orléans-Tours, it constitutes an aspect of interest for the author of this investigation, as it allows them to analyze the uses of this virtual work platform and establish conclusions about its utility and impact through the criteria of its principal users.

Methodology

The present article is based on the mixed research perspective, by combining qualitative and quantitative instruments. Hernández et al. (2014) indicate that "the necessity of utilizing mixed methods is the complex nature of the great majority of the phenomena or research problems addressed in the different sciences, represented or constituted by two realities, one objective and the other subjective" (p.536). On the other hand, a descriptive investigative scope of the research is assumed due to its most important characteristics among which can be mentioned "theory constitutes a reflection in and from praxis, attempts to understand reality, deepens the different motives of the facts, the individual is an interactive, communicative subject, who shares meanings" (Walker, 2016, p.21).

Attending to what is expressed, firstly, the quantitative phase was developed where a questionnaire directed to the teachers who used the platform was applied. The objective was to investigate the utility, the usability, and the accessibility of the platform. Subsequently, the qualitative approach was proceeded with, through the application of a semi-structured interview to administrators about the adoption of digital workspaces and their specific utilization by teachers in communication with parents.

Sample

In the research participated a total of 34 persons, belonging to three primary schools of the academy under study. A quantity based on the acceptance of informed consent and the adequacy to the selection criteria such as:

For the selection of teachers: (a) Level of experience in the use of PrimOT. (b) Quantity of subjects, areas or disciplines taught using PrimOT.

For the selection of school administrators: (a) Level of pedagogical responsibility (administrator, academic year responsible, pedagogical coordinator, digital referent). (b) Working in a primary school belonging to the Orléans-Tours Academy. (c) Experience with the platform for at least one year.

In this manner, the sample was constituted by 23 teachers and 11 school administrators. The selection of said subjects was motivated by the importance they have in guaranteeing that technology is an effective and secure tool that supports the educational objectives of the institution. Access to the sample was realized in a presential and remote manner, without any distinction, utilizing tools integrated by online chat.

Instruments

For the realization of this study was administered, firstly, a questionnaire about the use that the inquired subjects made of PrimOT. The questionnaire (Annex 1), besides questions concerning professional data and demographic information, was composed of 14 items in which the informant expressed their

experiences relative to: level of interaction and frequency of use of PrimOT (block 1), perception and satisfaction with PrimOT (block 2), impact on teaching and learning (block 3), technical aspects and support (block 4) and security and privacy (block 5). The instrument was applied virtually during the months of May and June of the year 2022, with the collaboration of educational inspectors from the Cher and Loiret regions, who were responsible for the technological implementation in the primary schools participating in the research.

On the other hand, semi-structured interviews were applied to administrators of primary schools. The guide of the instrument (Annex 2) was focused on the real or perceived uses according to 4 thematic axes: the students, the teachers, the parents and the school.

The duration of the interviews was between 30 and 45 minutes. The ethical requirements of all research process were complied with, formalized through an informed consent for the realization and recording of the interview. Subsequently, the interviews were transcribed literally in their entirety, anonymized and coded with the software ATLAS.ti, web version. The interviews were applied in the months of September and October of 2022.

Data analysis

All statistical calculations were realized through the Microsoft Excel calculation processor, which permitted the graphic analysis of the information collected.

For the analysis of the responses yielded by the interviews, the arguments of the interviewees were grouped and categorized, identifying consensuses and dissensuses. Also, the method of free word associations was utilized, where the order of appearance of the words and their frequency is analyzed (Ramírez, 2024). The theoretical foundations of this method evidence discourse as a social practice based on actions and manifestations of actors. Then, the transcriptions were grouped and the process of coding was developed taking into consideration the axes defined for each participant (director or teacher). Finally, the most pertinent collective narratives directly related to the central objective of this study and the elementary categories managed by the investigation are highlighted.

Results

Consequently, the principal conceptions and positionings of the studied subjects are presented, in relation to the utilization and functioning of digital work environments. In that sense, the collected data are grouped by the application of the research techniques, with the objective of structuring the description of the data following a logical and clear sequence.

Application of the questionnaire to teachers

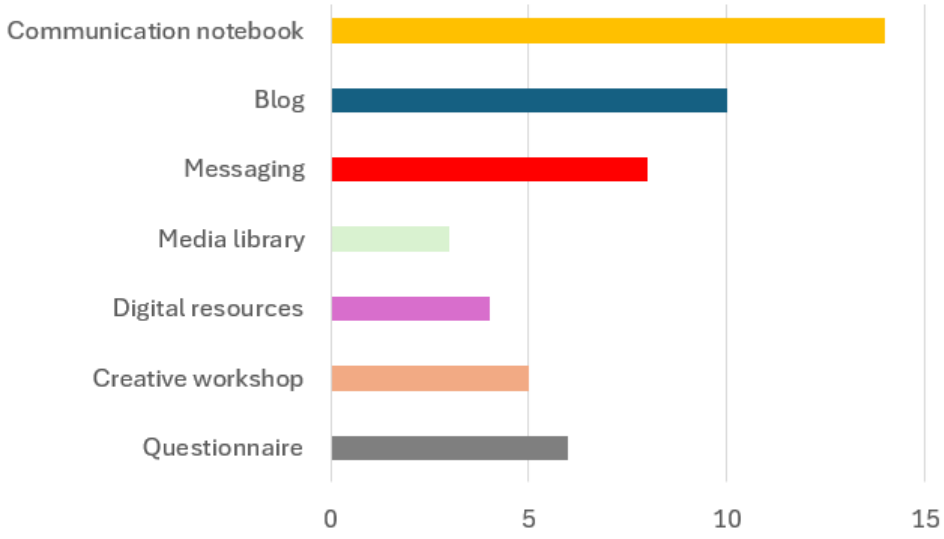
The first block of the questionnaire focused on evaluating the level of interaction of the users with the PrimOT platform, as well as the frequency with which they utilized the different functionalities it offers. The obtained results reveal a satisfactory level of interaction with the tool, which is reflected in the daily use of PrimOT by the majority of the participants. This frequency of use suggests that the platform has been integrated in a solid manner into the daily routines of the teachers, both for the planning and execution of academic activities. Only a small percentage (10%) of the informants reported sporadic or limited use, which could be related to factors such as the nature of their roles or the availability of time.

Regarding the perception and satisfaction with the platform (block 2), the participants in the study showed a positive tendency, highlighting the ease of use and the intuitive manner of the interface as the principal factors of satisfaction. However, some informants pointed out areas of improvement, principally related to the visual design of the tool, alleging that the quantity of functionalities hinders the selection of the desired function and the lack of an available technical support to contact in case of problems.

Towards the impact on teaching and learning was focused block 3. The users reported utilizing a wide variety of the functionalities that PrimOT offers. Among the most prominent are: the communication notebook (*cahier de liaison*, in French) employed for communication between the school and the parents, the homework notebook or cahier de texte, resource utilized by the teacher to organize daily school work and ensure that assigned tasks are not forgotten, messaging, as well as other tools for content management, the creation of interactive activities, and evaluation mechanisms. This finding indicates that the platform is not only used as an information repository, but as a dynamic resource that facilitates interaction and the participation of the students. Below, the percentage of utilization of the mentioned tools is represented graphically.

Figure 5

Most used functionalities of PrimOT by teachers, students, and parents



Note: Own elaboration.

The notable utilization of these tools is related to the regularity with which the users explore and apply them in their pedagogical labors. Many teachers described their use of the platform as intensive and constant, which suggests a high degree of confidence in the functioning of PrimOT to support their educational activities. This level of utilization may be related to the perception of PrimOT as a reliable and efficient tool for teaching and learning.

Regarding the technical aspects and support (block 4), the surveyed generally rated these elements favorably. Nevertheless, some mentioned occasional connectivity problems and the necessity of a more agile technical support during critical situations, such as examination periods or evaluative activities.

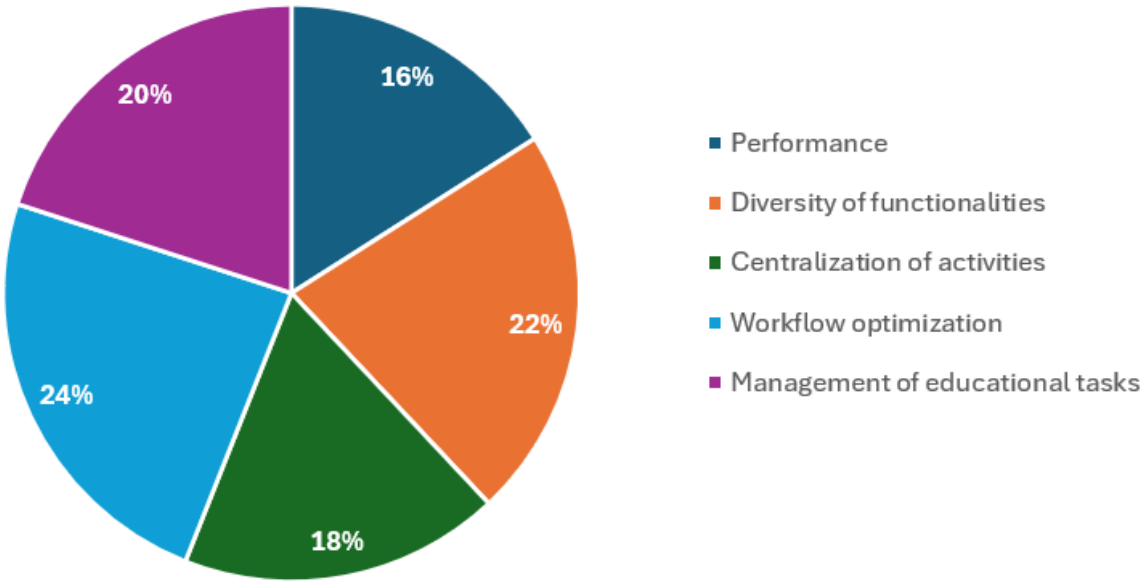
Finally, in block 5 relative to security and privacy, the participants manifested confidence in the security

measures implemented by PrimOT. The majority showed themselves (80%) satisfied with the privacy policies, although some suggested improvements related to transparency in the handling of personal and academic data and the encryption of information shared with the students' parents.

When comparing PrimOT with other similar tools, the surveyed mentioned that they prefer PrimOT due to its consistency in performance and the wide range of functionalities it offers in a single place. The following graphic represents the reasons for preference of the surveyed in the utilization of the platform.

Figure 6

Motivations for the utilization of PrimOT



Note: Own elaboration.

The results of the questionnaire verify the utility, the usability, and the acceptability of the digital work environment. These three elements are considered in a positive manner by all the teachers who responded to the questionnaire. One of the most recognized aspects is the benefit for communication with parents, which strengthens the school-family relationship. The obstacles mentioned by the surveyed focus on the recent implementation of the digital platform, therefore, training is necessary both for teachers and parents who do not feel comfortable with digital tools or who simply are not accustomed to using them.

Application of interviews to school administrators

In complement to the applied questionnaire, semi-structured interviews were conducted with administrators from diverse primary schools. These interviews had as an objective to explore the real or perceived uses of the PrimOT platform through the thematic axes alluded to in the methodological section. Likewise, the most relevant positionings for the investigation are explained, above all the key points that emerged during the interviews with the administrators.

The first issues were directed to the impact of digital work environments on the learners. The administrators highlighted that PrimOT has had a significant effect on the commitment and motivation of the students. It was observed that the platform facilitates the personalization of learning, allowing the students to advance at their own pace and according to their individual needs. Furthermore, some administrators mentioned that PrimOT has improved the digital skills of the students, preparing them better for the use of technologies in future academic contexts.

For the directors, PrimOT is "the school platform at the level of the children", principally "made for the students because they are the ones who will have more actions on the platform". The academic managers refer that the objective is for it to be visually attractive for the children in order to motivate them for learning. On the other hand, it must offer functionalities adapted for teachers and parents.

In relation to the teachers, the administrators agreed that the platform has been a valuable tool for the planning and management of educational activities. It was highlighted that the platform allows a greater organization of didactic materials and facilitates communication among teachers, which has improved collaboration and coherence in teaching. Furthermore, it is perceived that the professors have developed new digital competencies, improving their capacity to integrate technologies into their pedagogical practice.

The directors consider that it is the teacher who will generate uses because they will publish words or information and the parent will receive this information, will respond, will consult the tasks, and will aid in the educational formation of their child. The interviewees specify the importance of access to the platform from a mobile device, which will facilitate use by the parents, especially in preschool when the children do not master the functionalities of the platform. Until now, the platform is only accessible via a computer, which generates inconveniences for some families, as the mobile phone is the most used and most accessible device for the parents.

According to the directors, PrimOT integrates a multitude of applications in constant evolution. Among the most utilized applications are the communication notebook, the school notebook, and email, responses that correspond with the results yielded by the questionnaire applied to the teachers. Nevertheless, the use of other tools such as the media library, which stores educational digital resources, and the blog, which serves especially as a life notebook for preschool where parents convey their concerns about their children's learning, is evidenced. In the case of the communication notebook, its relevance in teacher-parent interaction is highlighted.

Regarding the parents, the interviews revealed that PrimOT has allowed for greater involvement in the educational process of their children. The administrators indicated that the platform offers parents more direct access to information about academic progress and school activities, which has improved communication between the school and the families. However, some administrators also mentioned challenges related to the training of parents for the effective use of the platform.

The directors explained that the tool called The Parents' Corner will facilitate chat communication with the school principal, and will offer the possibility to conserve the conversations, with the objective of rereading them at the precise moment. In this manner, the communication will be more instantaneous and integrated and will offer an update of the platform.

At an institutional level, the administrators expressed that PrimOT has contributed to the modernization of the administrative and pedagogical practices of the schools. The platform has been seen as a

catalyst for the digital transformation of the schools, promoting a culture of innovation and technological adaptation. Furthermore, a positive impact was identified in the coordination between different areas of the school, improving efficiency in management and the monitoring of educational activities.

In summary, the semi-structured interviews with primary school administrators reflect a positive perception about the impact of PrimOT on diverse aspects of the educational environment. Although challenges in the implementation and adoption of the platform are recognized, the administrators value its contribution to the improvement of teaching, learning, and school management.

Discussion

The results originating from the application of the explicated instruments allow a multifaceted characterization of the use of the PrimOT platform in primary education within the Academy of Orléans-Tours. In this manner, the findings point towards a progressive and functional integration of this digital tool in pedagogical practices, with different but complementary impacts among teachers, students, parents, and educational administrators.

The daily use of PrimOT reported by the majority of the teachers suggests an effective appropriation of the tool, aligned with the considerations of authors such as Liriano (2024) and Meridja and Abdelbaki (2024), who identify recurrence in use as an essential element for technological integration in primary education. Unlike other investigations where an instrumental or marginal use of digital platforms is observed (Pérez and García, 2023), the yielded data reveal an active and frequent functionality, encompassing not only administrative but also pedagogical aspects. In that sense, the potential of PrimOT as a solid and adaptable digital work environment is validated.

The sporadic use of the platform, expressed by a small group of teachers, invites profound reflection on the contextual variables that determine the frequency of utilization. In that order of ideas, the workload, the digital training of the user, and institutional support, could explain the resistance or the scarce technological appropriation, according to the factors found by Arotoma (2024) relative to internal barriers for the adoption of ICT in a research context similar to that of this investigation.

The favorable perception towards the platform's interface reinforces the idea that usability is a key component for technological integration in the educational teaching process in primary education. This affirmation corresponds with the study of Arreola et al. (2022) where usability, utility, administrative management, and digital skills are examined as aspects that allow improving the quality of primary education through the integration of technologies in the teaching process. Nevertheless, the criticisms relative to the visual design and functional saturation point towards a complexity paradox: a tool with multiple options can become, in the eyes of the user, less accessible if it does not count on adequate technical support. The above coincides with the investigation of Carballo and González (2023) that underlines the importance of user-centered design in digital work environments.

In relation to the pedagogical impact, both teachers and administrators highlighted that PrimOT not only facilitates the organization of teaching work, but also enhances the interaction and autonomy of the student body, in concordance with principles of active and personalized learning (Enríquez & Navarro, 2024). From that perspective, the platform is perceived as an added value, to the extent that it allows for management of work pace, an improvement in communication with families, and a strengthening of the school-home link. In this manner, the platform fulfills a role that goes beyond technological support and becomes a didactic and social mediator.

An emerging dimension of special relevance is the involvement of parents in the educational process offered by PrimOT. The arguments manifested by teachers and administrators about the utility of tools such as the Parents' Corner, is also reflected in recent studies on educational co-responsibility in digital environments to strengthen family accompaniment and improve the academic performance of students (Teherán, 2025). However, the availability of a mobile application of PrimOT represents a barrier in communication with the family, especially in homes where the computer is not the principal device. This situation indicates the necessity of a multiplatform design, if broader participation of families is desired.

From the institutional point of view, the administrators valued the platform as a catalyst for the digital transformation of the schools. This perception is coherent with the results of the study realized by Gonon et al. (2024) that analyzes digital transformation through the objectives, structures, cultures, and practices of the school. The improvement in interdepartmental coordination and the streamlining of administrative processes are positive collateral reasons that evidence the reach of the tool beyond the classroom.

Despite the advances, challenges linked to the training of all involved actors persist. Although teachers have developed digital competencies, a gap in the mastery of these tools by some parents is still perceived, especially in the initial levels. This finding reaffirms the necessity of continuous and inclusive training, not only for teachers, but also for families, in order to consolidate a digitally competent educational community.

In synthesis, the results support the usability and utility of PrimOT in the school environment, but its effectiveness depends on infrastructural factors (accessibility, support, training) and cultural factors (attitudes towards change, digital competence). The study confirms some patterns identified in previous investigations on educational digital environments, but also points out unresolved areas, such as usability from mobile devices or transversal training, which must be addressed for a more equitable and effective implementation.

Conclusions

The present study explored the implementation and impact of the PrimOT platform in the educational context of primary schools, addressing the perspective of teachers and school administrators. The obtained results allow confirming that PrimOT has been widely adopted by the teachers, integrating itself in an effective manner into the daily routines of teaching and learning. The frequency of use suggests that the platform is perceived as an essential resource that contributes to the efficiency and effectiveness of the educational process.

The satisfaction with the platform, yielded by the quantitative data of the questionnaire and the qualitative data of the interviews, reveal a predominantly positive perception towards PrimOT. The users value the ease of use, the intuition of the interface, and the offered functionalities. This generalized satisfaction, however, comes accompanied by the identification of areas of improvement, especially regarding the personalization of the experience and technical support.

The research has demonstrated the significant impact of PrimOT on teaching and learning, facilitating the organization and assimilation of contents. The role of the platform in the development of digital competencies in the teachers is also highlighted, which suggests a transformative effect on pedagogical practices. The platform has improved the communication and participation of parents in the

educational process, providing direct access to academic information and facilitating greater involvement in the education of their children. At an institutional level, PrimOT has contributed to the modernization of management and coordination practices, driving a culture of innovation within the schools.

Nevertheless, in primary education, there are few direct investigations on the deployment of these digital spaces, which is due in part to the limited deployment of the ENT (Digital Work Environments) at this educational level and to the difficult digital transition of primary schools.

Based on the results of this inquiry, the necessity to improve technical support and offer broader training to all involved actors, especially parents, is identified as important challenges. These challenges suggest that, to maximize the potential of PrimOT, a continuous focus on the improvement and adaptation of the platform to the changing needs of the educational environment is necessary.

The study focused on teachers and administrators because these actors are the principal users and managers of the PrimOT platform in the school environment. The teachers are directly involved in the daily implementation of digital educational tools, while the administrators play a crucial role in the supervision and decision-making about the adoption and use of technologies in the institution. The parents were not included in this study because their interaction with PrimOT is more limited and secondary in comparison with that of the teachers and administrators. This focus allows a more detailed analysis of the efficacy and challenges of the platform from the perspective of those who use it directly in the educational environment.

In relation to the above, the author of this investigation proposes as a new horizon of study the exploration of the use of PrimOT by the parents of primary education students in France.

Privacy: Not applicable.

Statement on the use of artificial intelligence: The author of this article declares that she did not use Artificial Intelligence in its preparation.

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Appendix 1

Questionnaire applied to teachers

Introduction: This questionnaire has as its objective to collect information about your experience and perception in the use of the PrimOT platform. Please, respond to the questions in a sincere manner, based on your personal experience. The collected information will be used exclusively for research purposes and will be kept in confidentiality.

Professional data

Years of professional experience in education: _____
Role in the educational institution: _____

Block 1: Level of Interaction and Frequency of Use of PrimOT

1. With what frequency do you use PrimOT in your daily work?
   (a) Every day
   (b) Several times a week
   (c) Once a week
   (d) Occasionally
   (e) Never

2. Which functionalities of PrimOT do you use the most? (Select all that apply).
   (a) Content management
   (b) Creation of interactive activities
   (c) Assessments and monitoring
   (d) Communication with students
   (e) Other (specify): _____

3. To what extent do you consider that PrimOT has facilitated your educational work?
   (a) Very much
   (b) Quite a bit
   (c) Moderately
   (d) A little
   (e) Not at all

Block 2: Perception and Satisfaction with PrimOT

1. How would you rate your overall level of satisfaction with PrimOT?
   (a) Very satisfied
   (b) Satisfied
   (c) Neutral
   (d) Dissatisfied
   (e) Very dissatisfied

2. Which aspects of PrimOT do you consider most positive? (Select all that apply).
   (a) Ease of use
   (b) Intuitiveness of the interface
   (c) Functionalities offered

(d) Technical support
(e) Other (specify): _____

3. Is there any aspect of PrimOT with which you are dissatisfied? (Specify): _____

Block 3: Impact on Teaching and Learning

1. To what extent do you consider that PrimOT has improved your students' learning?
   (a) Very much
   (b) Quite a bit
   (c) Moderately
   (d) A little
   (e) Not at all

2. Has PrimOT changed the way you organize and manage your teaching?
   (a) Yes, to a great extent
   (b) Yes, to some extent
   (c) It has not changed much
   (d) It has not changed at all

Block 4: Technical aspects and support

1. How satisfied are you with the technical support for PrimOT?
   (a) Very satisfied
   (b) Satisfied
   (c) Neutral
   (d) Dissatisfied
   (e) Very dissatisfied

2. Have you experienced technical problems while using PrimOT?
   (a) Yes, frequently
   (b) Yes, occasionally
   (c) Rarely
   (d) No, never

3. What technical improvements would you suggest for PrimOT? (Specify): _____

Block 5: Security and privacy

1. How do you evaluate the security and privacy measures of PrimOT?
   (a) Very satisfactory
   (b) Satisfactory
   (c) Neutral
   (d) Unsatisfactory
   (e) Very unsatisfactory

2. Do you have any specific concerns about security or privacy when using PrimOT? (Specify):_____

Appendix 2

Semi-structured interview guide for primary school principals

Objective: To explore the real or perceived uses of the PrimOT platform from the perspective of administrators, considering the impact on students, teachers, parents, and the school as a whole.

Section 1: Impact on students

(a) How would you describe the impact of PrimOT on student learning in your school?

(b) What type of activities or educational resources provided by PrimOT have been most useful for students?

(c) Have you identified any challenges or limitations in the use of PrimOT by students?

Section 2: Teacher Support

(a) How has PrimOT influenced the planning and execution of pedagogical activities by teachers?

(b) What type of training or support has been provided to teachers for using PrimOT?

(c) From your perspective, how has the teaching dynamic changed with the incorporation of PrimOT?

Section 3: Parental Involvement

(a) How has PrimOT influenced communication and parental involvement in the educational process?

(b) What functionalities of PrimOT are most valued by parents, according to your perception?

(c) What challenges have you encountered in the implementation of PrimOT regarding parental involvement?

Section 4: Effects on the School

(a) How would you describe the impact of PrimOT on the overall management and organization of the school?

(b) Has PrimOT contributed to the modernization or digital transformation of the school?

(c) What aspects of PrimOT do you consider most beneficial for the school as a whole?

(d) How has the experience been in terms of technical support and maintenance of PrimOT at the institutional level?

(e) To conclude, is there any other aspect related to PrimOT that you consider important to mention and that has not been covered in this interview?

Section 4: Effects on the School

(a) How would you describe the impact of PrimOT on the overall management and organiza-

tion of the school?
(b) Has PrimOT contributed to the modernization or digital transformation of the school?
(c) What aspects of PrimOT do you consider most beneficial for the school as a whole?
(d) How has the experience been in terms of technical support and maintenance of PrimOT at the institutional level?

To conclude, is there any other aspect related to PrimOT that you consider important to mention and that has not been covered in this interview?

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Relationship between the child with ADHD the family environment: A systematic review

Relación entre el niño con TDAH y el entorno familiar: una revisión sistemática

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Abstract

The present study focuses on understanding the possible interdependence between a ADHD diagnosis, the response to it among the family members, and how this bidirectionally affects the relationships, functioning and, ultimately, the mental health of all the cohabitants. The methodological design is that of a systematic review following the PRISMA protocol. The studies were analyzed using a qualitative approach based on an initial group of 143 works, of which ten were included in the final sample. The selected studies show a clear tendency towards experiencing negative emotionality, which leads to permissive and/or authoritarian parenting styles, resulting in an increased clinical symptomatology of the child affected by ADHD and acting as a cyclical influx of unwanted feelings and behaviors.

Keywords: ADHD, family, social relationships..

Resumen

El presente estudio se centra en comprender la posible interdependencia entre un diagnóstico de TDAH, la respuesta al mismo entre los miembros de la familia, y cómo esto afecta bidireccionalmente las relaciones, el funcionamiento y, en definitiva, la salud mental de todos los convivientes. El diseño metodológico es el de una revisión sistemática siguiendo el protocolo PRISMA. Los estudios se analizaron mediante un enfoque cualitativo partiendo de un grupo inicial de 143 trabajos, de los cuales diez se incluyeron en la muestra final. Los estudios seleccionados muestran una clara tendencia a experimentar una emocionalidad negativa, lo que conduce a estilos parentales permisivos y/o autoritarios, lo que resulta en un aumento de la sintomatología clínica del niño afectado por TDAH y actúa como un influjo cíclico de sentimientos y comportamientos no deseados.

Palabras clave: TDAH, familia, relaciones sociales.

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Introduction

Attention deficit hyperactivity disorder (ADHD) refers to a persistent pattern of inattention, impulsivity, and hyperactivity that alters the normal functioning of the social, family, work, and/or school spheres of the affected person, lasting for a period of more than six months (American Psychiatric Association, 2022).

From a clinical perspective, ADHD is one of the neurodevelopmental disorders with the highest prevalence in the child and adolescent population worldwide (at around 5%) although its incidence in adulthood is more evident since the clinical picture can be confused with prototypical childhood behaviors (Berenguer et al., 2019; D'Onofrio & Emery, 2019).

To understand the scope of the ADHD presentation, it is necessary to refer to the analysis of its diagnostic journey, undertaken in the eighteenth century by the pediatricians and psychologists of the time, who attributed to it a strong moralistic etiology linked to environmental factors and, especially, to the parenting patterns developed within the family (Gómez & Ortiz, 2019) - a moral defect that years later was complemented by the idea of minimal brain dysfunction, pointing to the alteration of certain neuronal regions and synaptic connections as factors causing a symptomatic condition linked to attention deficit., learning difficulties, excessive motor activity, and behavioral control problems. Currently, a multifactorial etiological position is accepted in which both the genetic predisposition of the person affected and the environmental features present in the social reference context play an important role in the severity and symptomatology with which the disorder manifests itself (González et al., 2022).

The etiological journey undertaken by ADHD over the years has been accompanied by multiple nomenclatures ranging from minimal brain dysfunction, as previously mentioned, to the currently accepted attention deficit hyperactivity disorder. With the publication of the third edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-III)*, the new nomenclature of attention deficit hyperactivity disorder created another controversy regarding its symptomatology, as to whether it was dependent on or unrelated to hyperactive patterns (Morales & Mosquera, 2022).

ADHD is also highly predisposed to presenting comorbidly with other mental disorders such as autism spectrum disorders, tic disorders, depressive disorders, learning difficulties or language disorders, among others, which aggravate the core symptomatology of the dominant and comorbid disorders. Both ADHD and its recently accepted comorbid presentations listed in the *Diagnostic and Statistical Manual of Mental Disorders (DSM-V-TR)* have acquired greater social visibility, facilitating new diagnostic instruments and treatment options thanks to scientific advances in the study of this neuropsychological condition (American Psychiatric Association, 2022).

On the other hand, the current way of socially understanding ADHD sets aside a reductionist and unipersonal position as it is necessary to study this disorder as more than an individual health problem, and rather one that is directly linked to the social and family sphere closest to the affected person, capable of altering the patterns of socio-family functioning and the quality of life of the cohabitants (Stadelmann et al., 2021). Nevertheless, living with a child who has ADHD can be experienced in very diverse ways according to the social circumstances, the values or experience of family members, and the social sphere closest to an analogous disorder (Urbano et al., 2022). Coexistence with a person with ADHD affects the organization and the established family model in a two-way manner, requiring

adjustments of varying significance in the personal and professional lives of the cohabitants so that efforts are combined in response to the same purpose to improve the quality of life of all the figures involved in the family nucleus.

The objective of the present study is to collect the available scientific evidence to determine the possible concomitance between ADHD and the family's response to a diagnosis, the repercussions that this situation has on the relationships and functioning of the household, and vice versa - that is to say, how the attitudes of family members affect the clinical picture of ADHD - trying to determine if the parental style conditions the disorder's progression. The intention is to determine to what degree an ADHD diagnosis influences the family dynamics, and vice versa, and how family functioning affects the clinical development of a child with ADHD, taking into account the possible effects that parental training can have on family responses. Specifically, the present review sets the following objectives: (a) To know how family implication affects ADHD´s conditions. (b) To analyse if parental styles causes any influence ADHD, and vice versa. (c) To identify the impact of ADHD diagnosis in parents' mental health.

Method

In accordance with the set objectives, the method followed was based on developing a systematic review to analyze the influence that ADHD-associated symptomatology has on the family environment and how the family's predisposition and parental styles affect the ADHD prognosis, the purpose being to obtain a more comprehensive understanding of the subject. The systematic review presented here searched bibliographic documents via the Web of Science (WOS), Scopus, PubMed, Redalyc, Scielo, and Dialnet databases using attention deficit hyperactivity disorder, quality of life and family as descriptors in the title, abstract and/or keywords fields. These databases were chosen based on their international recognition and prestige, as well as their direct link to the specific research content. After searching, collecting, and selecting the articles considered most relevant to the study, we proceeded to analyze them, extracting descriptive information and their main findings, from which we obtained the evidence for the results.

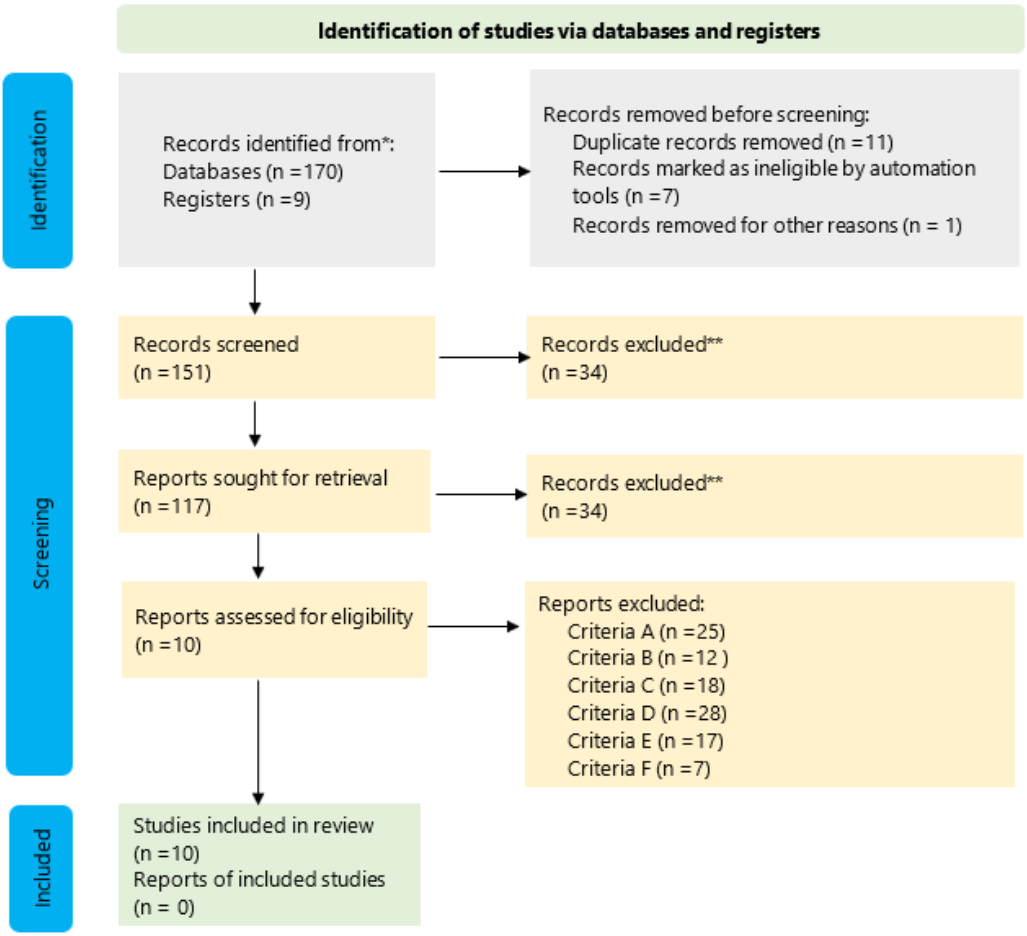
Search procedures

An initial search of bibliographic documents published until 2023 was carried out via the Web of Science (WOS), Scopus, PubMed, Redalyc, Scielo and Dialnet databases using attention deficit hyperactivity disorder, quality of life, and family as the descriptor combination. The initial search results were limited to complete, open-access documents and restricted to the TDAH/ADHD and family categories for works prepared in English or Spanish.

A total of ten articles were finally included (Figure 1) after being analyzed from two perspectives: on the one hand, the descriptive information, and findings of the studies and, on the other, the quality of the selected articles and the validity of the information they contained. To do this, the researchers had to assess the articles' eligibility with regards to the review objectives, highlighting thematic aspects such as the impact of ADHD on the family and the bidirectional role of influence between mental health, parental styles, quality of family life, and ADHD. Table 1 shows the literature search and selection process using the PRISMA flowchart (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) for systematic reviews (Moher et al., 2009).

Figure 1

PRISMA flowchart



Note: Own elaboration (2025).

Selection of studies: inclusion and exclusion criteria

To select the articles related to the topic under study, a series of inclusion criteria were established. These criteria were: (A) research articles or empirical studies, (B) non-duplicated articles, (C) work focused on studying the implications that the diagnosis of a case with ADHD generates on the family household, as well as the effects that family dynamics have on the course of the ADHD, (D) documents published from 1990-2024. Likewise, in this study, the search focusing on articles published in peer-reviewed journals, excluding communications, theses, and book chapters. These inclusion criteria were essential since they allowed us to focus attention on studying the repercussions that an ADHD diagnosis has on the family environment and how the affected person and family members see their emotional state altered in a bidirectional way.

Similarly, articles were excluded based on the following exclusion criteria: (A) Book chapters, theses, and conference proceedings, (B) duplicated studies, (C) research outside of the study of ADHD and its repercussions on family life, (D) Studies not published in peer-reviewed journals, (E) Reports or editorial comments without original data, (F) Studies with ethical issues in their conduct.

Results

Identification of the selected publications

The articles identified in this section cover different research studies focused on analyzing the impact that an ADHD diagnosis has on the family environment and, reciprocally, how managing and living with a child with ADHD affects the parents' mental health and parenting patterns, detailing a panorama of confluent factors such as an increase in the state of tension, stress, changes in the parents' own perception of their role and its effectiveness, modifications in family dynamics, and parental styles. Alterations in the cognitive and behavioral functioning of children with ADHD impact coexistence in the family sphere as they require almost continuous attention; this compromises the mental health not only of the parents but also of siblings and any other cohabitants, causing serious disturbances in overall family functioning.

In this regard, the information collected is structured following a sequence that starts from training for positive parenting in a family affected by ADHD, analyzing the parental styles and dynamics and their reciprocal influence on ADHD, and ending with a study of the effects that the ADHD diagnosis, and living with a person who has it, have on one's emotional state, on experiencing stress, and on the prevalence of other psychopathogens.

Description of the included items

The family is the first social agent with which the child comes into contact. In addition to the family being a complex system of interrelationships - conjugal, filial, and fraternal - it is a sphere of reference for the growth and integral development of all its members. That is why this phenomenon is studied as a whole, where each party will be influenced bilaterally. Thus, the behavioral alterations associated with one of its members having ADHD will affect the entire family system, changing the way relationships form, handling the behavior of the affected person, and exercising parenting styles oriented towards finding mental balance and social management of the disorder (Agha et al., 2020).

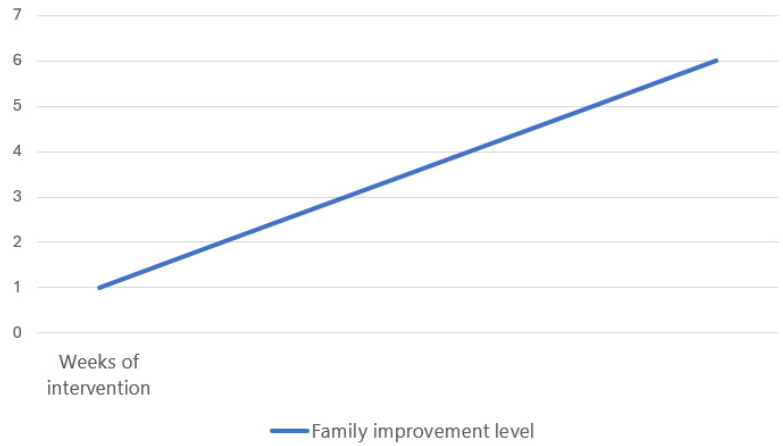
In many cases, the lack of support and advice given to the relatives of these children with ADHD seriously hinders their self-perception and ability to cope with such an anomalous parenting situation. Therefore, it is fundamentally important to develop skills for appropriate parenting in cases where families have a member with ADHD, not only to minimize the impact that the child's diagnosis has on the family's functionality and the relationships between cohabitants, but also to help stimulate the child's overall development. In this sense, the results of the study carried out by Andrades et al. (2019) corroborate how a lack of information and training considerably conditions the family's ability to help their child with ADHD, compromising the consistency of their parenting style. In this research, three families with ADHD children participated and the information was obtained through interviews.

Along the same lines, Fabra (2021) considers that the training of family members and legal guardians responsible for children with ADHD helps to address the disorder more positively, providing tools and information to understand the real needs of the affected person; this was evidenced in the results obtained after applying a training intervention program. The study sought to demonstrate the effectiveness of a six-week family intervention program, observing significant improvements in family relationships and the home environment. The parental behavioral training program was a key tool in changing the educational style, making it more respectful and understanding of those affected, while reflecting a more friendly and relaxed environment rather than one that was disciplinarian.

De la Rosa (2019) obtained results that did not accord with those of Andrades et al. (2019) and Fabra (2021). In this case, no significant evidence was observed before and after parental participation in a psychoeducational workshop on ADHD. A total of 80 family members participated, each living with a person with ADHD. Referencing the results, the same author concedes that possibly the workshop failed to adjust sufficiently to the training needs of the participants (See Figure 2).

Figure 2

Evolution of family intervention



Note: Own elaboration (2025).

It is important to note that, when trying to manage the behavioral patterns of the disorder, parents begin to manifest very varied adaptive responses. These are determined by various factors associated with the severity of the pathological presentation, their training in this disorder, their perception of the parental role, and their patience - the most recurrent being parental patterns associated with excessive permissiveness or excessive rigidity (Morales & Mosquera, 2022; Orjales, 2019). Family dynamics and parental styles will directly affect the manifestation and clinical progression of ADHD, with the extreme positions being dysfunctional to positive parenting while also being detrimental to the disorder's prognosis. Among other factors, this is because usual discipline methods are less effective or totally ineffective in children with ADHD given the difficulties, they have in inhibiting impulsive responses or obeying parental orders. This then generates coercive and unconscious disciplinary procedures by the parents while triggering a negative understanding of their own parental roles. Therefore, it is hard to identify a unidirectional and unique parental style in families who have children with ADHD. Indeed, many types of emotional reactions to a diagnosis can be observed, such as disapproval of the disorder, rejecting one's responsibility to address it, and attributing it to malpractice on the part of the various specialists (typical of a permissive parenting pattern) or marked overprotection that takes away the autonomy of someone affected by this pathology in terms of their maturational development (Romero, 2022).

Castiblanco et al. (2020) shows in their study how the immature and dysfunctional behavior of the parents affects the development of relational situations as well as the family dynamics, with this effect remaining latent in the results after applying the *Family Apgar Instrument*.

The risk factors associated with the course of ADHD are multiple. Furthermore, it is probable that dif-

ferent variables interact, giving rise to the disorder's symptoms evolving either positively or negatively. However, in this case, the family environment (especially the nuclear family) negatively impacts the child's development and their symptoms, factors affecting the severity of the ADHD (Segura, 2019).

Following on from these ideas, Patiño and Martínez (2020) investigated how these family influences affected a specific case, reflecting on how the parenting difficulties arising from having a child with ADHD impacted the immediate environment, generating mismatches and imbalances among all the members of the nuclear family. This is due to ignorance regarding the ineffectiveness of traditional educational guidelines to channel these children's behavior. Consequently, a failure to sufficiently adjust the parental styles to the needs of the child with ADHD leads to the parents feeling guilty when faced with setbacks and failed attempts to control their child's behavior. Moreover, this is a dysfunctional parenting practice, which aggravates the disorder's symptomatology, making it difficult for the child to establish social relationships with peers because the negative parenting style provides an inadequate socialization model. This mechanism, resulting from a family psychopathology in which the members are overcome by despair or frustration, has a direct effect on the child's disruptive and antisocial behavioral manifestations, which are aggravated in a reciprocal way. In short, parenting skills significantly interfere with the etiopathogenesis of a child with ADHD, and while the challenging behavior of ADHD negatively impacts the parents´ emotional state, such behavioral problems in the child can be lessened by improving parental skills. For Patiño and Martínez (2020), the way the parenting style is addressed becomes one of the best predictors of ADHD prognosis, distinguishing between the passive role or active role that the parent assumes in a stressful or threatening situation. Therefore, when evaluating the impact on the family of having a child with ADHD, one must focus attention not only on the affected person's age, sex, core symptomatology, and the comorbidity of their pathological presentation, but also on the parents' skills and abilities in managing the disorder, their educational style, and the expectations generated by their parental role, all of these being determining factors in them experiencing anxiety, stress, guilt, depression, and dissatisfaction (Patiño & Martínez, 2020).

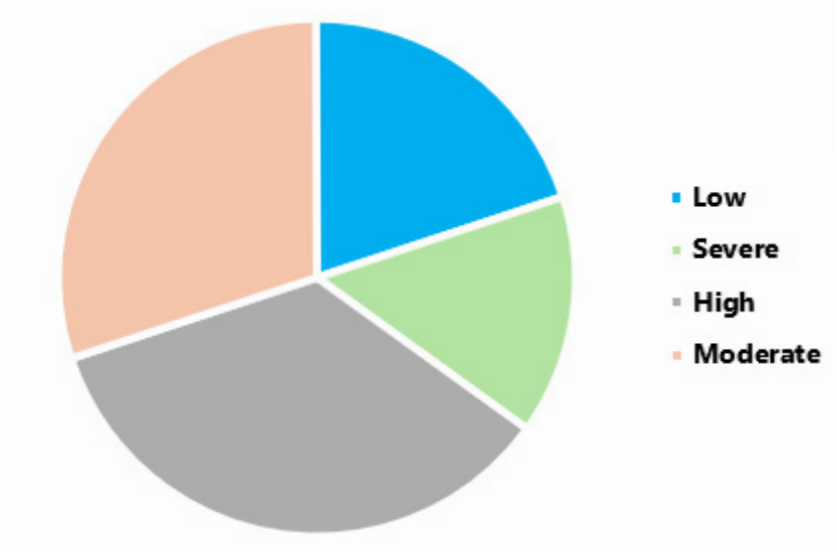
To the unsuitability of permissive or authoritarian parenting styles, Freitas et al. (2019) add the influence of the parents' mental health as a significant determinant in the clinical progression of ADHD. According to them, low self-esteem and feelings of guilt have repercussions on the emotional development of a child with ADHD, generating a whirlwind of feelings of failure and frustration, as well as negative interactions that will threaten the psychological and emotional stability of both the family and the child. Among the multiple instruments used in their study are the *Parenting Styles Inventory and the Short Measure for Assessing the Quality of Life*, the results of which indicate how ADHD directly affects the conjugal relationship, destabilizing it, and even leading to its breakdown due to a lack of consensus in understanding and managing the disorder. Thus, feelings associated with dissatisfaction and ineffectiveness regarding parental styles are recurrent in families that have children with ADHD, fostering a vicious circle of negative interactions and dysfunctional educational practices in which the supervision of tasks is abandoned, either out of frustration or desperation, when faced with the ineffectiveness of their actions (Fabra, 2021).

Although experiencing stress is part of the parenting process of any child, Zambrano et al. (2020) have confirmed how high levels of parental stress are linked to oppositional behavioral patterns, impulsivity, hyperactivity, and other types of behavioral problems. This indicator is also a certain predictor of psychological well-being and the status of mental health. Therefore, it is an issue of vital importance given that experiencing high levels of stress in the family household involves the parents having a ne-

gative perception of their own capacity to implement appropriate interventions and treatments to care for their child with ADHD. Likewise, the study identified how reducing parental stress favors more effective management of the children's problematic behaviors, reflected in a more positive and democratic parental style. Their study, which used the CMAS-R anxiety scale, consisted of a large participant sample (302 subjects) including both children with ADHD and their families (See Figure 3).

Figure 3

Parental stress levels and their influence on ADHD



Note: Own elaboration (2025).

Agha et al. (2020) endorse the idea that the distinct behaviors and personalities of the children directly influence the family dynamics, showing in their empirical study the degree to which the children's hyperactive and impulsive behaviors caused tension and anxiety among the family members. In this way, greater symbiosis between attitudes related to affability, respect for rules, discipline, and self-control would predictably occur compared to the non-ADHD control group. Thus, there is a correlation between anxiety states, parental social distress, negative discipline, and the severity of the clinical manifestation of ADHD. In addition, these factors were linked to poorer social functioning and a marked decrease in the quality of life of both the parents and the other family members.

In this research line, Insa (2020) reports a higher psychopathological prevalence rate in parents who have children with ADHD compared to those who have children with no disorder, the most common being personality disorders and affective disorders. Parents of children with ADHD are more predisposed to experiencing some type of mental disorder, either due to parenting or due to academic and social difficulties concomitant with the pathology. However, depending on the age of the parents, the presence of personality disorders would almost certainly predate having children with ADHD. Not acknowledging that parents can have psychopathology prior to having children with ADHD negates the bidirectional nature of ADHD and psychopathology, and the fact that in the bio-psycho-social model, genetics and other factors are present before a child is born with ADHD. Their results showed that, in the 115 families interviewed, there was a clear tendency towards psychopathogenic manifestations in family members living with someone with ADHD compared to those in the control group.

The challenging and demanding nature of children with ADHD often generates conflicts in the family household, affecting the psychological functioning of the parents and their affective relationship. The couple's bond is clearly altered when feelings of low self-esteem, dissatisfaction, and doubts about their parental capacity are put to the test, fostering a model of difficult coexistence that affects all the family members (Patiño and Martínez, 2020).

Mental health, quality of life, and the family support one receives decisively influence parental practices, as demonstrated by Berenguer et al. (2019). They point to the importance of emotional support groups aimed at and extending to family members. Regardless of the family characteristics, the diagnosis of a child with ADHD is complex, requiring constant advice and support to understand and try to manage this pathology in the most appropriate way possible, in the search for a specialized and comprehensive treatment response. Becoming parents of a child with ADHD demands a high emotional and personal investment, not only in terms of the daily attention given to the child but also in terms of protection and stimulation to enhance their optimal level of development. Therefore, planning and carrying out those household tasks unrelated to attending to the child with ADHD can be somewhat arduous, making parenting difficult while neglecting the couple's relationship (Quintero et al., 2021). In addition, being exposed to constant social criticism due to the inappropriate behavior of a child with ADHD usually translates into self-exclusion from situations of social exchange for fear of being rejected or pointed out by other families (Insa, 2020). At the same time, the training received about the disorder will help parents adopt a parenting style that is more understanding of the needs and particularities of their child with ADHD, mitigating their feelings of guilt and frustration when faced with failed behavioral control attempts (Zheng, 2019).

Discussion and conclusions

This systematic review comprises a total of 10 articles which address the bidirectional influence that an ADHD diagnosis has on both the functioning and the mental health of family members, and how these affect the disorder's clinical progression. More specifically, it has attempted to fulfil the following objectives:

(a) To know how family implication affects ADHD´s conditions

Regarding this first objective, the study highlights the beneficial effect of training family members and other social entities, both in terms of the clinical progression of the child affected by ADHD and in providing tools to help parents manage this disorder more effectively. Indeed, the participation of family members in training processes has been shown to have a positive influence, not only in terms of greater knowledge and better management of the intra-family situation, but also the positive influences on the participants' mental health, helping them to release tension and reduce their frustration. In this way, the feelings and attitudes of the parents lead to greater positivity and patience towards their children with ADHD. Likewise, when parents of children with ADHD participate in training processes, this brings significant inter- and intra-family social life benefits, improving coexistence, the relationships between siblings, and the friendship between the parents themselves (Andrades et al., 2019).

(b) To analyse if parental styles causes any influence ADHD, and vice versa

As for the second objective, the role that the family plays in the care and protection of the child is indisputable, even requiring the different cohabitants to restructure their roles in order to respond as appropriately as possible to the child's needs. Exercising a positive parenting style is conditioned by

the parents' ability to deal with the disruptive behaviors of their child with respect and understanding. All this pressure seems to fall exclusively on the couple and the other family members, who experience recurrent feelings of being abandoned by the voluntary and health sectors, and even by the educational institutions.

In contrast, training, visibility, and social awareness of this disorder help generate more empathetic social networks within which families can feel supported and understood. Support from these entities will determine an early parental response that is more effective and better adjusted to the needs of the child with ADHD, also determining the progression of the disorder (Patiño & Martínez, 2020). Undoubtedly, this is a difficult challenge given the ineffectiveness of traditional disciplinary methods that only exacerbate situations and lead to feelings of guilt, anxiety, stress, and a negative self-perception of the parental role.

The different family dynamics either positively or negatively influence the evolution of the clinical picture of ADHD, although they are mostly self-destructive, given the problems to manage the symptoms, and to some extent due to a lack of information and support. Thus, parents of children with ADHD tend to be less permissive and stricter compared to parents of children without this disorder, with a certain recurrence towards temperamental responses and coping strategies being observed. These lead to social isolation and frustration due, in part, to a negative self-perception of their own parenting. The more disrupted the family social sphere, the greater the likelihood of developing an authoritarian and punitive parental style marked by rigidity and rejection of challenging behaviors. Moreover, these factors significantly influence the marital bond, impacting on the parenting styles, which become predominantly punitive, thus increasing the already latent aggressiveness and impulsivity of the child in a negative way. Conversely, proactive parenting encourages behavioral modelling by reinforcing positive behaviors, helping the affected person to self-regulate and as to suppress inappropriate conduct (De la Rosa, 2019).

(c) To identify the impact of ADHD diagnosis in parents' mental health

In response to the last of the study objectives, after analyzing the results, we consider how the maelstrom of family attitudes and feelings affects the symptomatic progression of ADHD in a bidirectional way. The experiencing of emotional imbalances between the spouses related to depression, stress, anxiety, or frustration when carrying out their parental functions aggravates the child's behavior and may alter the relational bonds between the different cohabitants, especially those of the couple, ending in many cases in separation or divorce (D'Onofrio & Emery, 2019).

Unlike families that do not have children diagnosed with ADHD, parents that do are subjected to greater physical and psychological strains from having to deal publicly with the disruptive behaviors of their child. These are accompanied by a series of conflicts linked to the child's academic difficulties or the demands of a social environment unrelated to the disorder's clinical characteristics. Thus, this maelstrom of emotionality converges bidirectionally to affect the progress and behaviors of the child with ADHD, causing serious mental imbalances in their relatives and even leading to the presentation of psychopathologies.

Being the child's main agents of reference, the family members play a fundamental role in this regard, with their mental imbalances, commonly associated with depression, causing acute setbacks in the child's clinical picture while also affecting the mental health of all the household members (Agha et al., 2020; Berenguer et al., 2019). Thus, the characteristics of the family sphere and the child with ADHD influence

each other in such a way that the lack of parental skills, ineffective and incoherent parenting practices, or marital dysfunction condition the expression and course of the ADHD (D'Onofrio & Emery, 2019).

Finally, it should be noted that the present study has certain limitations due to the scarcity of published research regarding ADHD and its repercussions on coexistence. The recent emergence and growing visibility of ADHD has brought with it the need to expand and update the research on this neurodevelopmental disorder and its vulnerabilities. The present study has sought to delve into this area of knowledge and give an overview of its implications in the family context, reaffirming the bidirectional effect of the ADHD-progenitor influence. According to the results, the lack of training and information that characterizes the family response is undoubtedly an aspect of vital importance since it determines both the clinical progression of the ADHD and the mental health of all those living with an affected person. As we have indicated, family training is fundamental to being able to respond efficiently to the needs of a child with ADHD without becoming filled with guilt and hopelessness.

In addition to providing an overview of ADHD and how it affects the immediate family, we believe that this analysis of the literature will help provide a more complete understanding of the disorder and the erroneous parenting styles that result, giving readers who find themselves in a similar situation a more appropriate way to manage it and to empower them by feeling accompanied throughout this process. It will also encourage future researchers to advance in this field of study.

Undoubtedly, the family sphere plays a primary role in this disorder's identification and development, thus requiring the acquisition of a series of skills related to patience and assertiveness to ensure positive and proactive parenting. In this way, parents can come to understand the challenging nature of their child's behavior as an effect of the disorder's clinical symptomatology rather than as an arbitrary decision adopted voluntarily by the child (Zheng, 2019).

Privacy: Not applicable.

Statement on the use of artificial intelligence: The author of this article declare that we did not use Artificial Intelligence in its preparation.

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Evaluation of academic performance through the application of ICT in teaching and learning processes

Evaluación del rendimiento académico aplicando las TIC en los procesos de enseñanza y aprendizaje

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Abstract

The present study aimed to evaluate academic performance through the use of ICT in the teaching and learning processes of the subject Geography, History, and Citizenship. A quantitative approach was adopted, with a descriptive level and field design. The data collection technique was the survey, using a questionnaire applied to two populations: the first composed of 65 students, and the second of two subject facilitators. The results showed that the integration of ICT significantly enhances academic performance. However, it is recommended that teachers have access to the necessary resources and training to select the most appropriate strategies according to the characteristics of their groups. Likewise, it is essential that students receive both training and adequate tools to manage information and communication technologies effectively, in order to optimize the teaching and learning process and achieve better academic outcomes.

Keywords: Academic performance, Information systems, Teaching methods, Learning processes.

Resumen

El presente estudio tuvo como objetivo evaluar el rendimiento académico mediante la aplicación de las TIC en los procesos de enseñanza y aprendizaje en la asignatura Geografía, Historia y Ciudadanía. Se adoptó un enfoque cuantitativo, con nivel descriptivo y diseño de campo. La técnica de recolección de datos fue la encuesta, utilizando como instrumento un cuestionario aplicado a dos poblaciones: la primera conformada por 65 estudiantes, y la segunda por dos facilitadores del área. Los resultados permitieron concluir que la incorporación de las TIC favorece significativamente el rendimiento académico. Sin embargo, se recomienda que los docentes dispongan de los recursos y capacitación necesarios para seleccionar las estrategias más adecuadas según las características del grupo. Asimismo, se resalta la importancia de que los estudiantes reciban formación y equipamiento para el uso efectivo de las tecnologías de información y comunicación, a fin de optimizar el proceso de enseñanza y aprendizaje.

Palabras clave: Rendimiento académico, Sistemas de información, Métodos de enseñanza, Procesos de aprendizaje.

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Introduction

Assessment as a continuous process properly addresses any educational process, provided the individual is aware of the objectives they intend to assess at specific times and of both the internal and external environment. Assessment must be a reflective framework that allows for the optimization and improvement of educational and teaching-learning processes. Students require dynamic processes, which necessitates the inclusion of strategies tailored to their needs, without forgetting that the teacher's priority is to teach with perseverance and provide students with conceptual, attitudinal, and procedural skills.

Today's demands are shaped by the vast amount of information existing in the world; what matters is understanding this information. Information and communication technology (ICT) has facilitated teaching and learning processes through technological resources that aid in understanding the thematic structures involved in a specific area of study. For this research, the focus is on Geography, History, and Citizenship. However, the current context requires technological tools to develop assessment strategies that foster meaningful learning.

Now, History, Geography, and Citizenship, whether national or global, is certainly an extensive field of study with a deeply traditionalist approach to teaching and learning. It is often viewed as a discipline with very few strategies for engagement, and in certain aspects, it involves the memorization of dates, events, structures, designs, and norms, with very little interpretation, leading to significant issues in student performance.

Faced with this, another reality is the great disinterest among students toward Geography, History, and Citizenship, seen as a tedious area that does not respond to current reality. It is perceived as limited to books, written exams, and endless lectures, condemned to not breaking its mold and drifting further away from innovation and alignment with the reality of new generations of students.

This study on the evaluation of academic performance contributes to teaching and learning processes by recognizing the teaching of strategies through ICT. It is vitally important that both teachers and students are aware of technological assessment resources and know how to develop them, considering that all resources used must always be adapted to learning needs, teaching purposes, and the specific context. Currently, students respond to and use ICT in their daily lives as the primary means for developing their daily, school, personal, and other activities. So, why not harness this tool for teaching and learning processes, specifically in the field of Geography, History, and Citizenship?

Therefore, the following objectives were developed: to diagnose the use of ICT in the teaching and learning processes of 4th-year high school students in the field of Geography, History, and Citizenship; to determine the appropriate ICT for teaching and learning processes in this field; and to specify the impact generated by the use of ICT in teaching and learning processes on the academic performance of students in Geography, History, and Citizenship.

Global-scale changes, a product of globalization, have made education, throughout history, the most suitable process and the guiding axis for all social development and renewal. It is the foundation for the formation and preparation of the human resources necessary for a well-rounded individual. Through the educational process, fundamental values and the preservation of cultural and civic identity are transmitted. This continues to position the school as the place for acquiring and disseminating relevant knowledge and as the means for multiplying productive capacities.

Education is viewed from an elementary perspective, as affirmed by Ibarra (2012). Although education is an essential and permanent element of individual and social life, it has not always been conducted in the same way. Instead, it has varied according to the needs and aspirations of each people and each era. For example, Socrates conversed with his disciples about the need to travel to increase their body of knowledge. Thus, education and its style varied according to the different cultures of peoples and evolved at the same pace as human thought.

There have been many changes that the educational process has undergone over time, which leads one to believe that the development of societies, at different stages and moments in human history, has always been notably centered on education, as the vehicle guaranteeing the transmission of knowledge.

The various definitions of information and communication technologies encompass a very broad and variable concept, referring to a range of services, applications, and technologies. These use various types of electronic equipment (hardware) and software programs (software), primarily employed for communication through networks. Regarding ICT, Cebreiro (2007) indicates that they "revolve around four basic media: computing, microelectronics, multimedia, and telecommunications" (p.163). Most importantly, they operate in an interactive and interconnected manner, enabling the creation of new communicative realities and enhancing those that can exist in isolation.

In these various definitions, there is some agreement in considering technologies as technical instruments that revolve around information or its transmission. That is, they are implicitly seen as means for carrying out the communication process.

The teaching profession requires mastery of a series of elements and procedures belonging to the diversity formed by the school context. Among these is the didactic axis, which consists of planning and the assessment of learning, as well as the teaching strategies that allow for the completion of the two aforementioned procedures.

These statements highlight the importance of didactic strategies in the educational endeavor. Didactic strategies consist of the affective, cognitive, and procedural processes that enable the student to construct learning and allow the teacher to carry out instruction. Consequently, it is affirmed that didactic strategies are fundamentally deliberate procedures by the teaching or learning entity, with defined intentions and motivations. This entails a diversity of differing definitions where the complexity of their elements has diversified, depending on subjectivity, available resources, and the specific context in which didactic actions occur.

The diversity in the use and definition of the elements of a didactic strategy by the teaching staff transforms, in most cases, into a complication at the time of its design and subsequent implementation. In this regard, Díaz and Hernández (2003) note: "Didactic strategies are the procedures that the teaching agent uses in a reflective and flexible manner to promote the achievement of meaningful learning in students" (p.70). Likewise, they are defined as the means or resources to provide pedagogical assistance to students. This type of strategy in current teaching practice must focus on breaking away from traditional teaching, giving way to teaching and learning processes that achieve the formation of an autonomous, critical student, capable of transforming their reality—that is, nurturing through education a dynamic being.

Teaching strategies are defined, according to Díaz and Hernández (2003), as "the procedures or resources used by teaching agents to promote meaningful learning." Various teaching strategies can

be included before (pre-instructional), during (co-instructional), or after (post-instructional) specific curricular content, whether in a text or in the dynamics of teaching work. In this sense, Díaz and Hernández (2003):

- *Pre-instructional strategies* generally prepare and alert the student regarding what and how they are going to learn (activation of relevant prior knowledge and experiences) and allow them to situate themselves in the appropriate learning context. Some typical pre-instructional strategies are: objectives and the advance organizer.
- *Co-instructional strategies* support curricular content during the teaching process itself or the reading of instructional texts. They cover functions such as: detection of main information; conceptualization of content; delimitation of the organization, structure, and interrelationships among said contents; and maintenance of attention and motivation. Strategies such as the following can be included here: illustrations, semantic networks, concept maps, and analogies, among others.
- *Post-instructional strategies* are presented after the content to be learned and allow the student to form a synthetic, integrative, and even critical view of the material. In other cases, they allow students to assess their own learning. Some of the most recognized post-instructional strategies are: embedded questions, final summaries, semantic networks, and concept maps.

Another valuable classification by Díaz and Hernández (2003) can be developed based on the cognitive processes that strategies use to promote better learning. Thus, a second classification is proposed, which is briefly described below.

- *Strategies for activating (or generating) prior knowledge and establishing appropriate expectations in students:* These are strategies aimed at activating students' prior knowledge or even generating it when it does not exist. In this group, we can also include those strategies that focus on clarifying the educational intentions that the teacher aims to achieve by the end of the cycle or educational situation.

In this regard, Díaz and Hernández (2003) state the following: A learning strategy "is a procedure (a set of steps and skills) that a student acquires and employs in a traditional manner as a flexible instrument for meaningful learning and for solving academic problems and demands" (p.70). This means that the specific objectives of any teaching strategy can consist of affecting the way new knowledge is selected, acquired, organized, or integrated, or even modifying the learner's affective or motivational state, so that they learn curricular and extracurricular content more effectively.

The classification of learning strategies is a difficult task, given that different authors have approached them from a variety of perspectives. In this regard, Pozo (1990) points out: "Learning strategies can be classified according to how general or specific they are, the domain of knowledge to which they are applied, the type of learning they promote, the type of particular techniques they combine..." (p.16).

Methodology

The research was framed within the positivist paradigm, understood as the search for causes in social phenomena through systematic observation, the correlation of variables, and the formulation of generalizations (Arias, 2012). This approach allowed for the evaluation of academic performance based on the incorporation of Information and Communication Technologies (ICT) in the teaching and learning processes in the area of Geography, History, and Citizenship.

According to the nature of the problem and the stated objectives, a descriptive research level was defined, whose purpose is to collect and analyze information to identify characteristics, dimensions, and key aspects of the phenomenon (Hernández et al., 2006). In this sense, the study sought to describe the use and perception of ICT as a pedagogical resource in the subject.

The research design was a field study, as data were collected directly in the context where the events occur, without manipulation of variables (Palella and Martins, 2010). Data collection was carried out at the selected educational institution during April 2023, through the application of surveys.

The population consisted of 4th-year high school students (section A = 33 students and section B = 32 students), with a total of 65 enrolled students according to data provided by the institution's administration and the two facilitators responsible for the subject. The definition of the population followed Malhotra's criteria (2016). Regarding the sample, intentional sampling (Sabino, 2010) was used, taking the entire population: 65 students and 2 teachers (a census sample). This decision allowed for the coverage of all relevant analysis units for the study's objectives.

Table 1

Population A and B according to Malhotra

Criterion	Population A	Population B
Element	Educations institution	Educations institution
Unidad muestral	Institución educativa	Geography, history, and citizenship facilitators / instructors
Scope	4th-year students A and B	Municipio San Cristóbal
Time	April 2023	April 2023

Source: Lobo and Di Tillio (2023).

The data collection technique used was the survey, understood as a systematic search for information through questions directed at participants (Vidal, 2001). As an instrument, structured questionnaires were applied, defined as a system of logical and coherent questions that facilitate obtaining data from primary sources (García, 2004). Two instruments were developed: Questionnaire A, aimed at students, and Questionnaire B, administered to facilitators. Both questionnaires were standardized, with closed-ended questions inquiring about the use, acceptance, and perceived impact of ICT in teaching and learning processes.

Results

Regarding students

Students believe that the study methods used for teaching and learning processes in the area of Geography, History, and Citizenship do not benefit academic performance. This was observed in the academic results obtained during the first term of the 2022-2023 academic period, from October to December 2022, where the average score for the curricular unit was 13.14 points on a scale of 1 to 20. All students believe that the area of Geography, History, and Citizenship has become tedious when developing the programmatic content. According to the instrument's results, this likely generated low motivation and, consequently, affected academic performance.

In line with this, a higher proportion, specifically 48 participants representing 74%, consider that the strategy currently applied to the teaching process does not adapt to their needs. On the contrary, te-

chnological advancement has notably influenced the educational process. Students' current needs are oriented towards the secure use of technology; they prefer to interact with technological tools, software, among others. It is notably affirmed that the strategies currently used by facilitators in the area of Geography, History, and Citizenship are not adapted to the current context. Just as globalization advances at paradigmatic levels, the strategies applied in the teaching process must change. In the current context, Information and Communication Technologies are a viable alternative.

Regarding Teachers

Although teachers show willingness to apply and develop teaching and learning strategies, they have not been trained to implement them in the learning environment. However, they consider it interesting to improve the training process by using new technological learning methods. Meaningful learning is a study variable that must be acquired by students in such a way that they do not forget the knowledge required for subsequent academic periods. Therefore, all facilitators affirm that through technologies, participants can achieve meaningful learning.

The findings also argue that students are currently not motivated by the strategies used in the area of Geography, History, and Citizenship. Therefore, the variable of tedium is related to students' low motivation to carry out the different assessment strategies employed in the area.

Regarding teaching and learning strategies

Table 2 below shows the ICT resources most commonly used in education, along with their functionality in relation to the defined assessment strategy. Following a documentary review of various sources presenting ICT resources, the most suitable ones for the teaching and learning processes of 4th-year high school students in the field of Geography, History, and Citizenship were determined.

Tabla 2

Herramientas TIC`s empleadas con frecuencia en la educación

ICT Tool	Strategy to be used
Google Apps for education	Create work environments (concept maps, mind maps, outlines, among others).
Edmodo	
Goconqr	
Padlet	Debates, communication, and collaboration.
Prezi	
Popplet	
Glogster	
Kahoot	Interactive games.
Moodle	Virtual classrooms.
Camtasia	Screen recordings, presentations.
Wix	Websites.

Note: Belloch (2018).

Regarding the impact of ICT on academic performance the planning developed during the first academic term of the 2022-2023 school year shows only traditional assessment strategies, such as written tests, presentations, and essays assigned without implementing information and communication technology tools. For the first assessment, a workshop in the learning environment, students brought support material on the thematic unit of Gran Colombia corresponding to the History subject. Subsequently, the facilitator assigned a series of questions to be answered based on the researched support material.

For the assessment strategy of the second thematic unit, corresponding to Venezuela's economic structure from 1830-1870 in the History subject, a presentation was conducted using a sheet of bond paper as a visual aid. For the third thematic unit, Venezuela's social structure from 1830-1870 in the History subject, an individual written test was administered with true/false questions, multiple-choice, and open-ended response items. Finally, for the last thematic unit on the abolition of slavery, an essay was assigned in the learning environment. The facilitator provided the title, and participants began writing according to the given instructions.

In comparison with the planning for the first term, during the second term, to assess the first thematic unit, Venezuelan Political Process 1870-1899 for the History subject, a video was produced using the technological tool Camtasia. Each participant created a series of slides in Microsoft PowerPoint, then recorded an explanation of the assigned content. Upon completion, they uploaded the videos to the corresponding YouTube channel and shared the link via email to 4toañoghc@gmail.com, provided by the teacher.

Regarding the second thematic unit, "Venezuelan Economic Structure 1870-1899" in the History subject, they developed a presentation using the Prezi program and submitted it similarly via email. For the third and fourth thematic units, titled Governments of Cipriano Castro and Juan Vicente Gómez and Venezuelan Economic and Social Structure between 1899-1935 for the History subject, they used the GoConqr program to create a concept map and a mind map.

The results obtained regarding the academic performance of the 4th-year high school students in the first two academic terms are presented in the following table.

Table 3

Academic performance of 4th-year high school students

Section	Average in the subject area for the first term	Average in the subject area for the second term
A	12,18 points	14,63 points
B	14,10 points	14,23 points
General	13,14 points	14,43 points

Note: Data provided by the evaluation coordination department.

An increase in academic performance is observed for each of the 4th-year high school sections, as well as in the overall index. Furthermore, the number and proportion of passing students increases from one term to the next. This positive outcome contributes to the comprehensive development of the student,

teaching them to use technological tools within the current context and meeting their needs. It reduces tedium, and students become motivated to complete the applied assessment strategies.

Discussion

The study's results revealed that the majority of students had not used information and communication technologies in their learning processes, although they showed a high willingness to integrate them into the classroom. This finding aligns with what was noted by Belloch (2018), who states that the use of ICT creates more motivating and engaging learning environments, reducing the tedium associated with traditional strategies.

On the other hand, it was observed that teachers maintained conventional methodologies, which limited the pedagogical use of ICT. This situation reflects the gap between the potential of technology and teaching practices, which is consistent with what was highlighted by Cebreiro (2007), who points out that ICT implementation requires not only infrastructure but also teacher training to design effective strategies.

The increase in academic averages obtained after the incorporation of digital resources corroborated the assertion by Díaz and Hernández (2003), who emphasize that innovative didactic strategies stimulate meaningful learning. Likewise, it was confirmed that students felt more motivated and engaged, reinforcing what was proposed by Pozo (1990) regarding the importance of strategies that develop student autonomy and participation.

However, the teachers' lack of proficiency in handling technological tools constitutes a significant limitation. This finding relates to what was presented by Ibarra (2012), who argues that changes in education require overcoming methodological inertia and embracing innovation as a central axis in pedagogical practice. The willingness shown by teachers to receive training, nevertheless, constitutes an opportunity to transform teaching and learning processes in this disciplinary field.

Consequently, the research provided evidence that the use of ICT contributes to improving the quality of learning, provided there is coherence between didactics and the use of technological resources. Furthermore, the results suggest that the inclusion of virtual environments, applications, and educational software not only elevates academic performance but also fosters digital competencies essential in today's society.

Finally, it should be noted that this study was limited to a small population of students and teachers at a single educational institution, which restricts the generalization of the results. Future research could expand the sample and explore comparisons between different institutions or curricular areas, thereby strengthening the external validity of the findings.

Conclusions

The educational endeavor influences all facets of life; it constitutes an essential activity in the formation of the individual within the school environment and is oriented towards a fundamental benefit: meaningful learning. Education must be appreciated in all its breadth, opening doors to the world of information and new ICT trends in a globalized context.

Currently, the strategies employed in the area of Geography, History, and Citizenship are not entirely adequate for the educational process. Traditional methods persist, generating tedium and low motivation among students, while teachers lack technological resources for planning ICT-based lessons,

limiting the learning that students require for their comprehensive development as future professionals. Hence, the concern of this research arises: to assess academic performance, identify deficiencies, and propose opportunities for improvement in teaching and learning processes through innovative tools.

The study focused on 4th-year high school students, diagnosing the use of ICT as a study method and as a teaching strategy in planning. Since cognitive processes lead to the development of skills and the acquisition of new knowledge, it is expected that students achieve more meaningful learning and master various strategies.

By recognizing the student's inclination towards using ICT, the teacher must assume that planning based on these technologies improves teaching and academic performance. The inclusion of applications, software, and online resources represents an advantage, as it allows young people to select and combine strategies that enhance their own cognitive process.

The teacher's work, although often conditioned by policies, guidelines, and regulations, requires will, enthusiasm, and creativity to design innovative proposals that strengthen autonomous learning, without neglecting pedagogical support. Thus, the student will face the world with appropriate and meaningful resources, valuing the classroom not only as a space for content but for formative experiences, where the relationships between geography, history, and citizenship become an enriching, aesthetic, and transformative process.

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Conscious educational leadership as a means of human development in the resignification of managerial theory and practice within BANI contexts

Gestión educativa consciente como vía para el desarrollo humano en la resignificación de la teoría y praxis gerencial en entornos BANI

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Abstract

The study examined the re-signification of managerial theory and practice in BANI environments through Transpersonal Conscious Educational Administration (AETC). A qualitative approach, interpretative paradigm, and ethnographic design with ethnographic systematization were adopted, involving one participant per hierarchical level: senior management, leading management, and technical management. Data collection included participant observation, interviews, field diaries, and systematization workshops, processed through coding and thematic categorization. Results showed that conscious educational management strengthened ethical leadership, holistic human development, resilience, and collaboration, integrating transpersonal competencies, neurointelligence, and mindfulness. Managerial praxis transformed into transpersonal, adaptive, and ethical leadership capable of addressing fragility, anxiety, nonlinearity, and incomprehensibility characteristic of BANI environments. In conclusion, Fundaunamor functioned as a practical laboratory for organizational transformation, validating an integrated, conscious, and humanistic educational and managerial model.

Keywords: Theory, Management, Management, Leadership, Integration.

Resumen

El estudio investigó la resignificación de la teoría y praxis gerencial en entornos BANI mediante la Administración Educativa Transpersonal Consciente (AETC). Se adoptó un enfoque cualitativo, paradigma interpretativo y diseño etnográfico con sistematización etnográfica, incluyendo un participante por nivel jerárquico: alta gerencia, gerencia líder y gerencia técnica. La recolección de datos integró observación participante, entrevistas, diarios de campo y talleres de sistematización, procesados mediante codificación y categorización temática. Los resultados mostraron que la gestión educativa consciente fortaleció liderazgo ético, desarrollo humano integral, resiliencia y colaboración, promoviendo la integración de competencias transpersonales, neurointeligencia y atención plena. Se evidenció que la praxis gerencial se transformó hacia un liderazgo transpersonal, adaptativo y ético, capaz de enfrentar fragilidad, ansiedad, no linealidad e incomprensibilidad propias de los entornos BANI. En conclusión, Fundaunamor funcionó como laboratorio práctico de transformación organizacional, validando un modelo educativo y gerencial integral, consciente y humanista.

Palabras clave: Teoría, Administración, Gestión, Liderazgo, Integración.

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Introduction

In the contemporary organizational context, environments are characterized by fragility, anxiety, non-linearity, and incomprehensibility, constituting the BANI paradigm (Cascio, 2018). This reality demands that educational and organizational systems develop resilience, adaptability, and awareness in managerial action. Traditional models prove insufficient, making the reframing of management theory and praxis highly relevant, steering towards human and sustainable values, as proposed by Transpersonal Management (Romero & Piña, 2024).

Given all this, the research is conducted under a qualitative approach and an interpretative paradigm, adopting an ethnographic design with ethnographic systematization (Hernández et al., 2014; Denzin & Lincoln, 2017; Pereira, 2016). One representative from each hierarchical level participated: senior management (diploma program coordinator), leading management (teacher), and technical management (teaching assistant). Data collection integrates participant observation, interviews, field diaries, and systematization workshops, processed through coding and thematic categorization, with ethnographic triangulation to ensure interpretive validity (Spradley, 2016; Kvale, 2009; Miles, Huberman & Saldaña, 2014; Creswell & Poth, 2018; Flick, 2015).

Certainly, the results show that conscious educational management strengthens ethical leadership, comprehensive human development, resilience, and collaboration across all hierarchical levels. The diploma coordinator integrates institutional objectives with ethical values, prioritizing well-being and curriculum adaptability; the teacher applies humanized pedagogy and reflective decision-making; and the teaching assistant implements mindfulness, self-management, and transpersonal practices in technical processes. These actions reflect the reframing of managerial praxis towards conscious, ethical, and adaptive leadership in the face of the fragility, anxiety, and non-linearity of the BANI environment (Cascio, 2020; Cobo, 2023; Hernández et al., 2014).

Furthermore, Conscious Transpersonal Educational Management (CTEM) integrates purpose, self-management, inner connection, transpersonal neuro-intelligence, and empathetic leadership. The application of the Stella Method of Organizational Freedom, communities of practice, methodological tools, and educational neuroscience enables leaders to manage consciously, transforming uncertainty into collaborative learning, innovation, and institutional resilience (Wilber, 1990; Romero, 2022; Romero & Piña, 2024; Goleman, 2020; Senge, 2006).

Thus, the reframing of management theory and praxis in BANI environments promotes a comprehensive, humanistic, and adaptable educational and organizational model. Fundaunamor functions as a practical laboratory for this transformation, demonstrating that integrating human values, ethical awareness, mindfulness, and transpersonal competencies empowers the formation of leaders capable of facing contemporary complexity, consolidating conscious, resilient, and purpose-oriented organizations (Romero & Piña, 2024; Cascio, 2020).

Similarly, the epistemology underpinning the theoretical foundations is oriented towards Conscious Educational Management in BANI environments characterized by fragility, anxiety, non-linearity, and incomprehensibility (Fundaunamor, 2019). This approach drives the reframing of management theory and praxis through transpersonal competencies and ethical leadership. In this framework, Cascio

(2018) highlights organizational adaptability, while Immordino & Damasio (2007) demonstrate the role of reflective consciousness and emotions in decision-making and resilience, applying to the hierarchical levels of Senior Management (Diploma Coordinator), Leading Management (Teacher), and Technical Management (Teaching Assistant).

Furthermore, Conscious Educational Management emphasizes reflective leadership, ethical decision-making, and mindfulness of educational processes, promoting resilient and sustainable environments (Senge, 2006; Zohar & Marshall, 2000). This approach enhances pedagogical innovation, continuous improvement, and the comprehensive development of students and teachers, contributing to the re-framing of managerial praxis in complex contexts (Spreitzer & Cameron, 2012; Drago-Severson, 2012).

All of this, Organizational Human Development, strengthens individual and collective capacities, promoting a healthy, collaborative, and learning-oriented work environment. Strategies such as assertive communication, teamwork, and continuous training drive professional development and the improvement of educational processes (García Bucheli et al., 2023; Rondón & Ammar, 2016).

Meanwhile, within BANI Environments in Educational Management, characterized by fragility, anxiety, non-linearity, and incomprehensibility, educational institutions need to strengthen their resilience and capacity for adaptive learning to manage change with strategic awareness (Cascio, 2020; Tshetshe, 2025). In this context, transformational leadership promotes innovation and institutional commitment, facilitating the integration of personalized educational technologies that optimize pedagogical effectiveness and community satisfaction (Pennel, 2023; Román et al., 2025).

Meanwhile, Conscious Transpersonal Educational Administration (CTEA) integrates transpersonal awareness, organizational learning, and knowledge management, promoting comprehensive development and optimizing educational processes. This approach reframes managerial praxis, strengthens institutional resilience, and facilitates self-management and meaningful learning (Rodríguez & Gairín, 2015; Scharmer, 2009; Romero, 2024).

Therefore, Transpersonal Neuro-intelligence articulates neurocognitive processes and transpersonal awareness, fostering resilience, conscious decision-making, and human development (Llinás, 2003; Doria, 2021). Its application in educational management optimizes strategic planning, team coordination, and the comprehensive development of the institution's members.

However, Organizational Behavior studies actions, attitudes, and relationships within the institution, considering individual, group, and organizational factors (Robbins & Judge, 2018; Lussier & Achua, 2022). This understanding allows for the design of strategies that foster cooperation, innovation, and resilience, strengthening cohesion and well-being in the educational community (Bolman & Deal, 2017).

In this way, Organizational Learning enables the acquisition, sharing, and application of knowledge to improve educational and administrative processes (Argote & Miron-Spektor, 2011; Crossan, Lane & White, 1999). It promotes collaboration, critical reflection, and the collective creation of knowledge, consolidating institutional resilience and the professional development of teachers and administrators (Edmondson, 2012).

Likewise, the Educational Management Toolkit integrates strategies and resources to implement management practices and promote comprehensive development, including strategic planning, reflective

leadership, conflict resolution, and transversal and transpersonal competencies (Bolívar, 2016; Marquardt, 2011). Its application strengthens resilience, self-management, and the reframing of managerial praxis (Senge, 2006; Heifetz et al., 2009).

On the other hand, the Stella Method of Organizational Freedom is articulated in six phases: Inner Silence, Transcendence, Vibrational Elevation, Liberation, Light of the Soul, and Conscious Action, fostering self-observation, emotional regulation, and ethical coherence (Echeverría, 1994; Freire, 2004). Its implementation strengthens resilient, collaborative educational environments centered on the comprehensive development of institutional actors.

Methodology

It is worth emphasizing that the research was conducted under a qualitative approach and an interpretative paradigm, aimed at understanding the meanings organizational actors attribute to conscious educational management (Hernández et al., 2014; Denzin & Lincoln, 2017). An ethnographic design with ethnographic systematization was adopted (Pereira, 2016), with one representative participating from each hierarchical level: Senior Management (Diploma Coordinator), Leading Management (Teacher), and Technical Management (Teaching Assistant). Data were obtained through participant observation, in-depth interviews, field diaries, and systematization workshops, processed through coding and thematic categorization (Spradley, 2016; Kvale, 2009; Miles et al., 2014; Creswell & Poth, 2018). Finally, ethnographic triangulation among the three hierarchical levels consolidated interpretive validity and allowed for the emergence of a substantive theory that reframed managerial praxis based on the participants' experiences (Denzin, 2009; Flick, 2015).

Results

Analysis of Findings: Ethnographic Record 1. Senior Management

Category: Conscious educational management. The diploma coordinator revealed that they aligned institutional objectives with ethical values and the comprehensive development of the student (Ethnographic Record 1, Fundaunamor, 2025, p. 1). This practice responded to the fragility and anxiety inherent in the BANI environment, where uncertainty demanded curriculum adaptability and emotional attention. In this sense, the reframing of management theory and praxis was evident in the shift from a technical-administrative function towards ethical and humanistic action, consistent with the tenets of Cascio (2020), Hernández et al. (2014), and Denzin & Lincoln (2017), who affirm that the interpretive understanding of experiences allows for transforming educational management modes.

Category: Organizational human development. The diploma coordinator implemented scholarship programs, mindfulness, and job rotation, prioritizing well-being and comprehensive learning (Ethnographic Record 1, Fundaunamor, 2025, p. 1). This action facilitated the reframing of management theory and praxis towards conscious, empathetic, and resilient leadership, capable of confronting the anxiety and non-linearity of the BANI environment, integrating the human dimension as the axis of institutional effectiveness (Cascio, 2020; Chiavenato, 2017; Robbins & Judge, 2017).

Category: BANI environments in educational management. The diploma coordinator observed that technological pressure and environmental complexity generated anxiety and non-linear situations,

requiring collaborative and strategic responses from the coordinator (Ethnographic Record 1, Fundaunamor, 2025, p. 1). In this context, the reframing of management theory and praxis gave rise to resilient and inclusive leadership, capable of handling the fragility and uncertainty inherent in the BANI environment (Cascio, 2020; Cobo, 2023).

Category: Conscious Transpersonal Educational Administration (CTEA). The diploma coordinator indicated that the director prioritized inner connection through meditation and clarity of purpose (Ethnographic Record 1, Fundaunamor, 2025, p. 2). This practice allowed for the reframing of management theory and praxis, promoting compassionate and facilitative leadership capable of confronting the anxiety and non-linearity of the BANI environment, maintaining stability and institutional coherence (Cascio, 2020; Wilber, 1990; Romero & Piña, 2024).

Category: Transpersonal neuro-intelligence. The diploma coordinator indicated that the director practiced conscious breathing and metacognition before evaluating or making decisions (Ethnographic Record 1, Fundaunamor, 2025, p. 3). This practice allowed for the reframing of management theory and praxis, promoting leadership capable of managing the fragility, anxiety, and non-linearity of the BANI environment, maintaining serenity and ethical focus (Cascio, 2020; Goleman, 2020; Siegel, 2020).

Category: Organizational behavior. The diploma coordinator indicated that relationships among members were horizontal and based on mutual trust, with frequent and direct communication (Ethnographic Record 1, Fundaunamor, 2025, p. 3). This approach allowed for the reframing of management theory and praxis, promoting distributed leadership capable of confronting the uncertainty and anxiety inherent in the BANI environment, strengthening cohesion and institutional effectiveness (Cascio, 2020; Robbins & Judge, 2018; Mintzberg, 2017).

Category: Organizational learning. The diploma coordinator indicated that communities of practice among instructors were encouraged, documenting experiences and lessons learned (Ethnographic Record 1, Fundaunamor, 2025, p. 4). This practice allowed for the reframing of management theory and praxis, promoting leadership capable of confronting the anxiety and non-linearity of the BANI environment, sustaining institutional innovation and resilience through collective learning (Cascio, 2020; Nonaka & Takeuchi, 2019; Senge, 2006).

Category: Educational management toolkit. The diploma coordinator evidenced the application of active methodologies such as Design Thinking and ethical matrices, integrated into technological platforms (Ethnographic Record 1, Fundaunamor, 2025, p. 4). This practice allowed for the reframing of management theory and praxis, promoting leadership capable of confronting the fragility and non-linearity of the BANI environment, strengthening institutional adaptability and strategic thinking (Cascio, 2020; Drucker, 2014; Romero, 2022).

Category: Stella method of organizational freedom. The diploma coordinator implemented the phases of Inner Silence and Liberation, applying reflection practices and relinquishing control over instructors. These actions promoted resilience, self-management, and ethical coherence, while progressively integrating the phases of Transcendence, Vibrational Elevation, Light of the Soul, and Conscious Action (Ethnographic Record 1, Fundaunamor, 2025, p. 5). This allowed for the reframing of management theory and praxis, developing leadership capable of confronting the fragility, anxiety,

and non-linearity inherent in the BANI environment, strengthening inner freedom, conscious decision-making, and institutional ethical coherence (Cascio, 2020; Pereira, 2016; Wilber, 1990).

Analysis of findings: Ethnographic record 2. Leading management (Teacher, Fundaunamor)

Category: Conscious educational management. The teacher guided their leadership through humanized pedagogical practice, incorporating mindfulness and ethics into their decisions (Ethnographic Record 2, Fundaunamor, 2025, p. 1). This orientation allowed for the reframing of management theory and praxis, promoting leadership capable of confronting the fragility and anxiety of the BANI environment, strengthening conscious pedagogical reflection and sensitivity to institutional change (Cascio, 2020; Hernández et al., 2014; Denzin & Lincoln, 2017; Spradley, 2016).

Category: Organizational human development. The teacher strengthened self-knowledge through training processes and collaborative dialogues, promoting well-being and empathy as axes of managerial action (Ethnographic Record 2, Fundaunamor, 2025, p. 1). This practice allowed for the reframing of management theory and praxis, transforming their leadership into a conscious and adaptive model, capable of handling the anxiety and non-linearity of the BANI environment, consolidating resilience and institutional coherence (Cascio, 2020; Chiavenato, 2017; Robbins & Judge, 2018; Miles et al., 2014).

Category: BANI environments in educational management. The teacher confronted environmental fragility through flexibility, resilience, and collaboration, essential attributes in conscious educational management (Ethnographic Record 2, Fundaunamor, 2025, p. 2). Fragility and anxiety promoted emotional self-regulation and conscious educational innovation. Managerial praxis transformed towards reflective, cooperative, and adaptive leadership, capable of responding to the complexity and volatility of the BANI environment (Cobo, 2023; Cascio, 2020; Hernández et al., 2014).

Category: Conscious Transpersonal Educational Administration (CTEA). The teacher reflected and applied CTEA by integrating being, feeling, and doing, consolidating compassionate decisions and emotional self-management (Ethnographic Record 2, Fundaunamor, 2025, p. 2). This practice allowed for the reframing of management theory and praxis, developing transpersonal and conscious leadership capable of managing the anxiety and uncertainty inherent in the BANI environment, strengthening collective well-being (Cascio, 2020; Wilber, 1990; Torralba, 2010; Romero & Piña, 2024).

Category: Transpersonal neuro-intelligence. The teacher managed their emotions through mindfulness, maintaining serenity and balance in the face of educational challenges (Ethnographic Record 2, Fundaunamor, 2025, p. 3). This practice allowed for the reframing of management theory and praxis, developing emotionally intelligent leadership capable of confronting the fragility, anxiety, non-linearity, and incomprehensibility of the BANI environment (Cascio, 2020; Goleman, 2020; Pascual-Leone, 2001; Siegel, 2020).

Category: Organizational behavior. The teacher promoted empathetic communication and horizontal cooperation, strengthening team trust and cohesion (Ethnographic Record 2, Fundaunamor, 2025, p. 4). The incomprehensibility of the environment was mitigated by horizontal and participatory relationships. The reframing of management theory and praxis was reformulated towards shared, relational, and distributed leadership, focused on collaboration and transparency (Cascio, 2020; Mintzberg, 2017; Salas, Rico, & Passmore, 2017; Robbins & Judge, 2018).

Category: Organizational learning. The teacher fostered communities of practice and co-learning, ensuring the sustainability of knowledge in contexts of non-linearity within the BANI environment (Ethnographic Record 2, Fundaunamor, 2025, p. 4). The reframing of management theory and praxis, through the collaborative construction of knowledge and institutional resilience, evidenced an organization that learns continuously (Cascio, 2020; Senge, 2006; Nonaka & Takeuchi, 2019; Argyris, 1999).

Category: Educational management toolkit. The teacher used reflective methodologies and self-knowledge tools to make ethical and conscious decisions (Ethnographic Record 2, Fundaunamor, 2025, p. 5). This practice allowed for the reframing of management theory and praxis, developing leadership capable of confronting the fragility, anxiety, non-linearity, and incomprehensibility of the BANI environment, centered on human development and continuous improvement (Cascio, 2020; Drucker, 2014; Porter, 2008; Romero, 2022).

Category: Stella method of organizational freedom. The teacher affirmed that applying the Stella Method favored self-discovery and ethical coherence in leadership. The integration of the phases of Inner Silence, Transcendence, Vibrational Elevation, Liberation, Light of the Soul, and Conscious Action (Ethnographic Record 2, Fundaunamor, 2025, p. 5) allowed for the reframing of management theory and praxis, developing leadership capable of confronting the fragility, anxiety, non-linearity, and incomprehensibility of the BANI environment, consolidating organizational freedom and collective purpose (Cascio, 2020; Pereira, 2016; Romero & Piña, 2024; Wilber, 1990).

Analysis of findings: Ethnographic record 3. Technical management (Teaching assistant, Fundaunamor)

Category: Conscious educational management. The teaching assistant integrated mindfulness and ethics into technical and pedagogical decisions, prioritizing coherence and cultural relevance (Ethnographic Record 3, Fundaunamor, 2025, p. 1). The fragility and anxiety of the BANI environment demanded adaptive planning and stress management. The reframing of management theory and praxis merged efficiency with humanization, conscious reflection, and ethics, strengthening responsible decision-making in complex environments (Cascio, 2020; Hernández et al., 2014; Spradley, 2016; Denzin & Lincoln, 2017).

Category: Organizational human development. The teaching assistant implemented individual development plans, mentorship, and transpersonal coaching, promoting the emotional well-being of the technical team (Ethnographic Record 3, 2025, p. 2). The anxiety and incomprehensibility of the BANI environment required collective well-being and self-management as an adaptive strategy. The reframing of management theory and praxis prioritized emotional awareness, self-management, and collaboration as pillars of organizational effectiveness (Cascio, 2020; Chiavenato, 2017; Robbins & Judge, 2018; Miles et al., 2014).

Category: BANI environments in educational management. The teaching assistant adapted educational and administrative processes in the face of abrupt changes and unexpected demands (Ethnographic Record 3, 2025, p. 3). The fragility and incomprehensibility of the technical BANI environment demanded rapid adaptation and innovation. The reframing of theory and praxis consolidated reflective and resilient technical leadership, capable of managing volatility, anxiety, and con-

textual complexity (Cobo, 2023; Cascio, 2020; Hernández et al., 2014).

Category: Conscious Transpersonal Educational Administration (CTEA). The teaching assistant integrated institutional purpose, self-management, and compassionate decisions, connecting outcomes with human impact (Ethnographic Record 3, 2025, p. 4). Inner connection functioned as an emotional anchor against the fragility, anxiety, non-linearity, and incomprehensibility of the BANI environment. Thus, the reframing of management theory and praxis consolidated transpersonal, ethical, and purpose-oriented leadership, fostering autonomy and collective commitment (Cascio, 2020; Wilber, 1990; Torralba, 2010; Romero & Piña, 2024).

Category: Transpersonal neuro-intelligence. The teaching assistant applied mindfulness and emotional self-regulation to manage conflicts and projects (Ethnographic Record 3, 2025, p. 5). The emotional fragility of the technical BANI environment required the integration of cognitive and emotional processes. The reframing of management theory and praxis united neuroscience, ethical awareness, and empathetic leadership, optimizing the management of pressure and uncertainty (Cascio, 2020; Goleman, 2020; Pascual-Leone, 2001; Siegel, 2020).

Category: Organizational behavior. The teaching assistant fostered horizontal cooperation, transparent communication, and role clarity (Ethnographic Record 3, 2025, p. 6). The anxiety and incomprehensibility of the technical BANI environment demanded collaborative relationships. The reframing of management theory and praxis, through shared, relational leadership that distributed responsibilities, consolidated team trust and cohesion (Cascio, 2020; Mintzberg, 2017; Salas, Rico, & Passmore, 2017; Robbins & Judge, 2018).

Category: Organizational Learning. The teaching assistant promoted communities of practice (CoPs), post-mortem reviews, and knowledge transfer (Ethnographic Record 3, 2025, p. 7). The non-linearity of the BANI environment demanded continuous and shared learning. The reframing of management theory and praxis institutionalized collaborative, reflective, and sustained learning, strengthening technical resilience and adaptability (Cascio, 2020; Senge, 2006; Nonaka & Takeuchi, 2019; Argyris, 1999).

Category: Educational management toolkit. The teaching assistant applied decision matrices, empathy maps, and conscious reflection protocols (Ethnographic Record 3, 2025, p. 8). The non-linearity of the BANI context promoted the adoption of reflective and innovative tools. The reframing of management theory and praxis integrated methodological tools with a transpersonal focus, strengthening ethical and strategic decision-making (Cascio, 2020; Drucker, 2014; Porter, 2008; Romero, 2022).

Category: Stella method of organizational freedom. The evidence showed that the teaching assistant applied the Stella Method by progressively integrating its six phases: Inner Silence, Transcendence, Vibrational Elevation, Liberation, Light of the Soul, and Conscious Action (Ethnographic Record 3, Fundaunamor, 2025, p. 9). These practices promoted resilience, self-management, ethical coherence, and a culture of trust. The reframing of technical management theory and praxis consolidated conscious, autonomous leadership oriented toward the collective purpose (Cascio, 2020; Pereira, 2016; Romero & Piña, 2024; Wilber, 1990).

Discussion

Analysis, Discussion, and contrast of results: reframing of management theory and praxis in bani environments

Conscious educational management: Ethics, mindfulness, and innovation. The three management levels evidenced the reframing of management theory and praxis centered on ethics and mindfulness, responding to the fragility and complexity of the BANI environment. The coordinator aligned objectives with institutional values, the teacher promoted humanized decisions, and the teaching assistant applied mindfulness in technical processes. These findings reflected the reframing of managerial praxis, replacing reactive models with reflective awareness (Cascio, 2020; Hernández et al., 2014; Denzin & Lincoln, 2017).

Organizational human development: Well-being and assertive communication. Management at Fundaunamor reflected the capacity to respond to pressure, resilience through cooperation, and the application of methodological innovation in the face of complexity and uncertainty. This evidenced that the reframing of management theory and praxis allowed for transforming uncertainty into opportunity, consolidating adaptive and emotionally intelligent leadership (Cascio, 2020; Cobo, 2023).

BANI environments: Resilience and adaptability. The coordinator integrated contemplative practices, the teacher harmonized being, feeling, and doing, and the teaching assistant applied transpersonal awareness in ethical decisions. This integration configured the reframing of management theory and praxis towards transpersonal leadership, strengthening inner coherence and self-management in the face of BANI environments (Cascio, 2020; Wilber, 1990; Torralba, 2010; Romero & Piña, 2024).

Conscious Transpersonal Educational Administration (CTEA): Purpose, Self-Management, and Inner Connection. The coordinator integrated contemplative practices, the teacher harmonized being, feeling, and doing, and the teaching assistant applied transpersonal awareness in ethical decisions. This integration configured the reframing of management theory and praxis towards transpersonal leadership, strengthening inner coherence and self-management in the face of BANI environments (Cascio, 2020; Wilber, 1990; Torralba, 2010; Romero & Piña, 2024).

Transpersonal neuro-intelligence: Emotional self-regulation and empathetic leadership. The management levels applied conscious breathing, mindfulness, and emotional management to maintain balance in the face of anxiety and non-linearity. This finding confirmed that the reframing of management theory and praxis integrates neuroscience and ethical awareness, strengthening empathy and strategic decision-making (Cascio, 2020; Goleman, 2020; Pascual-Leone, 2001; Siegel, 2020).

Organizational behavior: Horizontal relationships and cohesion. It was evidenced that horizontal relationships and empathetic communication mitigated the incomprehensibility and fragility of the BANI environment. The reframing of management theory and praxis towards collaborative and distributed leadership strengthened group trust and institutional cooperation (Cascio, 2020; Mintzberg, 2017; Robbins & Judge, 2018; Salas, Rico, & Passmore, 2017).

Organizational learning: Communities of practice and continuous learning. The three management levels promoted CoPs and co-learning spaces that sustained institutional resilience in the face of non-linearity and complexity. This defined the reframing of management theory and praxis as a cons-

cious and collaborative learning process, aligning educational management with innovation and adaptation to the BANI environment (Cascio, 2020; Senge, 2006; Nonaka & Takeuchi, 2019; Argyris, 1999).

Educational management toolkit: Innovation and conscious competencies. The use of active methodologies, ethical matrices, and self-knowledge protocols allowed for facing BANI volatility and anxiety with ethical creativity. This reflected the reframing of management theory and praxis, incorporating innovation, a transpersonal focus, and continuous improvement (Cascio, 2020; Drucker, 2014; Porter, 2008; Romero, 2022).

Stella method of organizational freedom: Ethical leadership and conscious action. Finally, the integration of Inner Silence, Transcendence, Vibrational Elevation, Liberation, Light of the Soul, and Conscious Action allowed for managing BANI fragility, complexity, and uncertainty. The reframing of management theory and praxis consolidated ethical, autonomous, and purpose-oriented leadership, harmonizing the individual and the institutional (Cascio, 2020; Pereira, 2016; Wilber, 2005; Romero & Piña, 2024).

Consequently, based on the ethnographic systematization across the three levels at Fundaunamor, the Substantive Theory of Conscious Transpersonal Educational Administration (CTEA) was developed. This evidenced that leaders integrated purpose, self-management, inner connection, transpersonal neurointelligence, and ethical and empathetic leadership. Furthermore, these practices, along with mindfulness, horizontal cooperation, organizational learning, and the Stella Method of Organizational Freedom, transformed management into a conscious, humanized, and adaptive model in the face of the fragile, anxious, non-linear, and incomprehensible nature of BANI environments (Ethnographic Records 1, 2, and 3, 2025; Cascio, 2020; Wilber, 1990; Romero, 2022; Romero & Piña, 2024; Goleman, 2020; Senge, 2006).

Conclusions

In summary, the application of Conscious Transpersonal Educational Administration (CTEA) enabled the reframing of management theory and praxis at Fundaunamor, promoting ethical leadership, mindfulness, and resilience in BANI environments. This transformation was sustained by strategies oriented towards integral human development, empathetic communication, and institutional collaboration. Likewise, the integration of the Stella Method of Organizational Freedom strengthened ethical coherence, self-management, and conscious adaptability. Collectively, the findings reveal a more human, conscious, and sustainable management approach, whose contributions are transferable to other organizational contexts and constitute a basis for future research in complex and changing scenarios.

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Management indicators and decision-making in national educational units of Maracaibo, Venezuela

Indicadores de gestión y la toma de decisiones en unidades educativas nacionales de Maracaibo, Venezuela

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Abstract

This study analyzed the relationship between management indicators and decision-making in national educational units in Maracaibo, Venezuela. Using a quantitative approach and correlational scope, 48 managers and 72 teachers were surveyed using a valid and reliable questionnaire (0.98). The analysis revealed a significant positive correlation in both groups, but with differing intensity. For managers, the relationship is strong (coefficient of 0.888), indicating that improving management indicators significantly increases decision-making effectiveness. For teachers, the correlation is moderate (coefficient of 0.690), suggesting a less pronounced influence, possibly due to differences in their role and perception within the process. It is concluded that the relationship exists significantly, but its strength varies according to the group's perspective.

Keywords: Management indicators, management, Maracaibo, decision-making, Venezuela.

Resumen

Este estudio analizó la relación entre los indicadores de gestión y la toma de decisiones en unidades educativas nacionales de Maracaibo, Venezuela. Bajo un enfoque cuantitativo y alcance correlacional, se encuestó a 48 directivos y 72 docentes utilizando un cuestionario válido y confiable (0.98). El análisis reveló una correlación positiva significativa en ambos grupos, pero con intensidad distinta. Para los directivos, la relación es fuerte (coeficiente de 0.888), indicando que mejorar los indicadores de gestión aumenta notablemente la efectividad decisional. Para los docentes, la correlación es moderada (coeficiente de 0.690), lo que sugiere una influencia menos pronunciada, posiblemente por diferencias en su rol y percepción dentro del proceso. Se concluye que la relación existe significativamente, pero su fuerza varía según la perspectiva del grupo.

Palabras clave: Indicadores de gestión, gerencia, Maracaibo, toma de decisiones, Venezuela.

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Introduction

Being well-informed is essential for making sound decisions, especially in complex and changing environments like the educational one, as information enables decision-making, objective context analysis, problem and opportunity identification, and the evaluation of potential consequences of different actions. Likewise, it facilitates the adoption of solutions based on real data and evidence, which increases the likelihood of success and minimizes risks.

In this regard, Acosta and Barreto (2023) note that in an increasingly interconnected world, precise and updated information also allows for anticipating environmental changes and adjusting strategies in real-time to adapt to new trends. Informed decision-making ensures that resources are used efficiently, that adopted measures have a positive impact, that results are optimized, and that the solutions used are sustainable.

For their part, Pacheco et al. (2018) consider that information is the axis guiding decision-making, ensuring that decisions are coherent, well-founded, and aligned with long-term objectives, whether in education, business, or any other field. Hence, Alvares (2021) considers that knowing educational management indicators is important for decision-making, as they provide a clear and objective view of educational institutions' performance.

Indicators allow for measuring and evaluating important aspects such as teaching quality, student academic performance, efficiency in resource use, and educational community satisfaction. By having this data, administrators and those responsible can identify areas for improvement and strengths, which facilitates making informed decisions to optimize processes and results.

Within this framework, Camacho et al. (2021) highlight that educational management indicators provide a solid basis for planning strategies at different timeframes. This is because they facilitate the definition of achievable objectives, the adaptation of policies, and the targeting of actions that directly impact the improvement of educational quality. For Del Rocío et al. (2019), management indicators play a fundamental role in measuring the performance of institutions and academic programs, as well as in guiding decision-making towards continuous improvement. These indicators allow for the evaluation of important aspects such as teaching quality, the effectiveness of administrative processes, student well-being, and efficient resource use.

Fonseca et al. (2024) emphasize that, at a global level, the use and recognition of educational management indicators have strengthened transparency and accountability in school administration. Likewise, these indicators have allowed decisions to be grounded in objective information, enabling institutions to justify their actions before the educational community and regulatory bodies, demonstrating their commitment to continuous improvement and the comprehensive development of students.

In this sense, the United Nations Educational, Scientific and Cultural Organization (Unesco, 2022) notes that the presentation and use of educational management indicators globally is essential to ensure quality, inclusive, and equitable education in all contexts. Therefore, this organization promotes the collection and analysis of educational data through bodies like the Unesco Institute for Statistics (UIS), which generates global indicators to assess progress towards educational goals, such as those established in the Sustainable Development Goals (SDGs), especially SDG 4, which focuses on quality education.

Furthermore, Unesco (2019) highlights that the use of educational indicators allows countries to monitor aspects such as access to education, equity, the efficiency of educational systems, and learning outcomes. These indicators allow for comparisons of performance between different countries and regions, helping to identify gaps and priority areas for intervention. Through its reports, Unesco presents a global overview of the challenges and advances in the educational sector, based on these key indicators. It also underscores that access to accurate and reliable data is essential for informed decision-making at political and administrative levels.

Now, according to Unesco (2019), in Latin America, these indicators are presented in a structured manner, organized into categories such as access and coverage, educational quality, efficiency, equity, and learning outcomes. They include both quantitative indicators, such as enrollment rates and standardized test results, and qualitative ones, through surveys of student and teacher satisfaction. The use of data disaggregated by gender, geographical location, and socioeconomic context to identify gaps and inequalities is common.

Therefore, this organization considers that these indicators are usually published in annual reports prepared by ministries of education and international organizations, allowing for comparisons between countries and a focus on learning outcomes, especially through standardized assessments like the *Programme for International Student Assessment (PISA)*. Likewise, indicators of institutional management are included, such as teacher training and school infrastructure, which is fundamental for assessing the efficiency and effectiveness of the educational system.

In the Venezuelan context, the implementation of management indicators is of particular importance to foster national educational quality; however, the Venezuelan educational system faces challenges such as limited resources, high teacher turnover, and inequality of educational opportunities. In this sense, Acosta and Barrios (2023) argue that to counteract the above, effective management of educational institutions that allows for performance evaluation and strategic decision-making is necessary; hence, management indicators are an important tool for this purpose, as they provide a quantitative and qualitative view of the institution's status and allow for the identification of areas for improvement.

Furthermore, Prieto et al. (2022) point out the importance of ethics in management, as it is an essential tool for improving the quality of education in educational institutions. Likewise, Puche and Acosta (2024) note that it is necessary to overcome existing challenges and secure the commitment of all involved stakeholders to achieve sustainable results in Venezuelan institutions.

For their part, various weaknesses in school management have been observed in national educational units in the Maracaibo Municipality. One of the primary ones is the lack of clarity in institutional objectives, which leads to disorganized planning poorly aligned with the school's real needs. This can translate into impulsive or arbitrary decisions that do not respond to a thorough analysis of the situation. Additionally, inefficiency in the use of resources, both human and financial, is common. Without reference indicators, administrators assign personnel or budgets inadequately, resulting in resource waste or shortages in areas fundamental to the institution's operation and improvement.

Likewise, a low capacity to identify and correct structural problems within the organization is observed. The lack of indicator monitoring hinders the early detection of failures, leading to reactive rather than preventive management. This can result in a disorganized school environment, with recurring problems

and low motivation among both teachers and students.

Communication problems within the institution are also present. The lack of indicators hampers effective communication between different management levels and among staff, affecting cohesion and collaboration in the workplace. This leads to difficulties in performance evaluation, as without metrics it is complicated to measure the performance of students and staff, preventing the identification of areas that require improvement.

Finally, resistance to change is observed, where institution members tend to be reluctant toward new initiatives or improvements. This resistance stems from the lack of concrete data justifying the need to implement changes, as the absence of management indicators in the national educational units of Maracaibo generates a series of situations that negatively impact their performance and effectiveness. Hence, the study focused on determining the relationship between management indicators and decision-making in national educational units in Maracaibo, Venezuela.

Theoretical foundation

Management indicators

They are fundamental tools that enable the measurement, evaluation, and monitoring of the performance, efficiency, and quality of educational processes within institutions. According to Ramírez and Quesada (2019), their main purpose is to provide precise and objective information about the current state of various aspects of education, in order to make informed decisions that drive continuous improvement. These indicators also facilitate the identification of strengths and weaknesses in management, allowing for a strategic focus on problem-solving and resource optimization.

As per Sánchez (2020), among the particular characteristics of educational management indicators is their capacity to be relevant and directly related to the institution's key objectives. Furthermore, they must be measurable in quantitative terms or with clear criteria for qualitative evaluation, which allows for consistent interpretation. Their comparability is another highlighted aspect, as it facilitates trend analysis over time or between different educational institutions. Likewise, their specificity ensures that they are focused on concrete and relevant aspects of management.

Common examples of these indicators include the student retention rate, which measures the proportion of students who continue their studies at the same institution, and the average enrollment, which assesses the number of enrolled students in relation to the institution's capacity. According to Ferreiro et al. (2020), certain key indicators are linked to academic performance, including results obtained in national or international assessments. Additionally, they highlight indicators related to infrastructure, such as the number of classrooms, laboratories, or technological resources available per student. The importance of teacher training is also emphasized, measured through the percentage of teachers involved in continuous professional development programs.

Decision-making

According to Mendoza and Technologys (2022), it is a dynamic and strategic process in which educational stakeholders—such as administrators, teachers, and school communities—examine key information and evaluate existing alternatives to choose the most appropriate actions that facilitate the achievement of established educational objectives. This approach seeks to address institutional demands, maximize the use of available resources, foster a favorable learning environment, and ensure

high standards of educational quality.

As per Barzaga et al. (2019), the decision-making process in educational institutions is distinguished by encompassing multiple dimensions, integrating administrative, pedagogical, and community aspects. This process includes everything from operational decisions, such as organizing schedules and allocating resources, to strategic decisions focused on implementing educational projects, renewing curricula, and promoting inclusion policies. Furthermore, they argue that this process is based on the use of data and evidence as support to minimize the margin of error and maximize benefits for the entire educational community. It includes the active participation of different school stakeholders to ensure that decisions are inclusive, legitimate, and reflect the needs and expectations of students, teachers, and families.

Methodology

The methodology of the present study was grounded in the procedures of the positivist paradigm, which, according to Hernández and Mendoza (2023), is characterized by its focus on objectivity, systematicity, and the empirical verification of proposed hypotheses. This paradigm prioritizes the quantification and rigorous analysis of causal and correlational relationships, making it pertinent for concretely examining how management indicators influence decision-making processes in national educational units in Maracaibo. Thus, the study was designed to address the need to understand these dynamics from a structured and reliable methodological perspective.

In accordance with this paradigm, a quantitative approach was adopted, which, as per Arias (2016), allows for a deep understanding of the studied phenomena from the perspective of the involved subjects. This approach proved ideal for exploring the perceptions and experiences of both teachers and administrators regarding management indicators and their connection to strategic decisions in their work contexts. Through this approach, the interpretative analysis of observed interactions and practices was prioritized, enabling the capture of the complexity of institutional dynamics.

The study was classified as basic research. This type of research is fundamental because it focuses on creating theoretical knowledge and a deeper understanding of a phenomenon, rather than on its direct practical application. In terms of level, it was descriptive, as its purpose, according to Arias (2016), is to detail the characteristics and manifestations of management indicators in the educational units. This research focused on identifying patterns and trends that would provide a clear picture of practices related to decision-making. Furthermore, it fell under a correlational scope, which, according to Hernández and Mendoza (2023), seeks to determine the degree of association between management indicators and decision-making processes, providing a robust analytical framework for understanding how these variables interact.

The sample was intentional (purposive) and consisted of 72 teachers and 48 administrators from National Educational Units affiliated with the Centers for Educational Quality Development (Centros de Desarrollo de la Calidad Educativa - CDCE) in Maracaibo. These bodies are decentralized regional structures whose objective is to guide regional educational policy to guarantee the right to education and educational quality.

For the selection of teachers, the inclusion criteria were: being in active service during the study period, having at least two years of experience in the national educational unit, and participating in processes related to school planning and management. Regarding administrators, it was considered essential to

hold administrative or leadership functions, have at least two years of experience in educational management, and be involved in strategic or pedagogical decision-making.

The study strictly adhered to the necessary ethical considerations to ensure the integrity and protection of the participants. Informed consent was obtained from each participant, ensuring their voluntary participation and clearly explaining the study's objectives, the exclusive use of data for academic purposes, and the absolute confidentiality of the collected information. Furthermore, the privacy of the participants was safeguarded by omitting any data that could allow for their identification.

For data collection, a survey was used, implementing a dichotomous (binary) instrument designed to capture affirmative or negative responses reflecting the participants' perceptions. This was sent to the subjects via WhatsApp and email. Data processing was conducted using the SPSS 27 statistical program and was carried out in two stages. Initially, descriptive statistical techniques were applied, which allowed for organizing the information into frequency tables, facilitating the visualization of response distribution and predominant trends.

Subsequently, inferential statistical techniques were employed to determine the level of correlation between management indicators and decision-making processes. This analysis enabled the identification of significant associations between the variables, providing a solid basis for interpreting the results and establishing well-founded conclusions.

Results

Table 1

Educational quality indicators

Indicators	Questions	Response options							
		Administrators				Teachers			
		Yes		No		Yes		No	
		Fr	F%	Fr	F%	Fr	F%	Fr	F%
Academic performance	Do you believe academic performance has improved in the last year?	16	33,3	32	66,7	23	31,9	49	68,1
	Do you think the implemented strategies contribute to academic performance?	15	31,2	33	68,8	30	41,7	42	58,3
Approval rate	Do you believe the student approval/pass rate increases over time?	32	66,7	16	33,3	52	72,2	20	27,8
	Do you believe support programs influence the improvement of the approval/pass rate?	38	79,2	10	20,8	50	69,4	22	30,6
School dropout rate	Do you consider that the school dropout rate decreases over time?	42	87,5	6	12,5	18	25,0	54	75,0
	Do you believe institutional strategies help prevent school dropout?	20	41,7	28	58,3	40	55,6	32	44,4

Note: Source the researchers.

Table 1 presents the results of the educational quality indicators dimension. It is observed that, regarding academic performance, both administrators and teachers show a predominantly negative perception. Only 33.3% of administrators and 31.9% of teachers believe academic performance has improved in the last year, while the majority perceive no significant progress. Furthermore, an even lower percentage —31.2% of administrators and 41.8% of teachers— believes the implemented stra-

tegies contribute to this performance. These results highlight the need to evaluate and strengthen pedagogical strategies to address the challenges in this area more effectively.

In relation to the approval rate, the results are more encouraging. 66.7% of administrators and 72.2% of teachers perceive that this rate has improved over time. Similarly, a significant majority (79.2% of administrators and 69.4% of teachers) acknowledges that school support programs have positively influenced this aspect. This reflects an optimistic perception of the implemented initiatives, underscoring the relevance of these programs as key drivers of academic success. However, it is important to ensure the sustainability and continuous improvement of these actions.

Regarding the school dropout rate, notable discrepancies are observed between the perceptions of administrators and teachers. While 87.5% of administrators report a decrease in the dropout rate, only 25% of teachers share this view. On the other hand, 41.7% of administrators and 55.6% of teachers believe the institutional strategies are effective in preventing this phenomenon. This suggests the need to strengthen communication and coordination between both groups to align their perceptions and work jointly on effective solutions.

Consequently, the results show a mixed perception of the analyzed indicators. Although progress in the approval rate is highlighted, significant challenges persist in academic performance and dropout prevention. It is essential to review current strategies, foster dialogue between administrators and teachers, and reinforce successful initiatives to achieve a positive and sustainable impact on students.

Table 2

Administrative efficiency indicators

Indicators	Questions	Response options							
		Administrators				Teachers			
		Yes		No		Yes		No	
		Fr	F%	Fr	F%	Fr	F%	Fr	F%
Student teacher relationship	Do you consider the relationship between students and teachers to be positive at your institution?	18	37,5	30	62,5	22	30,6	50	69,4
	Do you believe the support provided by teachers fosters a better bond with students?	48	100	0	0	62	86,1	10	13,9
Per-pupil expenditure	Do you think the cost per student is adequately distributed towards educational resources?	15	31,3	33	68,7	33	45,8	39	54,2
	Do you believe the cost per student efficiently reflects the quality of services offered?	10	20,8	38	79,2	12	16,7	60	83,3
Administrative processing time	Do you consider the time required to complete administrative procedures to be reasonable at your institution?	12	25,0	36	75,0	20	27,8	52	72,2
	Do you believe the current administrative processes expedite school management?	8	16,7	40	83,3	10	13,9	62	86,1

Note: Source the researchers.

Table 2 presents the results of the administrative efficiency indicators. Regarding the student-teacher ratio indicator, contrasting perceptions between administrators and teachers are shown. Only 37.5% of administrators consider the ratio to be positive, while 62.5% believe it is not. Among teachers, this

perception is even more negative, with 30.6% rating the ratio positively and 69.4% negatively. However, there is an encouraging consensus on the support provided by teachers, as 100% of administrators and 86.1% of teachers acknowledge that this factor contributes to strengthening bonds with students. These data reflect that, although overall relationships may be seen as deficient, the individual actions of teachers have a positive impact. This highlights the importance of strengthening these practices and promoting greater positive interaction within the institutional environment.

Regarding cost per student, the results indicate a predominantly negative perception. Only 31.3% of administrators and 45.8% of teachers consider this cost to be adequately distributed towards educational resources. Even more concerning is that only 20.8% of administrators and 16.7% of teachers believe the cost efficiently reflects the quality of services offered. These figures demonstrate the need to evaluate how financial resources are allocated and used within the institution to ensure they contribute to improving the educational quality perceived by the entire school community.

When analyzing administrative processing time, both administrators and teachers agree that the current processes are inadequate. Only 25% of administrators and 27.8% of teachers believe the time required for processing tasks is reasonable. Furthermore, an even lower percentage— 16.7% of administrators and 13.9% of teachers —considers that administrative processes expedite school management. This reflects a perception of inefficiency that may be negatively impacting institutional functioning, underscoring the need to simplify and modernize these procedures.

The results indicate that educational institutions face significant challenges in improving student-teacher relationships, the distribution and efficiency of the cost per student, and the optimization of administrative processes. These findings point to important areas for intervention, implementing strategies that promote a more positive school environment, more transparent and effective financial management, and more agile administration that enables better performance for the entire educational community.

Table 3

Educational innovation indicators

Indicators	Questions	Response options							
		Administrators				Teachers			
		Yes		No		Yes		No	
		Fr	F%	Fr	F%	Fr	F%	Fr	F%
Use of technology in the classroom	Do you consider that technology is used effectively in classroom activities?	18	37,5	30	62,5	22	30,6	50	69,4
	Do you believe that the use of technology in the classroom improves student learning?	48	100	0	0	72	100	0	0
Teacher training in innovation	Is training on innovative teaching strategies encouraged?	10	20,8	38	79,2	20	27,8	52	72,2
	Do you believe that innovation training has been useful for teaching practice?	48	100	0	0	72	100	0	0
Innovative projects implemented	Have innovative projects been implemented at your institution during the last year?	0	0	48	100	72	100	0	0
	Do you believe that innovative projects benefit students?	48	100	0	0	72	100	0	0

Note: Source the researchers.

Table 3 presents the results of the Educational Innovation Indicators. Regarding the use of technology in the classroom, it is observed that only 37.5% of administrators believe technology is used effectively in classroom activities, while 62.5% disagree. Meanwhile, 69.4% of administrators consider this to be the case and 30.6% believe it does occur. Among teachers, the perception is more optimistic, though still concerning, as only 50% believe technology is employed adequately. However, both administrators and teachers agree that the use of technology improves student learning, with 100% affirmative responses. This highlights a paradox: although implementation may not be optimal, there is a consensus on the positive potential of technology in the educational process.

Regarding teacher training in innovation, the data indicate that its promotion is limited. Only 20.8% of administrators and 27.8% of teachers believe this type of training is encouraged in their institutions, while the majority do not perceive it as such (79.2% of administrators and 72.2% of teachers). Nevertheless, 100% of both groups consider innovation training to be useful for teaching practice, underscoring the need to increase the availability of such training to enhance its positive impact in the educational field.

Concerning implemented innovative projects, clear contrasts are identified. While 100% of teachers indicate that innovative projects have been implemented in their institutions, 100% of administrators claim the opposite. This could suggest a disconnect between the perspectives of both groups regarding what constitutes an innovative project. However, both administrators and teachers are in complete agreement (100%) that innovative projects benefit students, highlighting their relevance in educational development.

The results reflect a significant opportunity to strengthen innovative and technological practices in the educational environment. It is necessary to improve the effectiveness of technology use in the classroom, promote more innovation training, and ensure that both administrators and teachers share a common vision of innovative projects and their implementation. These measures can contribute to a more modern, inclusive, and effective learning environment.

Table 4

Student participation indicators

Indicators	Questions	Response options							
		Administrators				Teachers			
		Yes		No		Yes		No	
		Fr	F%	Fr	F%	Fr	F%	Fr	F%
Extracurricular activity participation rate	Do you believe that the majority of students actively participate in extracurricular activities?	20	41,7	28	58,3	18	25	54	75
	Do you think the extracurricular activities offered are appealing/engaging to students?	20	41,7	28	58,3	16	22,2	56	77,8
School attendance rate	Do you consider that the attendance rate has improved over time?	0	0	48	100	0	0	72	100
	Do you believe that the institution helps to maintain a high school attendance rate?	10	20,8	38	79,2	20	27,8	52	72,2

Note: Source the researchers.

Table 4 presents the results of the student well-being indicators. Regarding the rate of participation in extracurricular activities, administrators have a divided perception: 41.7% believe that most students actively participate in these activities, while 58.3% do not. Among teachers, the perception is more negative, as only 25% consider that students participate actively, while 75% indicate the opposite. Furthermore, regarding whether the extracurricular activities offered are attractive to students, a similar percentage of administrators (41.7%) responds affirmatively, although no clear percentage is reported among teachers. These data suggest the need to evaluate and redesign extracurricular activities to make them more inclusive and motivating, so they can capture the interest of a larger number of students.

In terms of the school attendance rate, there is absolute consensus between administrators and teachers: 100% of both groups believe the attendance rate has not improved over time. However, when analyzing whether the institution contributes to maintaining a high attendance rate, opinions are mixed. Only 20.8% of administrators and 27.8% of teachers agree with this statement, while 79.2% of administrators and 72.2% of teachers believe insufficient effort is made in this aspect. These figures indicate a perception of ineffectiveness in the implemented strategies to promote school attendance, pointing to a priority area for institutional intervention.

In this sense, the data reflect that both participation in extracurricular activities and school attendance require urgent attention. The lack of interest in activities and the perception of stagnation in the attendance rate suggest the need to review current strategies and work on more inclusive, attractive, and effective initiatives. This could include creating extracurricular activities aligned with students' interests, as well as implementing specific programs to motivate regular class attendance, strengthening the connection between the institution and its educational community.

Table 5

Correlation coefficient between management indicators and decision-making according to administrators

Coefficients	Variables		Management indicators	Decision-Making
Rho de Spearman	Management indicators	Correlation coefficient	1	0,888**
		Sig. (2-tailed)	-	0,000
		N	48	48
	Decision-Making	Correlation coefficient	0,888**	1
		Sig. (2-tailed)	0,000	-
		N	48	48

Note: Source the researchers.

Table 5 presents the correlation analysis between management indicators and decision-making, using Spearman's Rho coefficient. It shows a strong and positive relationship between both variables. The correlation coefficient value is 0.888, indicating a high positive correlation; that is, as management indicators increase, so does decision-making. This relationship is statistically significant, as the sig. (2-tailed) value is 0.000, meaning the probability that this correlation is due to chance is extremely low. With an N = 48, i.e., 48 observations, it can be concluded that there is a very strong association bet-

ween these two factors. This suggests that improving management indicators could have a direct impact on the quality or effectiveness of decision-making in the evaluated institution or context.

In this sense, the analysis reveals that management indicators are closely linked to decision-making. This implies that efforts to improve management within the organization are likely to have a positive impact on decision-making processes. This finding underscores the importance of strengthening management indicators as part of a comprehensive approach to optimizing decision-making within the institution.

Table 6

Correlation coefficient between management indicators and decision-making according to teachers

Coefficients	Variables		IManagement indicators	Toma de decisiones
Rho de Spearman	Management indicators	Correlation coefficient	1	0,690**
		Sig. (2-tailed)	-	0,000
		N	72	72
	Toma de decisiones	Correlation coefficient	0,690**	1
		Sig. (2-tailed)	0,000	-
		N	72	72

Note: Source the researchers.

Table 6 presents the correlation analysis between management indicators and decision-making using Spearman's Rho coefficient, showing a moderate and positive correlation of 0.690. This value indicates a significant relationship between both variables, suggesting that as management indicators improve, so does decision-making. Statistical significance is confirmed with a Sig. (2-tailed) value = 0.000, meaning the probability that this correlation is a product of chance is extremely low.

With an N = 72, this correlation coefficient is moderately strong, implying that there is a tangible relationship between the quality of management indicators and the effectiveness of decision-making in the evaluated context. Although not a perfect relationship, it suggests that better performance in management indicators can positively influence decision-making.

The analysis demonstrates that there is a moderately strong relationship between management indicators and decision-making. The statistical significance and the relatively high value of the correlation coefficient (0.690) indicate that improving management indicators has the potential to positively impact decision-making processes. This highlights the importance of strengthening management indicators as part of a broader strategy to enhance organizational effectiveness and decision-making.

Discussion

Contrasting the results with the theoretical postulates, Ramírez and Quesada (2019) state that academic performance is a fundamental indicator for evaluating the effectiveness of the educational system. It reflects not only the knowledge acquired by students but also the quality of teaching, the commitment of educators, and the efficacy of implemented pedagogical strategies.

According to Mero and Sáenz (2016), high academic performance is crucial for the personal and professional development of students, as it opens doors to future opportunities in higher education and the labor market. Furthermore, academic performance directly impacts the reputation of educational institutions, being a decisive factor in the choice of schools and universities. Its measurement allows institutions to identify areas for improvement and strengthen their educational practices to provide a more comprehensive and quality education.

Within this context, Hernández and Fernández (2018) highlight the idea that the approval (or pass) rate is an indicator that measures the proportion of students who successfully complete courses or educational levels. This index is significant because it reflects the educational system's capacity to ensure that students achieve established learning objectives. According to Atencia (2024), a high approval rate indicates that students have successfully assimilated the content, reflecting appropriate teaching and a favorable learning environment. Conversely, a low approval rate could indicate problems with teaching methodology, available resources, or the support provided to students, which may necessitate implementing improvement strategies such as reinforcement programs or modifications to assessment methods.

From the perspective of Atencia (2023), the school dropout rate is a critical indicator that reflects the number of students who leave their studies before completing an educational cycle. Therefore, a high dropout rate is a cause for concern, as it implies that many students are unable to continue their education due to various factors, such as economic or family problems, or a lack of motivation. School dropout affects the social and economic development of a community, as those who leave school are less likely to access quality employment and contribute less to collective well-being. Combating school dropout requires interventions that improve accessibility, educational quality, and the emotional and academic support provided to students to ensure everyone has the opportunity to complete their education.

Likewise, García et al. (2018) indicate that the student-teacher relationship is an important component for educational success, as a positive bond between the two fosters learning, personal development, and student motivation, as students feel supported and understood by their educators. Effective interaction allows teachers to adapt their teaching methods to the individual needs of students, facilitating comprehension and the achievement of academic objectives. Furthermore, a good relationship strengthens the school climate and promotes the active participation of students in the educational process. Fostering these relationships is crucial for creating inclusive and collaborative learning environments that favor student academic success and comprehensive development.

For Atencia (2024), the cost per student is an economic indicator that measures the amount of financial resources invested for each student in an educational institution. This indicator is fundamental for assessing the efficiency of resource use and the financial sustainability of the educational system. According to Sánchez (2020), an adequate cost ensures that the necessary materials, services, and supports can be provided to guarantee quality education. However, it is important to balance cost with educational outcomes; a high cost does not always translate into better results, so institutions must seek an efficient allocation of resources that maximizes academic performance and student well-being.

Continuing this line of thought, Camacho et al. (2021) point out that administrative processing time is an indicator that measures the speed with which administrative processes are managed in an educational institution, such as enrollment, registrations, and the resolution of procedures related to student performance. According to Camacho et al. (2021), reduced processing time is key to ensuring

process efficiency and the satisfaction of students and their families. Fast administrative procedures facilitate access to education, reduce the administrative burden for teachers and administrators, and allow resources to be used more effectively to improve teaching and learning. Conversely, slow processes can cause frustration and demotivation, harming the perception of the institution's quality.

According to Santos (2024), the incorporation of technology in the classroom has revolutionized contemporary education, offering more dynamic and personalized access to knowledge. The use of digital tools facilitates interactive teaching methods, access to global educational resources, and collaboration between students and teachers, overcoming the limitations of traditional approaches. Furthermore, technology in the classroom promotes the development of digital competencies essential for students' professional futures. Its proper implementation can increase academic performance and motivation, but it is necessary to provide appropriate training for teachers and ensure equitable access to technological resources to avoid creating digital divides that affect certain student groups.

According to Atencia (2023), teacher training in innovation is decisive for educators to adapt to changes in teaching methods and the new demands of students. Continuous training in innovative strategies allows teachers to improve their pedagogical practices, implement new technologies and didactic approaches, and foster critical and creative thinking in their students. This type of training contributes to the professional development of teachers, increasing their confidence in their work and teaching efficacy. Furthermore, it favors the creation of a dynamic and stimulating learning environment, aligned with global educational trends.

According to Fonseca et al. (2024), innovative projects in the educational field are crucial for improving teaching and learning processes, providing creative and efficient solutions to the challenges of the educational system. Implementing innovative initiatives, such as the use of technology, project-based learning, or student-centered pedagogical approaches, can transform the classroom into a more interactive and engaging space. These projects not only benefit students by stimulating their creativity and motivation but also allow teachers to update their teaching methods, test new tools, and assess academic progress more effectively. The successful implementation of these initiatives promotes educational change, favoring a more flexible environment adapted to the needs of 21st-century students.

Likewise, Mendoza and Technologys (2022) affirm that academic performance is a key indicator of educational quality, as it reflects the level of success and learning that students achieve throughout their education. Good academic performance not only evidences the individual capabilities of students but also the effectiveness of teaching strategies, the school environment, and the resources available.

For their part, Donoso et al. (2018) point out that academic results are fundamental for decision-making in educational institutions, as they help identify areas for improvement in teaching, support the evaluation of pedagogical strategies, and allow for the design of interventions that favor the comprehensive development of students. Furthermore, outstanding academic performance increases students' opportunities in their future academic and professional lives, contributing to the social and economic development of the community.

According to Ferreiro et al. (2020), the approval (or pass) rate serves as a parameter to measure the effectiveness of the educational system and students' ability to face academic challenges. Therefore, a high approval rate indicates that students are achieving the required knowledge and skills, while a low rate could reflect failures in teaching, assessment methodologies, or even in the type of support provided to students.

According to Barzaga et al. (2019), this indicator is important for educational authorities, as it provides valuable information about the quality and equity of access to education. According to Atencia (2023), the school dropout rate is a critical indicator for understanding the challenges students face throughout their educational journey.

Conclusions

The correlation analysis between management indicators and decision-making, based on the administrators' results, reveals a strong and positive relationship between both variables. The correlation coefficient of 0.888 indicates a robust association, suggesting that as management indicators improve, so does the quality and effectiveness of decision-making. The statistical significance (p=0.000) confirms that this relationship is not a product of chance, reinforcing the idea that efforts to optimize management indicators can have a direct impact on decision-making processes within the institution.

On the other hand, the results obtained from teachers show a moderate correlation between the same indicators, with a correlation coefficient of 0.690. Although the relationship is positive and significant (p=0.000), the correlation is not as strong as in the case of administrators. This suggests that while improving management indicators also affects decision-making, the impact is not as pronounced. This could reflect differences in perceptions and the direct influence that teachers have on the decision-making process compared to administrators.

The results indicate that both administrators and teachers agree on the existence of a significant relationship between management indicators and decision-making, but the strength of this relationship varies by group. Administrators perceive a stronger correlation, which could indicate a greater direct influence of management indicators on their decision-making capacity. In contrast, teachers, while acknowledging the relationship, observe a less marked connection. These results suggest that continuous improvement in management indicators has the potential to positively influence decision-making, although the degree of impact may depend on the hierarchical position within the institution and the specific role each group plays.

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CRediT Authorship statement	
Author	Roles performed
DJPV	Preparation, creation, and/or presentation of the published work, specifically writing the original draft (including substantive translation).
SFAF	Preparation, creation, and/or presentation of the published work by members of the original research group, specifically critical review, commentary, or revision—including stages before or after publication.

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Research teachers: Evaluation of research quality from the perspective of efficiency, efficacy and effectiveness

Docentes investigadores: Evaluación de la calidad investigativa desde la eficiencia, eficacia y efectividad

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Abstract

The study examined the re-signification of managerial theory and practice in BANI environments through Transpersonal Conscious Educational Administration (AETC). A qualitative approach, interpretative paradigm, and ethnographic design with ethnographic systematization were adopted, involving one participant per hierarchical level: senior management, leading management, and technical management. Data collection included participant observation, interviews, field diaries, and systematization workshops, processed through coding and thematic categorization. Results showed that conscious educational management strengthened ethical leadership, holistic human development, resilience, and co-llaboration, integrating transpersonal competencies, neurointelligence, and mindfulness. Managerial praxis transformed into transpersonal, adaptive, and ethical leadership capable of addressing fragility, anxiety, nonlinearity, and incompre-hensibility characteristic of BANI environments. In conclusion, Fundaunamor functioned as a practical laboratory for organizational transformation, validating an integrated, conscious, and humanistic educational and managerial model.

Keywords: Theory, Management, Management, Leadership, Integration.

Resumen

Las universidades están para producir ciencia, crear nuevo conocimiento, por lo cual el quehacer del docente univer-sitario comienza cada vez más a diversificarse y la investigación es una actividad, un instrumento de apoyo para el mejor desarrollo de la función pedagógica; pero para algunos la investigación lo ven como algo complejo, costoso y sin implicaciones para la docencia en las aulas. Ante esta realidad el objetivo de esta investigación es evaluar la calidad de los docentes en la investigación desde la eficiencia, eficacia y efectividad, que surge de una de las dimensiones de la tesis doctoral en Gestión de la Calidad de Investigación Científica, UNAN-Managua. La metodología se caracterizó por un paradigma constructivista, enfoque mixto, tipo de estudio explicativo, de acuerdo con el tiempo de ocurrencia de los hechos y registro de la información, el estudio es retrospectivo y según el período y secuencia del estudio es transversal, se utilizaron métodos, técnicas, herramientas e instrumentos para recolectar y procesar datos.

Palabras clave: Teoría, Administración, Gestión, Liderazgo, Integración.

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Introduction

This scientific article, *Research Professors: Evaluation of Research Quality from Efficiency, Efficacy, and Effectiveness*, is linked to Sustainable Development Goal (SDG) 4: Quality Education; the National Education Strategy, in all its modalities "Bendiciones y Victorias" 2024 – 2026, guideline 11: Research; the National Poverty Eradication Plan; and the Institutional Project of UNAN-Managua.The figure of the research professor or teacher-researcher has sparked considerable debate, both in academic circles and in educational practice itself, concerning what it means to be a teacher-researcher, what and how they can investigate, and the purpose of the research they can undertake (Vidal, 1988; Enríquez & Romero, 2000).

This research holds methodological utility by evaluating human resources for research through a system of specific quality indicators, based on the criteria of effectiveness, efficiency, and efficacy.

To achieve the objectives of this research, it is necessary to explore the conceptual terms related to research impact and quality indicators.

Evaluation is "a structured and reflective analytical process that allows for understanding the nature of the object of study and making value judgments about it, providing information to help improve and adjust educational action" (Ruiz, 1996).

Quality indicators are measurement instruments, tangible and quantifiable in nature, that allow for the assessment of the quality of processes, products, and services to ensure customer satisfaction. In other words, they measure the level of compliance with the specifications established for a given activity or business process. That is, a quality indicator is a measure that evaluates the excellence and precision of the work performed by a team or individual on a project. It refers to how well established standards are met, the accuracy of execution, and the satisfaction of customer or project requirements and expectations.

Efficacy is defined as the congruence between what was planned and the achievements obtained. To verify efficacy, the institution must explicitly state its qualitative and quantitative goals at the institutional, academic, and human resource levels across the various functions of teaching and research, as well as goals for teacher development and learning achievements.

Efficiency is the ability to achieve goals by optimizing the use of available resources. In the context of Higher Education institutions, efficiency can be analyzed from administrative and academic perspectives. According to (López de Caballero, 2019), academic efficiency refers to the best use of pedagogical means to achieve planned results. It involves aspects related to the characterization of teachers, as well as curriculum management such as regulations, curriculum structure, course sequences, curriculum flexibility, and obtaining the degree within the timeframes set by the institution. Put more simply, efficiency analyzes the volume of resources expended to achieve goals. It is the achievement of an objective at the lowest possible unit cost.

Effectiveness measures the degree to which results are achieved; that is, the focus is on accomplishment, not on the resources spent to reach that result. In other words, how much of the expected results were attained.

Effectiveness is nothing other than the combination of efficacy and efficiency. This indicator presents the consequences of a product or service. It involves doing the right thing with great accuracy and without any waste of time or money.

The combination of these elements—result, cost, and time—allows for the objective measurement of the degree of effectiveness and efficacy of an organizational area and enables comparisons between areas.

Materials and methods

The study type is ex post facto, meaning it uses available information about events that have already occurred. In terms of scope, it is explanatory. According to the timing of the events and information recording, the study is retrospective, and based on the period and sequence, it is cross-sectional.

As the research has a mixed-methods approach, it employs methods and techniques from both qualitative and quantitative paradigms. These include: documentary research, ethnographic method, data analysis, surveys with closed-ended questions, semi-structured interviews, participant observation, triangulation, and focus groups; all within a socio-constructivist paradigm.

Results and discussion

The central project is titled: "*Quality Indicator System: Evaluation of Research Training, National Autonomous University of Nicaragua, Managua*", which consists of a total of 186 quality indicators to assess effectiveness, efficacy, and efficiency across 5 dimensions. On this occasion, one dimension will be addressed: Human Resources for Research: Research Professors.

A professor's activity is multidimensional, but in this research, only their research activity will be evaluated. The teacher, as a person, citizen, and professional, in their role as researcher and trainer, is competent to guide the real understanding of the context. They have the authority conferred by being a builder and creator of knowledge from their own research, unlike a teacher who merely repeats others' theories.

Adúriz (2007) is emphatic in stating that "research enables learning when it illuminates teaching." We are aware that this process is bidirectional, contributing to the solution of human, social, scientific, and technological problems. Similarly, it generates and enables the implementation of outreach programs aimed at serving the community and establishing effective links with different social sectors—a factor that is, in fact, decisive in improving living conditions in the regions.

The university teacher who conducts, guides, and supports research processes with other teachers and students has the opportunity to be a creator and builder of knowledge through the direct and systematized experience offered by each stage of the research and its results. Furthermore, it is the teacher involved in research processes who can clearly, and above all, with authority, guide the students' learning process, as they are the ones developing their own knowledge, taking into account what other researchers have found. Only they, through the results of their inquiries, allow, over time, the construction and consolidation of science.

How will the efficiency, efficacy, and effectiveness of human resources for research be measured?

Table 1

Ways to measure efficiency, efficacy, and effectiveness

Indicators	Efficiency	Eficacy*	Effectiness**	Quality
Indicator 2: human resources for research.	$\frac{\left(\frac{\text{Result achieved}}{\text{Actual cost}}\right)*\text{Time}}{\left(\frac{\text{Planned result}}{\text{Planned cost}}\right)*\text{Planned time}}$	$\left(\frac{\text{Actual result}}{\text{Planned result}}\right)*100$	$\frac{\left(\frac{\text{Efficiency Score}+\text{Effectiveness Score}}{2}\right)}{\text{Maximun score}}$	% Total=Efic %+Efica %+Efect

Note: * The result will be a percentage that the institution can assess comparatively. That is, if it falls within the lower percentiles, the work will be considered ineffective.

** The resulting percentage will reflect the degree of effectiveness of the measured action.

Step one: Record the general data of the program or department.

Table 2

General data of the program or department

Period	Anual
Departament	
Number of faculty per program	
Type of research project initiative	Research project Outreach project Culminating Study Project: Master's, Specialization, or Doctoral Degree
Type of research	Research units Research centers Specialized laboratories
Specialized research units	Research units Research centers Specialized laboratories

Step two: Evaluation of efficiency as a research professor.

Table 3

Efficiency: Research professor

(RA / CA * TA) (RE / CE * TE)		
Rangos 0< - <80% 80< - <100 = 100	Calificación Ineficiente Moderadamente eficiente Muy eficiente	Puntos 1 3 5

The efficiency of faculty who are researchers is measured by: time, salary, and scientific productivity. For example, how many years they have worked at the university, their salary compared to their scientific productivity results. In other words, an efficiency evaluation is conducted, analyzing the relationship between resources invested (such as time and salary) and the results obtained (such as scientific productivity). Efficiency is interpreted as the capacity to convert resources (time and salary) into scientific outputs.

Some studies use Data Envelopment Analysis (DEA) or Total Factor Productivity (TFP) Analysis to quantify this efficiency. If a research professor produces more results with the same or less time/salary, they are more efficient. If another has many years of service and a high salary but low scientific productivity, they are less efficient. For example, in Table 4 below, a simulation of 3 academic programs is shown. The scientific productivity of the program is recorded since its founding, including the number of research faculty and the total payroll.

Table 4
Efficiency: Indicator of scientific productivity outputs (or results)

Output (or result) indicators	Program 1	Program 2	Program 3
Number of research professors.	33	32	20
Cantidad de docentes investigadores.	5	14	6
What they are paid.	$	$	$
Number of research projects developed by .professors; student research is not recorded.	5	2	2
umber of published scientific articles.	4	1	1
Research awards received by members of the evaluated unit.	0	1	1
Number of scientific books produced.	5	0	0
Number of research prototypes.	0	0	0
Number of book chapters resulting from research.	2	0	0
Number of manuals.	0	0	0
Number of essays.	0	0	0
Number of bulletins.	0	0	0
Published systematization documents.	0	0	0

Note: These are indicators that directly measure research results themselves.

An academic program with a research profile is efficient when it makes optimal use of resources and, therefore, has the lowest possible cost. That is, the less time or money consumed to achieve the expected objective, the better the performance, and vice versa. The greater the quantity of results obtained per unit of time and cost employed, the more favorable the situation will also be. For example, the following table shows a simulation with research professors belonging to 4 academic programs, whose names will not be revealed due to prior informed consent.

According to regulations, a research professor must publish two scientific articles. Therefore, if they have 10 years at the university, their research profiles should show 20 articles published in indexed journals, whether national or international.

Table 5

Efficacy

Output (or result) indicators	Research professor			
	1	2	3	4
Years of service	11	11	9	10
Active research profiles	2	2	1	1
Number of published scientific articles	4	3	1	1
Research awards achieved by members of the evaluated unit	0	0	0	0
Academic degree	M Sc.	M Sc.	M Sc.	M Sc.
Number of research projects (does not apply to graduation formats)	1	1	0	1
Number of scientific books produced	0	1	0	0
Number of research prototypes	0	0	0	0
Number of book chapters resulting from research	0	0	0	0
Number of manuals	0	0	0	0
Number of essays	0	0	0	0
Number of bulletins	0	0	0	0
Published systematization documents	0	0	0	0
Cargos vinculados a la investigación	1	1	1	0

Other elements reviewed were:

- **Total years in teaching vs. years in research-related positions:** Editors, Research Coordinators, Research Executives.
- **Rate of activity in research projects:** Number of research projects / number of Ph.D.s in the group. Number of research projects / number of Master's degree holders in the group. Number of research projects / number of Bachelor's degree holders in the group.
- **Percentage of research in collaboration with the State, society, and industry:** Total number of research collaborations achieved with the State, society, and industry / expected research collaborations.
- **Rate of activity in national or international scientific events:** Number of presentations delivered / number of scientific events.

Rate of activity in national or international research networks: Number of research activities / number of research networks.In essence, a research professor is Efficient when the optimization of resources (financial, time, human talent) is achieved to obtain results. It answers the question: Were the results achieved at the lowest cost and in the shortest time possible? Now, how do I know if I am an effective researcher? This is addressed in the following table.

Step Three: Evaluation of efficacy

Table 4

Efficacy

	RA / RE	
Ranges	**Score**	**Points**
a) 0 – 20% b) 21 – 40% c) 41 – 60% d) 61 – 80% e) 81 – 90% f) 91%	 Not effective Moderately efficacious Highly inefficacious	a) 0 b) 1 c) 2 d) 3 e) 4 f) 5

Efficacy is measured by: Bibliometric indicators. That is, a research professor is effective when they achieve the planned goals and objectives in research activity, regardless of the resources used. It answers the question: Were the expected results achieved? But to be objective, bibliometric indicators are used.

The German professor and researcher Jaspers (1946), from his experience, stated that the teacher who researches and teaches from their own experience of knowing possesses the original and sequential practice of knowledge development, which allows them to guide the formation of the scientific and innovative spirit in their disciples. They are a reflective and critical intellectual, committed to transforming their own reality and engaged with the world of life.

Bibliometric indicators are numerical data calculated from the bibliographic characteristics observed

in documents published in the scientific and academic world. They allow for the analysis of various features of scientific activity, linked to both the production and consumption of information.

An effective research professor is measured by a journal's Impact Factor (which is the average number of citations received in a given year X by articles published in the two preceding years, divided by the total number of articles published in those two years), or the Collaboration Index (defined as the average number of authors participating in research articles from a specific journal, institution, or discipline).

Likewise, search engines, databases, abstract indexing services, repositories, and specialized platforms are used. Currently, Google Scholar, WoS (Web of Science), and Scopus are the main resources consulted by teachers, researchers, and scientists for knowledge appropriation and dissemination. Measurement also occurs through metrics of publications based on quality.

It is essential to mention that bibliometric indicators do not represent the only way to measure a researcher's contribution, but it is important to recognize their current influence within their evaluation.

Step Four: Evaluation of effectiveness

Table 7

Assessment of effectivenesss

(Efficacy score + Efficiency score) / 2	
Ranges	**Score**
0< - <80% 80< - <100 = 100	Ineffective Moderately effective Effective

Effectiveness is measured by: The contribution of scientific productivity. However, scientific productivity is not measured solely by the quantity of scientific articles, but also by other elements.

The following review involves cross-checking the scientific value of published articles, because there can be research professors who publish extensively but whose impact is debatable, and the other scenario where research professors publish fewer scientific articles, but what they write has generated a significant impact.

A research professor is effective when Efficacy and Efficiency are combined, measuring the real impact and relevance of research results in the social or disciplinary environment. It answers the question: Were the results achieved, resources optimized, and positive, pertinent impact generated? That is, the relevance of scientific productivity refers to the "what" and "for what" of the publication; in other words, the educational intentions that condition other decisions the institution must make to achieve its goals and purposes. Relevance is reflected in the attributes of: pertinence, impact, suitability, and timeliness.

Pertinence refers to the capacity of the research generated by the teacher to appropriately respond to the needs and demands of society. Impact is the degree of internal and external influence it has on the community as an effect of the implemented project.

Conclusions

The dual activity of teaching and researching is of great value to the teaching profession because it allows teachers to stay at the forefront, knowing that the teaching process is conducted from a living mindset, built by teachers and student researchers. The university's mission is to place the student under the intellectual guidance of the research professor, to form academic communities from these two generations in an environment of teaching, learning, and research, based on an interest in theoretical development and the practical utility of knowledge.

The National Autonomous University of Nicaragua (UNAN-Managua) has the Directorate of Institutional Quality Management and the Directorate of Research and Innovation, which have succeeded in consolidating the main theoretical and conceptual elements concerning process management, quality management, and the information management system, achieving the participation of central-level units in guiding the fulfillment of set goals. The research culture is not separate from this strategic purpose of accreditation for academic excellence.

At the university, quality management is understood as the set of policies, strategies, actions, and procedures aimed at maintaining and sustaining continuous improvement at each level of management, academic and administrative bodies, and the strategic, key, and support functions and processes we develop to meet the demands of Nicaraguan society.

The commitment and dedication of the teaching staff to scientific productivity is recognized. However, some of these efforts have not been fully realized, mainly due to administrative or management factors beyond the teachers' scope of action.

In research, you must pay for what it costs; that is, you must invest in resources to generate research. The return on investment (ROI) in research is seen through results—it provides connections, academic status in the long term, beyond just monetary gain.

The competent performance of a research professor, understanding that their responsibility in training professionals is shared by a multidisciplinary team, advocates for a functional and dynamic teaching-learning process that surpasses theoretical and memorization-based methodological practices, making way for learning that connects theory with practice in specific, contextualized situations.

Being a university professor means taking seriously the task of guiding the professional formation of students—a task for which they need to broaden their perspective on new teaching approaches with greater potential to contribute to the history of the teaching profession, bearing in mind that teaching and research are inherent to academic work; together, they build bridges between knowing and doing.

How can the number of efficient, effective, and efficacious research professors be increased? (a) By assisting those teachers who are not yet clear about their research line. (b) The teacher must be in constant professional development, which helps them understand that there are emerging topics to write about. (c) In this sense, it is valuable to continue promoting spaces for dialogue and coordination with the various university bodies, with the purpose of facilitating the execution of these initiatives and making the most of the academic potential.

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Artificial intelligence literacy and content curation: challenges and opportunities for teachers and university students in France

Alfabetización en inteligencia artificial y curación de contenidos: desafíos y oportunidades para docentes y estudiantes universitarios en Francia

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Abstract

Universities exist to produce science and create new knowledge. Therefore, the work of university professors is increasingly diversifying, and research is seen as an activity, a support tool for the improved development of the pedagogical function. However, for some, research is viewed as complex, costly, and without implications for classroom teaching. Given this reality, the objective of this research is to evaluate the quality of professor-researchers, based on the Efficiency, Efficacy, and Effectiveness aspects of this doctoral thesis, which emerges from one of the dimensions of the research project in Scientific Research Quality Management at UNAN-Managua. The methodology was characterized by a constructivist paradigm, a mixed approach, and an explanatory study type based on the time of occurrence of the events and the recording of information. The study was retrospective, and, depending on the period and sequence of the study, it was cross-sectional. Methods, techniques, tools, and instruments were used to collect and process data..

Keywords: quality, teacher-researcher, efficiency, efficacy, effectiveness, research.

Resumen

Las universidades están para producir ciencia, crear nuevo conocimiento, por lo cual el quehacer del docente universitario comienza cada vez más a diversificarse y la investigación es una actividad, un instrumento de apoyo para el mejor desarrollo de la función pedagógica; pero para algunos la investigación lo ven como algo complejo, costoso y sin implicaciones para la docencia en las aulas. Ante esta realidad el objetivo de esta investigación es evaluar la calidad de los docentes en la investigación desde la eficiencia, eficacia y efectividad, que surge de una de las dimensiones de la tesis doctoral en Gestión de la Calidad de Investigación Científica, UNAN-Managua. La metodología se caracterizó por un paradigma constructivista, enfoque mixto, tipo de estudio explicativo, de acuerdo con el tiempo de ocurrencia de los hechos y registro de la información, el estudio es retrospectivo y según el período y secuencia del estudio es transversal, se utilizaron métodos, técnicas, herramientas e instrumentos para recolectar y procesar datos.

Palabras clave: calidad, docente investigador, eficiencia, eficacia, efectividad, investigación.

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Introduction

Artificial intelligence (AI) has been progressively integrated into various spheres of contemporary society. Experts and scientists project that this technology will play an increasingly decisive role in sectors such as the economy, health, and education. We are facing a technological revolution that demands deep adaptations in social dynamics and in the automated processes that transform daily life. In this context, diverse perspectives emerge: some seek to understand the scope of this revolution, while others aim to guide the already visible changes.

Higher education constitutes one of the areas where these tensions manifest most intensely. AI is significantly transforming teaching and learning, while simultaneously posing ethical and moral challenges associated with its misuse. Hence, there is a need to promote training that fosters a critical and ethical use of these technologies, both among university students and faculty.

The United Nations Educational, Scientific and Cultural Organization (Unesco) has emphasized the uniqueness of AI compared to other digital tools applied in education. According to this agency, artificial intelligence is distinguished by its ability to mimic human behaviors, automatically generate content from multiple sources, and raise moral and academic responsibilities. These particularities demand specific competencies that transcend traditional digital literacy (Unesco, 2019, 2024a).

For its part, the European Union has oriented its approach to artificial intelligence towards fostering scientific research and economic development (European Commission, 2025a). This framework rests on two fundamental pillars: excellence, understood as the coordination of policies, resources, and investments to develop robust, high-performance systems; and trust, based on the creation of legal frameworks that guarantee a safe and responsible use of AI. In this vein, the AI Act, the first European legal framework on the subject, regulates associated risks and positions Europe as a global leader.

In France, AI has decisively impacted the economy, society, and the educational sphere. Its application in teaching is subject to respect for republican values, personal data protection, pedagogical freedom, and environmental sustainability. The Ministère de l'Éducation nationale, de l'Enseignement supérieur et de la Recherche (2025) acknowledges that AI poses challenges for traditional education by modifying learning methods, lesson preparation, and assessment, although it also offers valuable opportunities for teaching and institutional management.

In this line of thought, French researchers and authorities have explored multiple dimensions of AI use among university faculty and students. Among recent work, notable studies include those analyzing the degree of adoption of language models like ChatGPT (Agulhon & Schoch, 2023; Sublime & Renna, 2024), the integration of AI into teaching and learning processes (Many, Shvetsova & Forestier, 2024; Modolo, 2025), and faculty preparation for its disruptive potential (Bidan & Lebraty, 2024). To these are added official reports directed at the highest educational authorities—such as that by Pascal et al. (2025)—which document the actual uses, challenges, and opportunities of AI in French higher education.

Another reference is the AI DL – Data Literacy in the Age of AI for Education project (France Éducation International, n.d.), which seeks to strengthen digital citizenship through data and information literacy supported by AI tools, especially generative AI. This program aims to equip educational stakeholders with critical competencies to face contemporary challenges such as deepfakes and fake news.

The results of this research an these initiatives show that integrating AI into higher education opens

opportunities to enrich teaching and institutional management, but also generates ethical dilemmas and risks of bias that require rigorous attention. Therefore, it is essential to incorporate AI literacy into university education, understood as the ability to understand its functioning, identify its biases, and employ it critically and responsibly.

In a scenario of automated information production, content curation acquires a strategic role. This practice allows for filtering, validating, and contextualizing information generated by artificial intelligence systems, fostering more reflective and ethical learning. Integrating content curation into teaching and student practices can strengthen skills in searching, analyzing, and verifying sources in an informational environment increasingly mediated by AI.

However, academic literature often addresses AI literacy and content curation separately, limiting the understanding of their combined potential. This theoretical gap constitutes the foundation and originality of the present study, whose objective is to analyze how content curation can be integrated into the AI literacy of university faculty and students in France.

Methodology

The present study adopts a qualitative approach, given its interpretive nature and focus on understanding phenomena through processes. This approach, with its non-linear and cyclical design, facilitates the flexible organization of the researcher's work (Calle, 2023). According to Lim (2024), qualitative methodology is indispensable due to its capacity to offer information on complex social phenomena, generate people-centered understandings, address real-world problems, and respond quickly to social changes.

As the main empirical method, a systematic literature review was applied, which allowed for examining, evaluating, and synthesizing existing academic production to understand the context, establish antecedents, and identify trends related to the object of study (Susanto et al., 2024). The methodology proposed by Gómez et al. (2014) was followed, recognized for its applicability to diverse knowledge areas and its usefulness for determining the relevance and originality of sources. This methodology comprises four phases: problem definition, search, organization, and analysis of information.

The problem definition was articulated with the purpose of the study: to analyze the integration of content curation within artificial intelligence literacy among teachers and students in higher education in France. The review period was delimited between 2018 and 2025, coinciding with the start of European policies on artificial intelligence, including milestones such as the creation of the High-Level Expert Group on AI, the European AI Alliance, and the Coordinated Plan on AI driven by the European Union.

The information search was conducted in scientific databases and academic repositories, including ScienceDirect, Scopus, Google Scholar, HAL, and CAIRN, the latter two specialized in French research. Following the principles of digital information retrieval, search operators and equations were applied in French and English, such as: "higher education in Europe" + "artificial intelligence"; "AI literacy in France" AND "content curation"; "content curation" AND "higher education"; as well as "artificial intelligence" OR "generative artificial intelligence".

As a result, 858 sources were retrieved. After applying exclusion criteria—removing citations, patents, conference proceedings, duplicate records, and research unrelated to the French context—104 documents focused on artificial intelligence were obtained, although most addressed technical aspects without reference to literacy or content curation. Finally, 20 sources were selected (see Appendix 1)

based on the following criteria: (a) theoretical or empirical studies on AI in French higher education, (b) primary sources (books, articles, reports, or theses), and (c) proposals aimed at acquiring digital competencies among teachers or students.

For organizing and analyzing the documents, two content curation tools were used: Zotero and Notion. Zotero was employed as a bibliographic manager and PDF annotator, enabling the classification of articles, creation of tags, and management of citations through its integration with Word. Notion was used for note-taking and categorizing information according to the thematic axes of the review. Its flexible interface allowed for the creation of a database with the retrieved articles and the extraction of metadata (title, author, year, journal, and keywords).

Furthermore, theoretical methods were applied, such as analysis-synthesis, historical-logical, and induction-deduction, which guided information processing and the construction of the theoretical framework. Analysis-synthesis allowed for deconstructing the contributions identified in the literature (definitions, conceptual frameworks, experiences in France and Europe) to integrate them into an interpretative model. Induction-deduction facilitated the identification of patterns in empirical studies and their comparison with theoretical frameworks on digital and AI literacy. Finally, the historical-logical method made it possible to trace the evolution of the concept of digital literacy towards AI literacy and its relationship with content curation in the French context.

As a methodological instrument, a thematic guide for the literature review was developed (see Appendix 2). It allowed for organizing the selected articles into predefined categories: concepts, digital competencies, experiences of teachers and students, and links between artificial intelligence and content curation. This tool facilitated the identification of patterns and theoretical gaps and ensured a systematic review coherent with the study's objectives. Moreover, its application favors research reproducibility and aligns with the logic of content curation by establishing filters and criteria that refine and prioritize relevant information.

Finally, the study acknowledges some limitations. A deficit of research specifically focused on AI literacy in French higher education is evident, as well as a lack of work addressing content curation in this context. Furthermore, some of the French literature consulted is not indexed in international databases like Scopus or Web of Science, limiting its visibility. On the other hand, the emerging nature of AI literacy implies conceptual frameworks still under development. Lastly, although the thematic guide contributed to a systematic organization, any classification carries a component of subjectivity. Consequently, the results of this review should be interpreted as an initial approximation to the phenomenon and not as an exhaustive representation of the French higher education system.

Results and Discussion

Artificial intelligence literacy: Concept and relevance

Artificial intelligence is part of everyday life. Applications based on this technology directly influence how we live and interact, both with technology and with other people. As AI evolves, the boundary between humans and machines becomes increasingly blurred. Examples of this include smart home appliances, voice recognition features on mobile phones, or applications that facilitate language learning. Virtual assistants like Siri, Alexa, or Gemini respond to queries about the weather or news, while smartwatches monitor physical activity and well-being. The more integrated technology is in daily life, the less perceptible its presence becomes, as its purpose is to minimize friction between the user and the device.

In line with these advances, interest in the application of AI in education has grown significantly. However, "research on artificial intelligence in educational settings seldom defines the term" (Stolpe & Hallström, 2024, p. 2).

Various international organizations have attempted to define this concept. Unesco (2024b) defines AI as a digital system capable of processing and analyzing data from its environment to act autonomously based on specific objectives. The European Parliament (2020) describes it as a machine's ability to perform cognitive functions characteristic of humans, such as reasoning, learning, creating, and planning. In France, the Ministère de l'Éducation nationale, de l'Enseignement supérieur et de la Recherche (2025) conceives it as a digital system based on probabilistic algorithms that uses datasets to produce outcomes comparable to human cognitive activity. This organization distinguishes two main types of AI: predictive, when models classify data, anticipate risks, or identify trends, and generative, when models produce new content such as text, images, sounds, or videos.

Considering the potential of this technology, as well as the ethical and social implications of its use, several authors argue that all citizens should receive training in artificial intelligence (Markus et al., 2024; Olari & Romeike, 2024; Stolpe & Hallström, 2024). In this regard, education is needed that allows teachers and students to understand what AI is, how it works, what its biases are, and how to interact with it critically, ethically, and effectively.

From this perspective, artificial intelligence literacy emerges as an essential pathway for developing competencies that facilitate leveraging its benefits and mitigating its risks in the educational and social spheres. Capelle (2024) defines it as a set of competencies that enables people to critically evaluate AI systems, as well as to communicate and collaborate effectively with them. This literacy is supported by other competencies included in the European Digital Competence Framework, such as information and data management, thus configuring a multiliteracy approach where various interrelated literacies converge.

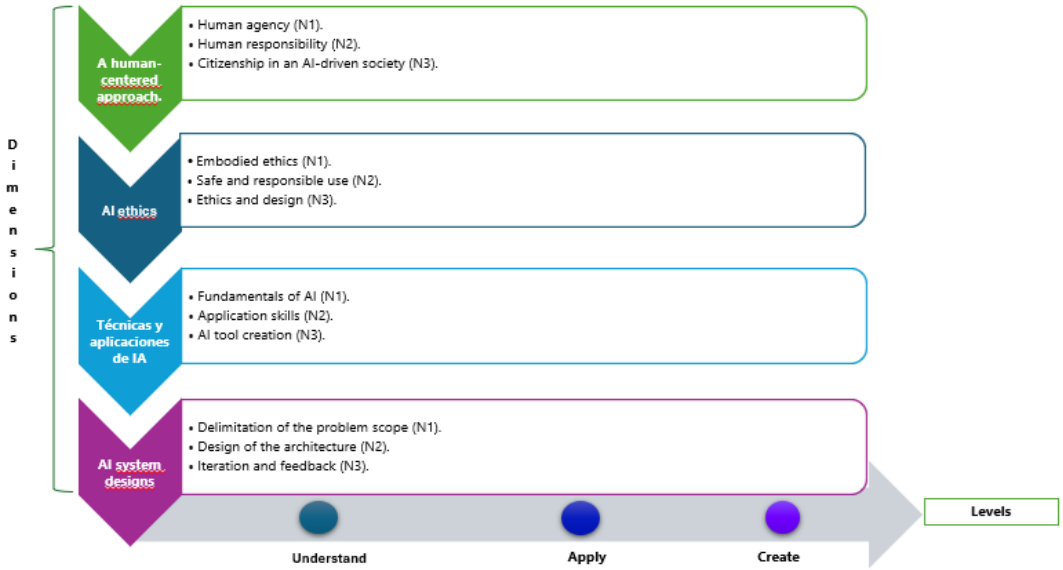
In the French context, several studies have addressed the changes generated by AI in teaching and learning processes, as well as concerns stemming from its indiscriminate use by students. Agulhon and Schoch (2023) highlight the advantages of ChatGPT for supporting the drafting of academic papers and other educational tasks, but warn of the risks related to the reliability and quality of its responses. The authors emphasize the importance of combining AI's potential with human expertise to avoid technological dependence and the weakening of critical thinking.

For his part, Modolo (2025) examines how the integration of AI transforms higher education by redefining the traditional roles of teachers and students. From a critical perspective, he posits that this technology acts as a disruptive tool capable of modifying pedagogical practices, generating new power dynamics, and complicating learning assessment processes. Complementarily, Devauchelle (2025) analyzes the impact of AI not only on teachers and students but also on the staff responsible for teacher training. According to the author, in France, the use of AI remains limited, primarily confined to the preparation of classes and school assignments, although both its potential and the ethical challenges it entails are recognized.

The reviewed studies agree on the need for a reference framework to guide the integration of artificial intelligence literacy in higher education. In response, Unesco (2025a) developed a Framework for AI Competencies for Students, which aims to prepare students to become responsible and creative citizens in the digital age, as well as to support teachers in its pedagogical integration. This document defines 12 competencies organized into four dimensions and three levels of progression.

Figure 1

AI competency framework for students.

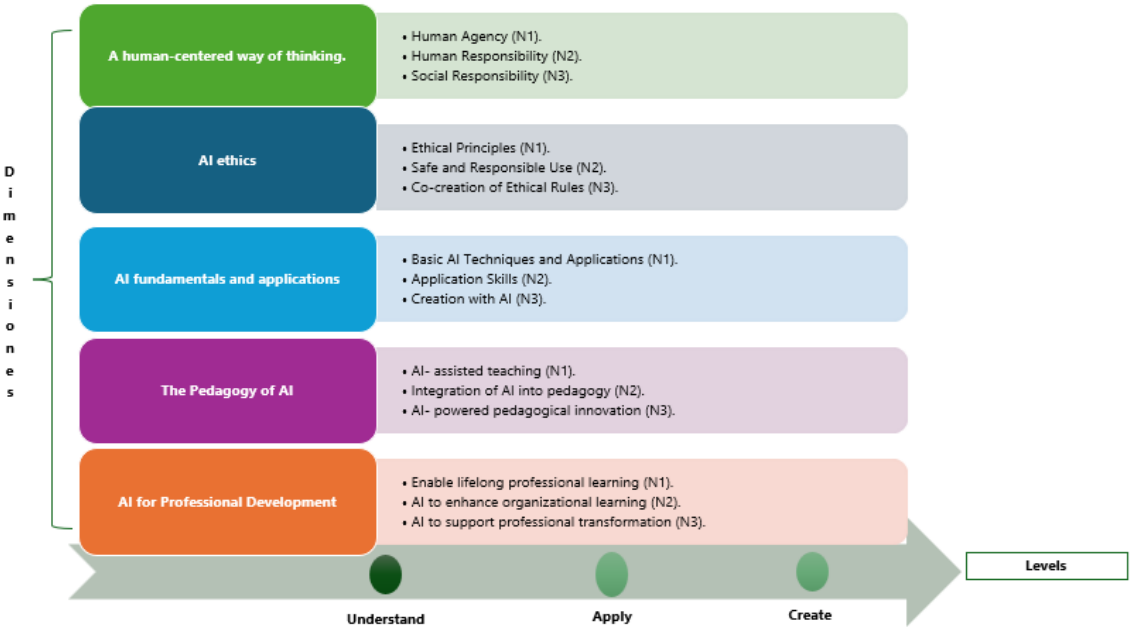


Note: Original elaboration based on Unesco (2025a).

Furthermore, Unesco (2025b) developed the AI Competency Framework for Teachers, aimed at those who use this technology to enhance learning. This framework, structured around 15 competencies distributed across five dimensions and three levels, is founded on principles such as the protection of teachers' rights and the strengthening of human agency, emphasizing that "human flourishing must remain at the heart of the educational experience. Technology must not and cannot replace teachers" (p. 14).

Figure 2

AI competency framework for teachers



Note: Author's own elaboration based on Unesco (2025b)

In line with this international interest, France has developed multiple initiatives to promote artificial intelligence competencies among teachers and students, aiming to foster a safe, effective, and ethical use of these tools. Principles and guidelines for the responsible use of AI at all educational levels have been established (Ministère de l'Éducation nationale, de l'Enseignement supérieur et de la Recherche, 2025), along with practical resources for higher education: massive open online courses, manuals, digital tools, national portals, guides of good practices, experimental experiences, and institutional training programs (France Éducation International, n.d.; Université de Nantes, 2024).

These actions are complemented by funding initiatives under the *France 2030 program*, which allocates 54 million euros to the transformation of companies, educational institutions, and research centers. Among the funded projects is AI DL – Data Literacy in the Age of AI for Education, focused on the critical use of artificial intelligence in education and its integration into teaching practices (European Commission, 2025). Furthermore, France participates in European projects such as Erasmus+, which promote AI literacy in higher education.

Educational digital content curation as a key competency

Content curation constitutes an effective resource in the face of information overload. This concept, originating in the fields of marketing, journalism, and communication, has been progressively incorporated into the educational context. According to Hernández et al. (2022), content curation in university teaching work comprises the search, selection, and dissemination of relevant information for a course, with the goal of facilitating the learning of disciplinary content. For students, this practice plays an essential role in understanding a topic and in collaborative work, as it involves compiling, selecting, organizing, editing, and sharing meaningful information (Ramírez, 2024).

In this way, content curation encompasses subprocesses such as the retrieval, storage, organization, presentation, and dissemination of digital information. In a context where artificial intelligence has exponentially multiplied the production and circulation of data, curation is configured as a competency for filtering and critical evaluation, enabling the distinction between reliable information and content generated without quality control, the verification of sources and biases, and the selection of resources aligned with specific informational objectives and needs. Consequently, it is constituted as an act of advanced information literacy, indispensable in environments mediated by artificial intelligence.

Simultaneously, artificial intelligence can enhance the curation process. This approach has been explored in journalism, marketing, and advertising, where the adoption of intelligent tools for creating personalized content is analyzed, redefining traditional communication practices (La-Rosa et al., 2025). Codina and Lopezosa (2024) show how AI tools can streamline curation processes in journalism and present AI-powered search engines applicable to academic contexts (Codina, 2023).

The findings of this research are transferable to higher education, where teachers and students can apply AI tools in content curation. At this educational level, managing reliable information to support an argument or develop a viewpoint constitutes a common practice, which corresponds to the curation process, whether as part of learning activities or teaching preparation.

The following table presents artificial intelligence tools applicable to each phase of the content curation process, highlighting that AI does not replace curation but enhances its value through the interpretation, contextualization, and ethical re-reading of information:

Table 1

Integration of artificial intelligence tools in content curation phases

Process phase	Main objective	Recommended AI tools	Potential uses by teachers/ students
Seaarch	Locate relevant and up-to-date information	Perplexity AI, Elicit, Semantic Scholar (IA Search), Consensus	Formulate questions in natural language or specific prompts; identify relevant scientific sources; compare evidence or study results.
Selection	Evaluate and filter the quality of information.	Scite.ai, Scholarcy, Research Rabbit, Explainpaper	Summarize scientific articles; verify whether a study has been cited positively or critically; compare different sources on the same topic.
Storage and organizations	Classify, tag, and preserve curated content.	Notion AI, Symbaloo AI Obsidian + plugins IA, Diigo IA	Save articles and notes with automatic metadata; create connected knowledge bases; tag and relate key concepts.
Creation (with added value)	Reinterpret and contextualize curated information; generate educational materials.	ChatGPT, Copilot, Claude, Gemini, Canva Magic Write, Gamma App, Notion AI. Its use should be combined with the content curation techniques proposed by Guallar (2021).	Write interpretive and critical texts; design infographics, presentations, or teaching materials; recontextualize texts according to students' level.
Dissemination	Share curated content in digital or academic environments	LinkedIn + IA, Medium, Substack con asistencia IA, Padlet, Wakelet, Pearltrees, Moodle con IA plugins	Publish annotated resource collections; generate automatic summaries or visualizations; create repositories or collaborative learning spaces.

Nota: Elaboración propia.

Most of the identified tools offer free or academic versions, facilitating their integration into university projects without requiring major investments. However, the limitations of freemium plans (number of searches, storage space, or advanced features) demand strategic and mindful use.

In France, research on content curation in higher education is still scarce, and as of this review, no studies explicitly linking it to artificial intelligence or AI literacy have been recorded. Nevertheless, relevant work providing valuable information to the academic community has been identified, such as Knauf and Falgas (2020), who integrate content curation into a master's-level communication course on information search and retrieval, and Kemp (2018), whose doctoral thesis proposes a system based on curation and big data exploration services to facilitate digital information retrieval. Other significant studies were excluded from the analysis for not meeting the methodological selection criteria.

In the age of artificial intelligence, educational digital content curation is established as a key competency, not only for its instrumental value but also for its critical dimension. Teachers and students must be able to identify and manage the risks associated with the intensive use of intelligent tools, including

technological dependency, algorithmic biases, and information overload (infoxication). These phenomena threaten cognitive autonomy and learning quality, but they justify the need to strengthen curation as a reflective practice, ensuring training in how to filter, contextualize, and transform information, thereby reintroducing human judgment into an increasingly automated environment.

Intersection Between AI literacy and content curation

Content curation occupies an intermediate position between traditional digital literacy (searching, using, and communicating information) and artificial intelligence literacy (understanding how AI systems function and are trained). It also teaches how to formulate questions, prompts, or search criteria strategically, involves interpreting algorithmic results by recognizing their non-neutral nature, and fosters ethical responsibility in the selection and dissemination of AI-generated information. In this sense, content curation can be understood as a practice that develops the critical evaluation of artificial intelligence systems.

On the other hand, content curation enables the exercise of AI literacy as part of the learning and knowledge production process. In this context, teachers can design personalized learning environments based on materials filtered, validated, and adapted with the help of ChatGPT, Perplexity, or Semantic Scholar. Students, in turn, train in the critical selection of results from search engines or generative assistants, evaluating those most pertinent to their learning and academic projects.

The intersection between AI literacy and content curation redefines informational competencies in higher education. It is no longer just about accessing or communicating information, but about understanding the algorithmic mediations that structure knowledge production and circulation. From this perspective, the curation process becomes a metacognitive exercise: by interacting with AI tools, the user learns to reflect on their own processes of search, selection, and creation, developing a critical awareness of technology's role in knowledge construction.

Integrating content curation into AI literacy also entails rethinking the ethical and formative role of the university. Institutions can leverage curation practices to promote a responsible and transparent use of artificial intelligence, fostering source traceability, authorship attribution, and respect for epistemic diversity. In this way, curation ceases to be an individual practice and transforms into an institutional competency that upholds academic integrity in AI-mediated environments.

This convergence between AI literacy and content curation also opens the possibility of transforming pedagogical practices. Instead of focusing solely on transmitting information, teachers can guide students towards the collaborative construction of knowledge through the critical interpretation of AI-generated results. Curation, in this context, acts as a bridge between the technical understanding of artificial intelligence and its reflective application in real learning contexts.

Challenges of AI literacy in the french higher education context

In France, the deployment of artificial intelligence literacy faces several structural obstacles. One of the main ones is the digital divide, highlighted by the Conseil économique, social et environnemental (CESE), which warns that approximately one-third of the population feels disconnected from digital technologies, including young people and inhabitants of areas with limited internet access (Meyer & Tordeux, 2025). Furthermore, OECD reports on the digital divide in education point to inequalities in connectivity, available digital resources, and competencies, which prevent all students from having

equitable access to AI-mediated educational practices (Burns & Gottschalk, 2019; OECD, 2023).

Secondly, the training of teachers and students is insufficient to meet emerging challenges. A report by the Commission on Economic Affairs presented to the French Senate notes that the training offering in AI is modest, both in initial and continuous training systems, and that existing programs do not adequately cover the ethical, technical, and pedagogical dimensions of artificial intelligence (Hoffman & Golliot, 2024). Nevertheless, projects like AI4T seek to fill this gap through open manuals and MOOCs aimed at teachers, but their scale is still too limited to impact the entire higher education system.

Finally, there is a clear need for integrated educational policies that embed AI literacy and content curation within university curricula. The frameworks for the use of AI in education, established by Unesco and the Ministère de l'Éducation nationale, de l'Enseignement supérieur et de la Recherche in France, set out principles and guidelines for the responsible use of artificial intelligence. While these documents are the result of extensive international and national study, it is considered pertinent to move from principles to practical implementation in specific curricular modules.

Similarly, the report on artificial intelligence in higher education presented by the Minister responsible for Higher Education and Research identifies several priority actions to transform French universities into active agents of this change, including institutional structuring, specialized teacher training, and the social appropriation of knowledge in artificial intelligence.

Conclusions

The review conducted confirms that artificial intelligence literacy is emerging as a new axis of digital competence in higher education. Beyond the instrumental acquisition of technological skills, it involves understanding how AI systems are designed, trained, and operated, as well as the ability to critically analyze their impact on knowledge production and circulation processes. Its relevance lies not only in technical mastery but in the development of an ethical and critical awareness that enables teachers and students to act as informed digital citizens in algorithm-mediated environments.

Within this framework, educational digital content curation emerges as a key competency complementary to artificial intelligence literacy. Far from being a merely technical task, curation constitutes a cognitive and pedagogical practice that involves the ethical search, selection, evaluation, contextualization, and dissemination of information. In the age of artificial intelligence, this practice acquires a new dimension: it allows for filtering informational overabundance, identifying algorithmic biases, and adding value through human interpretation, thereby contributing to the formation of critical and autonomous thinking.

The intersection between artificial intelligence literacy and content curation constitutes a space for active learning where interaction with intelligent tools becomes a formative opportunity. When teachers use artificial intelligence to design personalized materials or students learn to formulate prompts and evaluate results generated by automated systems, both exercise a practical, situated, and critical literacy. This convergence redefines the pedagogical function: educational actors cease being passive consumers of information and transform into reflective curators and creators of knowledge, aware of the technological mediations involved in its construction.

In the French context, artificial intelligence shows significant advances and challenges. France has a

solid institutional foundation, including ministerial plans, frameworks for AI use, and innovation projects like AI4T, which aim to guide the integration of AI into the education system. However, digital divides, access inequalities, and deficits in teacher and student training persist, limiting a critical and equitable appropriation of these technologies. The institutional reports reviewed underscore the urgency of articulating public policies that integrate AI literacy within university curricula, ensuring its teaching is not limited to technical competencies but incorporates ethical, epistemological, and pedagogical dimensions.

Collectively, the results of this research suggest that artificial intelligence literacy, understood through the practice of content curation, can become a transformative axis for higher education. Integrating both competencies into the training of teachers and students would foster the development of a critical academic citizenship, capable of using artificial intelligence not as a substitute for human thought, but as an instrument to enhance understanding, creativity, and responsibility in the collective construction of knowledge.

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Appendix

Appendix 1

Academic publications on content curation and artificial intelligence literacy included in the review

Author / Year	Country or context	Tipe of study	Objective	Key findings o r contributions	Relevance to the review
Stolpe y Hallström (2024)	Sweden Europe	Theorical	To analyze and critically discuss the components of AI literacy in relation to technological literacy.	AI literacy integrates scientific-technological knowledge and socio-ethical understanding. A conceptual framework for AI literacy is proposed.	Fundamenta la necesidad de alfabetización en IA.
Ministère de l'Éducation nationale, de l'Enseignement supérieur et de la Recherche (2024)	France	Theorical	To provide a framework for the use and understanding of AI in education in accordance with ethical, legal, and environmental principles.	It defines objectives, principles, obligations, and ethical guidelines for the educational use of AI.	Conceptualization and challenges of AI literacy in France.
Markus, Pfister, Carolus, Hotho y Wienrich (2024)	Germany Europe	Theorical	To design online training to improve the understanding of AI in relation to virtual assistants.	Increased understanding and critical use of AI, as well as positive attitudes towards virtual assistants.	It reinforces the need for AI literacy.
Olari y Romeike (2024)	Germany Europe	Mixto	To enable students to understand how AI systems work.	A compendium of key concepts for designing AI learning plans.	It proposes conceptual competencies for AI literacy.
Capelle (2024)	France	Mixed-Methods	To analyze the relationship between data literacy and AI literacy in teacher training.	It identifies data literacy as an essential component of AI literacy.	Necessary competencies for teachers and students.
Unesco (2025a)	International	Theorical	To define the knowledge, skills, and values that teachers must master in the age of AI.	AI competency framework for teachers.	A central reference on AI literacy and teaching.

Unesco (2025b)	International	Theorical	To define the knowledge, skills, and values that teachers must master in the age of AI.	AI competency framework for teachers.	A central reference on AI literacy and teaching.
Agulhon & Schoch (2023)	France	Theorical	To examine the benefits and challenges of ChatGPT in higher education	Rational use of ChatGPT; risks linked to the reliability of information.	Benefits and challenges of using AI in higher education.
Modolo (2025)	Morocco, Democratic Republic of the Congo, and Cameroon.	Empirical	To analyze how AI is transforming higher education and its social implications.	Redefinition of teacher and student roles; inequalities in access to AI.	Changes and challenges arising from AI in higher education.
Devauchelle (2025)	France	Theorical	To explore the impact of AI on teaching and teacher training.	Tensions and perceptions of French teachers regarding the integration of AI.	Challenges and impact of AI in French higher education.
France Éducation International (s.f)	France	Theorical	To promote data literacy and the critical use of AI in education.	The "AI-DL: Data Literacy in the Age of AI for Education" project.	AI literacy initiatives in France.
Universidad de Nantes (2024)	France	Practical	To offer AI training resources for university teachers.	Resources, events, articles, courses, and training tools.	Institutional resources for teacher literacy.
European Commission (2025)	France Europe	Theorical	To present projects promoted by France in the field of educational AI.	Funding for AI innovation and training projects.	Financial and institutional support for AI literacy.
Hernández, Hernández, Legañoa & Campillo (2022)	International	Theorical	To analyze the integration of content curation into teachers' informational competencies.	Content curation is confirmed as an informational competency that strengthens teachers' digital literacy	Content curation as a key teaching competency.
Ramírez (2024)	International	Empirical	To examine the benefits of content curation in collaborative learning.	Implementation of content curation in students' collaborative learning.	Content curation as a key student competency.
La-Rosa, Ortega-Fernández & Perlado (2025)	Spain Europe	Empirical	To analyze the scientific production on generative AI in journalism, marketing, and advertising.	Predominance of marketing in publications; Spain leads research on AI applied to journalism.	Application of AI in content curation and personalization.

Codina & Lopezosa (2024)	Spain Europe	Theorical	To demonstrate the application of AI tools in the phases of content curation.	Identification of search engines and prompts for digital curation processes	Integration of AI into the phases of content curation.
Codina & Lopezosa (2024)	Spain Europe	Theorical	To demonstrate the application of AI tools in the phases of content curation.	Identification of search engines and prompts for digital curation processes.	Integration of AI into the phases of content curation.
Codina (2023)	Spain Europe	Empirical	Comparative analysis of alternative search engines to Google with generative artificial intelligence.	General characteristics of types of search engines. Functional and interface analysis of search engines; recommendations for academic use.	AI tools applied to information curation.
Knauf & Falgas (2020)	France	Empirical	To strengthen digital skills through curation and information management.	Experiments with master's students in communication on digital content monitoring.	Intersection between AI literacy and content curation.
Kemp (2018	France	Empirical	To propose a service-based system for curating and exploring big data.	"CURARE" model for information exploration and extraction through data analysis.	

Appendix 2

Thematic guide to the documented bibliographic review

1. Artificial intelligence literacy in higher education.
   1.1. European context.
   1.2. Concept and relevance.
   1.3. Necessary competencies for teachers and students (frameworks and theoretical proposals).
   1.4. Recent initiatives in Europe and France (state programs, universities, policies).

2. Content curation as a key competency.
   2.1. Definition and phases.
   2.2. Integration of ai into content curation phases: use of tools.
   2.3. Risks: Dependence, bias, information overload.
   2.4. Incorporation into the training of university teachers and students.

3. Intersection between AI Literacy and Content Curation.
   3.1. Conceptual Approach: Curation as a Bridge between Digital Literacy and AI Literacy.
   3.2. Practical-Pedagogical Approach: How Teachers and Students Practice this Literacy.
   3.3. Epistemological or Formative Approach: Why Does This Intersection Redefine Informational Competence in Higher Education?
   3.4. Institutional or Ethical Approach: How Can Content Curation be Integrated into University AI Literacy Policies or Strategies?

4. Challenges of AI literacy in the context of higher education in france.
   4.1. Digital divide and access inequalities.
   4.2. Insufficient training of teachers in ai and curation.
   4.3. Need for educational policies that integrate content curation and ai literacy into curricula.

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Paradigm of school education: A reflection on children's access to primary education in Angola

Paradigma de la Educación escolar: Una reflexión sobre el acceso de los niños a la educación primaria en Angola

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Abstract

Universal access to education means that all individuals have equal educational opportunities, regardless of social class, race, gender, sexuality, ethnic origin, or physical or mental disability. This study reflects on the factors that affect access to primary education in Angola, through a bibliographic, documentary, exploratory, and qualitative approach. The results reveal a discrepancy between the values established in the Angolan Constitution and international educational treaties, and their effective implementation. It is noted that 22% of school-aged children do not attend school. The main factors limiting access include socioeconomic conditions, geographic location, health and hygiene problems, child labor, and early pregnancy, especially in rural areas. Further research is recommended to compare findings and generate new scientific contributions aimed at improving educational access in the country.

Keywords: Access, Primary education, Angola, Factors.

Resumen

El acceso universal a la educación implica que todas las personas tengan igualdad de oportunidades educativas, sin distinción de clase social, raza, género, sexualidad, origen étnico o discapacidad. Este estudio reflexiona sobre los factores que afectan el acceso a la educación primaria en Angola, mediante una investigación bibliográfica, documental, exploratoria y con enfoque cualitativo. Los resultados muestran una discrepancia entre los valores establecidos en la Constitución angoleña y en los tratados internacionales sobre educación, y su efectiva implementación. Se destaca que el 22% de los niños en edad escolar no asisten a la escuela. Entre los principales factores que limitan el acceso se encuentran las condiciones socioeconómicas, la ubicación geográfica, los problemas de salud e higiene, el trabajo infantil y el embarazo precoz, especialmente en zonas rurales. Se recomienda realizar nuevas investigaciones para comparar resultados y generar aportes científicos que contribuyan a mejorar el acceso educativo en el país.

Palabras clave: Acceso, Educación primaria, Angola, Factores.

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Introduction

Education is the act of educating, instructing, and disciplining. Education refers to the means by which the habits, customs, and values of a community are transferred from one generation to the next (Adolfo, 2014).

According to Queiroz (2025), referencing the Universal Declaration of Human Rights, Article 26—corroborated by Angolan legislation in Law No. 162/23, which establishes compulsory and free primary education for all, regardless of age—every person may access education and literacy, thereby revoking Laws No. 32/20 and 17/16. Universal access to education is the ability for all individuals to have equal opportunities in education, regardless of their social class, race, gender, sexuality, ethnic origin, or physical or mental disability. Such access broadens horizons, transforms lives, and enables the development of critical and moral thinking.

According to Nobre (2022), it is through knowledge that individuals drive their lives, guide their trajectory, develop ethical values, and fully exercise their citizenship, understanding their rights and duties. The main indicators of primary education include: the average number of students per class, the average number of instructional hours per day, the age–grade distortion rate, the percentage of teachers with higher education, the adequacy of teacher training, teacher regularity, teaching effort, and the complexity of school management.

In Angola, the public school system—expected to serve as the main instrument for democratizing education—faces serious structural, financial, and human resource limitations. Added to these challenges are insufficient infrastructure, a shortage of qualified teachers, and inadequate teaching resources (Santana, 2025).

Thus, according to Article 2, paragraph 1, of the Basic Law of the Education and Teaching System (Law 17/16) of October 7, amended by Law 32/20 of August 12, education is a planned and systematized process of teaching and learning aimed at preparing individuals holistically for the demands of individual and collective life. It develops within human coexistence, with the purpose of addressing the main challenges of society, particularly in the consolidation of peace and national unity, and the promotion and protection of human rights, the environment, and the scientific, technological, social, and cultural development of the country (Chikela, 2019).

According to Adolfo (2015), formal teaching in Angola began in the 16th, 17th, and 18th centuries, long before the current territory was unified, during the presence of the Kingdom of Kongo. Within the framework of Angola's governmental policies for reconstruction and development, education assumes crucial importance, serving as a strategic vector in combating poverty and illiteracy, promoting health, and reducing social and gender inequalities.

Regarding access to education, private schooling in Angola has ceased to be a privilege and has become a necessity due to the public system's inability to absorb the student population within its current 8,137 public general education schools. Even low-income families are often forced to enroll their children in private schools, where access is frequently hindered by parents' inability to continue paying tuition fees. School access inequalities between urban and rural areas are substantial. The net enrollment rate in primary education is 78% in urban areas and 59% in rural areas (Chilumbo, 2019).

According to Paxe (2019), Angola currently has 103,599 classrooms, of which 61% belong to public schools, 33% to public–private partnership schools, and 6% to private schools, grouped into 13,238

institutions. Regarding access to education, 22% of school-age children are outside the education system. Only 11% of children aged 3–5 have access to preschool education (Unicef, 2025).

This research seeks to conduct a bibliographic inquiry into access to primary education in Angola, a country located in Sub-Saharan Africa, and to identify the factors contributing to the high exclusion of children from the public education system, offering suggestions to help mitigate such effects.

Materials and Methods

The research is bibliographic, exploratory, and documentary, with a qualitative approach, seeking to evaluate aspects related to access to primary education in Angola based on the analysis of documents and data found in the aforementioned sources. Bibliographic research is conducted using available records derived from previous studies, found in printed documents such as books, articles, theses, decrees-laws, etc. (Siena et al., 2024).

The inclusion criteria for the works selected in this research were the contemporaneity of the study, the relevance of the topic addressed, the significance of the problem, and the feasibility of obtaining the content present in them. All publications, articles, and periodicals that did not meet the conditions established in the inclusion criteria were excluded. All variables used in this study were qualitative. The research results were analyzed qualitatively. The ethical limitations of this study were noted in the cross-referencing of data found in the studies, particularly those of Angolan authors, as well as in the assumptions of the various decrees-laws addressing the subject matter.

Results and Discussion

Education is a social phenomenon that, in principle, serves the function of socializing and integrating generations. With regard to access to primary education, its objectives allow students to acquire basic literacy and numeracy, as well as elementary knowledge in Science, Geography, History, Mathematics, and other Social Sciences. The priority given to its provision is the subject of intense political and pedagogical debates.

From Santana's (2025) perspective, access to education is influenced by environmental, economic, social, emotional, psychological, and family-related factors. In the Angolan context, the main problem inherent to access to primary education is intrinsically linked to the shortage of school infrastructure, despite the efforts made by the State to expand the school network and broaden access not only to primary education but also to other subsystems. Added to this are socioeconomic and geographic constraints, health and hygiene problems, child labor, and early pregnancy—an especially concerning factor that contributes to school dropout, particularly in rural areas.

A comparative analysis of the Constitution of Angola and the recent Basic Law of the Education and Teaching System (Law No. 17/16 of October 10), as cited by Chikela (2019), reveals a gap between the ideal and everyday educational practice. That is, although there is legislation supported by programs designed to promote and ensure broad and inalienable access to primary education, the daily reality and the situation observed at the beginning of each school year contradict this well-intentioned effort by the State.

It should also be noted that the armed conflict Angola experienced for nearly three decades triggered a population exodus toward major cities, causing significant overcrowding. This placed an alarming burden on the State regarding the educational supply, which, in many cases, has not been proportional to this demographic phenomenon.

As can be observed, there is a certain overlap between universal factors and local realities, which may be intrinsically tied to the socioeconomic and political circumstances of each region or geographical area. However, David's (2022) study on social inequality and the teaching–learning processes of early childhood education highlights factors associated with school access, such as social, economic, racial, and gender disparities; interactions between children and educators; material and infrastructural conditions; teacher training and working conditions; and cooperation between school and family.

This reflection is supported by Chilumbo (2019), who, in his study on the Angolan educational system and its adaptation to the cultural context of rural areas in Huambo, concluded that education is very weak, as it lacks deeper reflections on the implementation of public policies related to social, economic, and geographic factors. This situation has led families to prioritize food security, resulting in children attending school appearing sad and malnourished, which demands a certain degree of pedagogical flexibility to address the deficiencies identified in their daily reality.

The situation of children's access to primary education in Angola, according to Chikela (2019), requires urgent reforms to significantly reduce existing barriers. These include supportive family environments where parents engage in their children's education; adequate physical and mental health conditions; the quality of education provided by schools; and accessible school infrastructure. Other important factors include economic and social support, qualified teachers, and a positive school culture that fosters learning.

These elements are corroborated by Luís (2021), who, in his study on access to education in Angola, states that access to schooling continues to be a State priority regardless of circumstances. Therefore, States must promote, through public policies, conditions that facilitate participation in and access to public education, emphasizing that access to primary education is a subjective right of every citizen and thus deserves and requires due respect.

According to the report from the National Institute of Statistics (2025), released on November 25 of this year as part of the presentation of the results of the 2024 population and housing census, Angola currently has five million school-aged children outside the education system, representing 22% of all Angolan children in this age group. This highlights a major challenge not only for the Ministry of Education but also for the need for a multidisciplinary approach to this phenomenon, given that it concerns an inalienable fundamental right and an issue of citizenship.

Final considerations

Education is a social practice aimed at the development of the human being, their potential, skills, and competencies. It can also be considered a duty of both the family and the State, inspired by the principles of freedom and the ideals of human solidarity, with the purpose of ensuring the full development of the learner, preparing them for the exercise of citizenship, and equipping them for the workforce. Therefore, education is not limited to the school environment.

The study highlights that there are many reasons why school-aged children and adolescents in Angola are out of school. These include limited educational opportunities due to a lack of available places in schools, disinterest in attending school, illnesses that prevent regular attendance, violence of any kind, socioeconomic issues, conflicts with the law, adolescent pregnancy, prejudice and discrimination, as well as a shortage of qualified teachers.

This research demonstrates that universal access to education can be facilitated through public policy measures, evaluation and diagnosis of the educational situation, ensuring enrollment for all children

and adolescents without any form of discrimination, providing structures that enable accessibility, and investing in teacher training. Regarding children's and adolescents' access to primary education, it is noteworthy that 22% of school-aged children in Angola are still out of the education system, and 48% of enrolled students do not complete primary education.

Based on the results of this research, it can be concluded that adopting strategies to promote greater inclusion of children and adolescents in primary education—thereby reducing the gap between the constitutional perspective that advocates for compulsory primary education and the current reality—is increasingly urgent. Education is a right for all and aims at the full development of the human being through the teaching–learning process.

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Philosophy or philosophies? Debates surrounding academia and life*

¿Filosofía o Filosofías? Polémicas en torno a la academia y la vida

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Abstract

Although philosophy is often considered a purely academic position, we all have philosophical concerns regarding natural phenomena, the origin of life and the universe, the human essence, and ethics; in short, we can consider the existence of these problematic nuclei as essential for human beings. This article reflects on the above and also on the false idea of the existence of Philosophy as a uniform and singular whole, a canon produced and imposed by Europe and its colonizing processes, which resulted in the invisibility of non-Western philosophies of the indigenous peoples of Asia, Africa, and America (Abya Ayala). Another idea supported in the article refers to the necessary updating and relevance of the professions linked to Philosophies, which can contribute much to the understanding of contemporary dilemmas.

Keywords: Philosophies, philosophizing, academia, life.

Resumen

Aunque con frecuencia se considera que filosofar es una postura solo académica, todos (as) poseemos inquietudes filosóficas respecto a fenómenos naturales, el origen de la vida y el universo, la esencia humana, la ética; en fin que podemos considerar la existencia de esos núcleos problemáticos como esenciales para el ser humano. El presente artículo reflexiona sobre lo anterior y también sobre la falsa idea de la existencia de la Filosofía como un todo uniforme y singular, canon producido e impuesto desde Europa y sus procesos colonizadores, los cuales trajeron como consecuencia la invisibilización de las Filosofías no occidentales de los pueblos originarios de Asia, África y América (Abya Ayala). Otra idea sostenida en el escrito se refiere a la necesaria actualización y pertinencia de las profesiones vinculadas a las Filosofías, que mucho pueden aportar a la comprensión de los dilemas contemporáneos.

Palabras clave: Filosofías, filosofar, academia, vida.

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Introduction

One of the fundamental characteristics of the methodological framework of Philosophies is its contemplative stance, encompassing dissent, aporias, doubt, and a sense of unease toward what is considered established knowledge, as well as a constant reflection on one's worldview. There also exist strong dispositions—especially in contemporary times—to engage in the transformation of the reality to which one belongs.

These ideas emerge from my situated experience as a Philosophy professor trained in Cuba, having taught in several Latin American countries—Cuba, Mexico, Argentina, Colombia, among others—from whose interactions I have drawn intellectual nourishment, and having published my work in indexed journals across Latin America and Spain. From this contextualized vitality, I aim to "assemble a mosaic" of what befalls and moves through me in philosophical matters, understood as a human essentiality that transcends the anthropocentric stance to connect with Life in its entirety.

This presentation argues that Philosophy does not exist in the singular[1]. We are in the presence of Philosophies, which the reductionist Western discourse of European modernity ultimately co-opted through universal imposition, first of Scholastic and Renaissance Philosophies, followed by Positivism, ignoring the other Philosophies of colonized peoples.

Philosophies are not exclusively European in origin.

From the dawn of humanity, all peoples have had questions or core concerns regarding the nature of Being, the existence of supernatural forces, the meaning of life, and the ethics of human existence, among other inquiries. Therefore, it can be affirmed that ontological, gnoseological, epistemological, and axiological concerns are not exclusive to philosophers either, although the scientific and academic production on these subjects may be.

We might also ask whether any Philosophy graduate today can dedicate their professional life to pure philosophy, and the answer is quite evident: it is neither possible nor necessary. Nevertheless, Philosophies continue to play an important methodological role, adapted to new needs such as philosophical studies of technological development and Artificial Intelligence (AI).

New applied dimensions are constantly emerging, such as: Philosophy of Technology, Bioethics, to name just a few. Consequently, it is necessary to teach and conduct research from an inter- and transdisciplinary approach, linking philosophical thinking with the world and professions. This involves adopting a posture of constantly being at the edge of scientific frontiers and the thresholds of knowledge (Medina, 2022).

We share the view of Dussell et al. (2009) and Dussell (2015) regarding the non-universality of European philosophies. It is essential to broaden the dissemination and recovery of philosophies produced over centuries—some even predating Greek philosophy—in the territories of China, India, the Middle East, Africa, and the philosophies of the original cultures of Abya Yala. Their main characteristics are diversity, an understanding of Life beyond the human being, harmony with nature, and the entire universe. We refer to contextualized philosophies marked by an internalization of the cultural essences of the peoples who produce them.

[1] Just as there is no singular science or art, but rather sciences and arts.

Meanwhile, globalized Eurocentrism is reaching the limits of its destructiveness, evident in the current ecological crisis and all the accompanying systemic consequences: economic, social, and cultural. It is increasingly urgent to decolonize the thinking of the Global South, to put an end to the epistemicide and ontological violence to which millions of human beings have been subjected.

Philosophies, for what purpose?

Philosophies possess a very genuine essence: they require a proactive predisposition to confront bewilderment, contradictions with no apparent resolution, the clash of ideas, and a break with established philosophical tradition. In addition, there is a growing need to break down the stigmas surrounding the philosophical as something disruptive, and about us who dedicate ourselves to philosophizing: as the "weird ones," the misfits, among other pejorative labels.

Philosophical pluralism will exist when, with equal importance alongside the study of Aristotle, Descartes, Kant, and Hegel, we study Confucius, Avicenna, Fanon, Martí, and Zapata Olivella. When we delve into the oral traditions and symbolic universe of Maya, Aymara, Guaraní, Mapuche, Nasa, Misak, Wayuu philosophies—among others—efforts currently concentrated in ethno-education and interculturality, but which need to advance more profoundly into the cosmovisionary universe of these peoples. It is worth mentioning that many researchers are concerned with and engaged in this task (Conrado, 2022; Rengifo, 2022; Guadarrama & Martínez, 2023; Correa, 2024).[2] .

From the stale individualism of capitalist society, which placed the human being at the center of everything with the universal and abstract possibility of climbing the ladder and becoming rich, few philosophies gain legitimacy—only those that smell of pragmatism. Meanwhile, original philosophies focus their gaze on the strength of collectivity and the importance of safeguarding and enriching familial bonds, respect for elders, and the love of the community. These are societies touched by modernity, many of which are losing their ancestral traditions.

Today, the reign of the market is overwhelming. Everything is bought and sold: our data, our personal identity, what we publish online. Nearly everything is governed by marketing. This leads us to ask: Philosophies, for what purpose? (Alvargonzález, 2020). From this, several concerns arise, such as:

- *The valuation of the scientific and the technological*. AI and its overwhelming dominance in our lives. Issues as abstract as philosophies are considered obsolete.
- *Engineered political democracies*. Each citizen is free to think, ground their worldview, and act. Thus, it is useless to "dwell" on philosophical doubts.
- *The market and the economy* —what purpose would such intelligible discourse serve when everything is so concrete and immediate?
- Governments concerned with budgets. They allocate few resources to developing philosophical research projects, as these are considered secondary in importance.
- *Families wonder* about the practical sense of a young person studying Philosophy when there are other more attractive and better-paid careers in the job market.

A superficial analysis of such questions would lead us to conclude that the social function of Philosophies is over. However, possible answers that validate their importance stem from another question:

[2] Only those works that were consulted are mentioned. However, many more exist in indexed journals and reliable databases.

What is the purpose of philosophizing today?

I come from a Cuban philosophical tradition that finds its highest expression in the Philosophy of Relation, by José Martí[3]. An exceptional human being in whose existence the roles of the independence-minded politician, the writer of the highest caliber, the tireless journalist were articulated not with an abysmal contradiction, but with great personal effort and human drama[4] art critic, chronicler of science and technology, innovative pedagogue, and also the philosopher who broke with canons and schools.

According to Medina (2024), one of the marvelous keys to Martí's philosophy lies in its practical nature and its ability to engage with real and authentic contexts, in harmony and articulation with the representative values of the human condition. He did not choose to be a philosopher in the traditional mold. We will not find in his work a systemized treatise following the canons of classical systems. He practiced philosophy in every journalistic chronicle, poem, or speech. It is the philosophy the world needs to transform itself, a philosophy that walks with life and beats in every human and social conflict. Philosophy as social and transformative action.

This so profoundly Cuban and Latin American essence of a Philosophy for action is what we must reclaim today. Martí (2000) enunciates the principle of Philosophical[5] Electivism, which means: "...there is no way to save oneself from the risk of blindly obeying a philosophical system other than by nourishing oneself from all of them, and seeing how in all of them the same spirit pulses..." (p. 234).

Electivism in Philosophy involves free choice without prejudice or pre-established dogma, renouncing rote learning (which, centuries later, is still in good health) and intellectual servility, and practicing the questioning of the world and the life that seek to be imposed upon us. It means drawing one's own conclusions about certain "truths" that are born of a specific time and context but can expire. It entails rethinking each philosophical question and selecting the wisest ideas for every challenge of existence. The role of Philosophies is never abstract nor ahistorical; it is situated. But it must respond to the very nature of philosophizing: choice, a critical and unbiased stance.

For Martí (1991a), there are three essential ideas when examining the world from a philosophical posture: 1) truth is synthetic, 2) philosophy is nothing more than the secret of the relationship between the various forms of existence, and 3) the good philosophical method is one that, in judging humanity, considers it in all manifestations of its being.

Furthermore, he expressed an assertion still highly relevant in the 21st century: "...Life must be daily, dynamic, useful; and the first duty of a man in these times is to be a man of his time. Not to apply foreign theories, but to discover one's own. Not to hinder one's country with abstractions, but to inquire into the way of making useful ones practical..." (Martí, 1991b, p. 97). In the Cuban thinker, Philosophies, Arts, and Sciences merge. His thought moves on the thresholds of all knowledge.

The damage done by dogmas to the circulation of ideas is immense, as is the reductionist way in which we learned to think from Eurocentric pedagogical models, evident when, on a subjective level —as Deleuze (1994) states— the Other is missing from the structure of the world, and the summary

[3] Cuban intellectual, patriot, and politician (1853-1895).

[4] He wrote for more than 20 Latin American newspapers of his time.

[5] Whose origin is found in Elective Philosophy, established by the Cuban educator José Agustín Caballero through his teaching at the Seminary of San Carlos and San Ambrosio, beginning in 1797 (Iglesias, 2018).

law of "all or nothing" then begins to reign. We thus enter a struggle without nuance, we become threatening because the gentleness that allows the world to be inhabited ends. Our lives are taken over by absolute differences that recall unbearable repetitions and superimposed distances, which reign in supposed philosophical debates.

Jaramillo (2009) points to a need felt by many intellectuals in our America: it is imperative to move from established philosophies to itinerant thoughts, the urgency of philosophical stances of decentering, and to rekindle the emancipatory sense of that irreplaceable vitality which is philosophical speculation.

Philosophies from, with, and for life

Martí (1994) asked, in a very poetic way, where life begins and from what workshop we human beings (complicated and marvelous) emerge. He then answered that life is a slow grouping and a wondrous chain linking all forms of existence—an idea diametrically opposed to modern anthropocentrism, which has led human society to chaos by turning nature into just another commodity in the service of extractivist capitalism. On the other hand, the Cuban intellectual considered that few scientists knew how to clearly explain the composition and production of life and the harmonious relationships that should exist between human beings and other life forms.

We need to learn how other species or living beings process information, solve problems, and live cooperatively and in harmony. Thinking like nature is a necessity we must cultivate from the earliest stages of human life (Medina, 2024). It is about reclaiming the simplicity of life, the seemingly insignificant because it is everyday, yet which defines the love and tenderness of what we are. Creating new interconnections and weavings to understand that we are not alone in this world, nor will we save ourselves alone. And internalizing the multiple webs of existence of the Biosphere, which Western culture has violated and exploited indiscriminately. It is about returning to the cosmologies of original peoples who, thousands of years ago, had a very clear understanding of the relationship between humans and nature and the entire universe.

Monroy et al. (2022) provide an interesting approach to the current issues and imperatives at the heart of philosophical reflections on philosophies themselves. They argue that although thinking is in itself a praxis, throughout history philosophies have not been content with thinking as mere theoretical contemplation but have deployed themselves through various practices.

The previous idea is quite unknown in popular understanding, where an equation is made between philosophies and abstractions. While it is true that philosophical categorical frameworks are characterized by a certain abstraction, this particularity is placed in dialogue with life itself in most bodies of philosophical ideas, with great clarity in non-Western philosophies.

The need to update the social and professional role of those who dedicate themselves to philosophy is a well-founded intention by Monroy et al. (2022), who recognize new fields and professional areas for graduates, conceiving in their reflections "...more than a defense of the usefulness of an undergraduate or graduate degree in Philosophy, an act of responsibility towards the expectations of people who choose to study it, but also a commitment to the world in which we live..." (p. 130). A commitment that does not entail mere accompaniment to new technological transformations or market demands, but the opening for debate of the ontological, gnoseological, and epistemological foundations of new realities that exceed modern philosophical understanding, and in which the destiny of humanity

and all life in the Biosphere is also decided.

It is increasingly imperative that social scientists, including philosophers, become active participants in all social spheres: from the university chair and teaching, to actively participating in the development of medicines and Health technologies, including joining the technical teams advancing AI—not to subordinate their knowledge to the interest of the market and capital, but to defend life and the rights of species (human and non-human). The bioethical responsibility of technology also involves philosophies from, with, and for life.

Reflections by way of non-conclusions

To ask today about the relevance and usefulness of Philosophies is, in itself, a form of Philosophizing. The present exercise has allowed us to debate, exercise our judgment, and thus move our thoughts towards a discussion of this disquisition, which proclaims the urgency of thinking about life beyond the academies. We call this section "non-conclusions" because such an important topic must remain open so that each reader can seek their own answers and examine their philosophical concerns.

The very etymological content of the word Philosophy and all its derivatives contains the love of knowledge in its highest expression: wisdom—not as an accumulation of information, but as an unraveling that guides understanding, being, and transforming the world.

Wisdom and philosophical reflection are not solely the heritage of academics or researchers. It is a natural human condition, enjoyed and practiced by all those who each morning wonder about some marvel of the world and the reasons worth continuing to live for.

As Westerners, we must learn from original peoples who see themselves as part of a whole, leaving no room for notions of superiority or privilege. It is rather about the care and balance of all that exists between heaven and earth. More than protecting a natural environment (not littering, not polluting, which are important in themselves), there are deeper and more sublime threads connecting us to the earth, the rivers, the stars, which, while sometimes not so near, are all interwoven.

Therefore, to philosophize must help us broaden and reclaim the meaning of Philosophies beyond imposed reductionism. Beyond the academy, as a necessity of life and the human condition. As an understanding of the small fragment that we are... and that we are today discovering, as one discovers warm water.

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