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EDICIONES

YUYAY

ESTRATEGIAS, METODOLOGÍAS & DIDÁCTICAS EDUCATIVAS

Media Literacy in the Digital Age: Multidisciplinary Approaches in Education

Alfabetización Mediática en la Era Digital: Enfoques Multidisciplinarios desde la Educación Inovações em Educação, Inclusão, Diversidades e Culturas

Alfabetização midiática na era digital: abordagens multidisciplinares da educação

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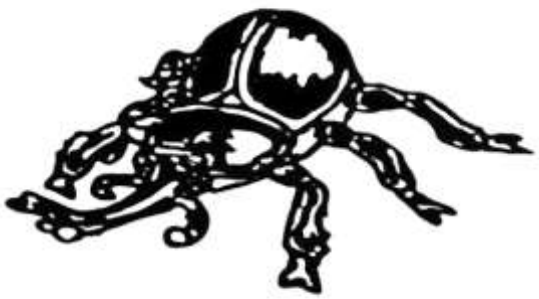

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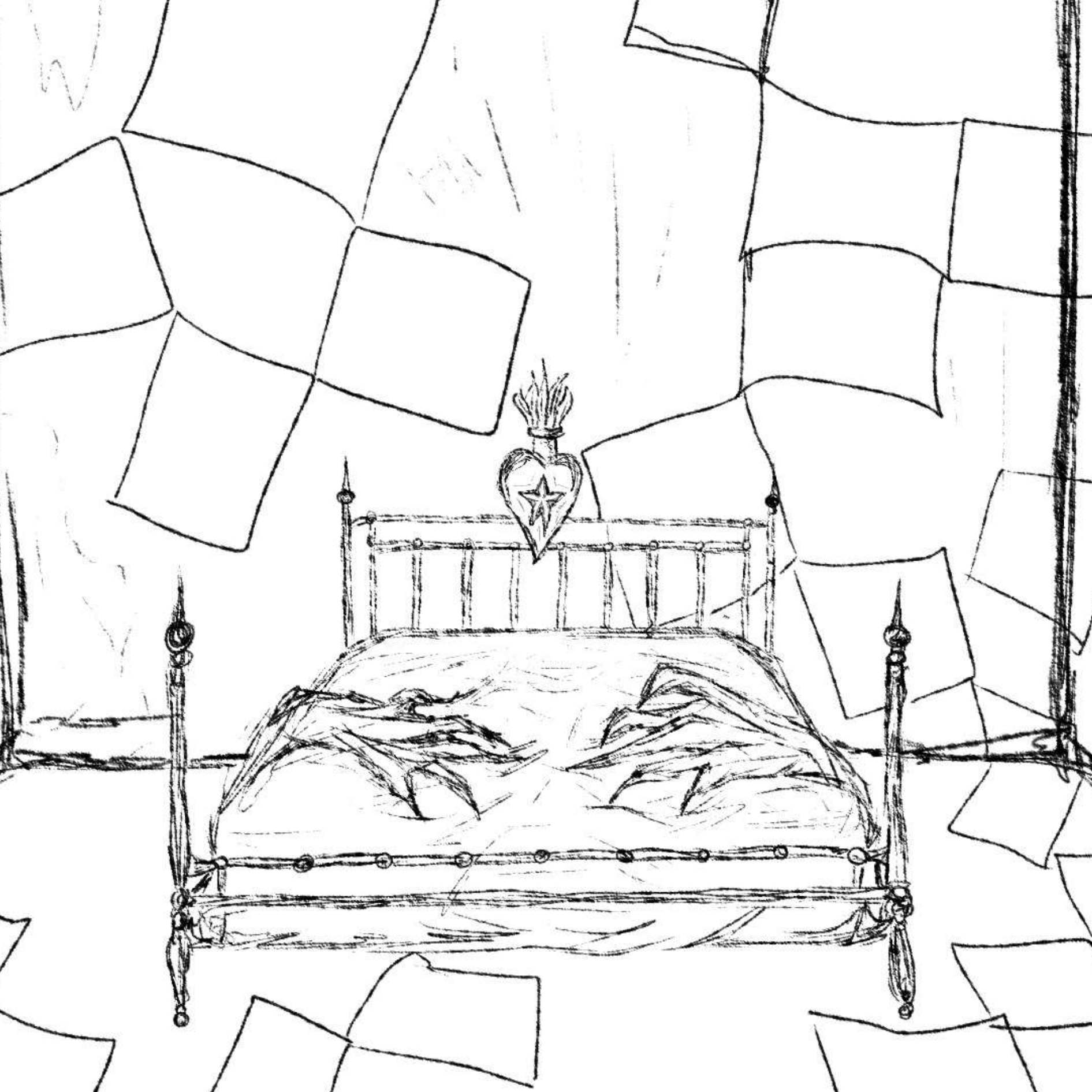

ESTRATEGIAS, METODOLOGÍAS & DIDÁCTICAS EDUCATIVAS

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YUYAY®, una revista de difusión de contenido científico-multidisciplinar desde la educación, editada por JLA Ediciones (GYE-NY-SP) con líneas temáticas que reflexionan y vinculan las inquietudes académicas de las ciencias sociales, educación, artes y humanidades con los problemas de su contexto. Los contenidos están dirigidos a la comunidad científica y a quienes se interesen por conocer, ampliar y profundizar, desde perspectivas académicas, temas de debate social, pedagógico, político, cultural, tecnológico y económico, entre otros subtemas de las áreas ya mencionadas y que consten en la Clasificación Internacional Normalizada de la Educación (CINE) de la UNESCO (2011).

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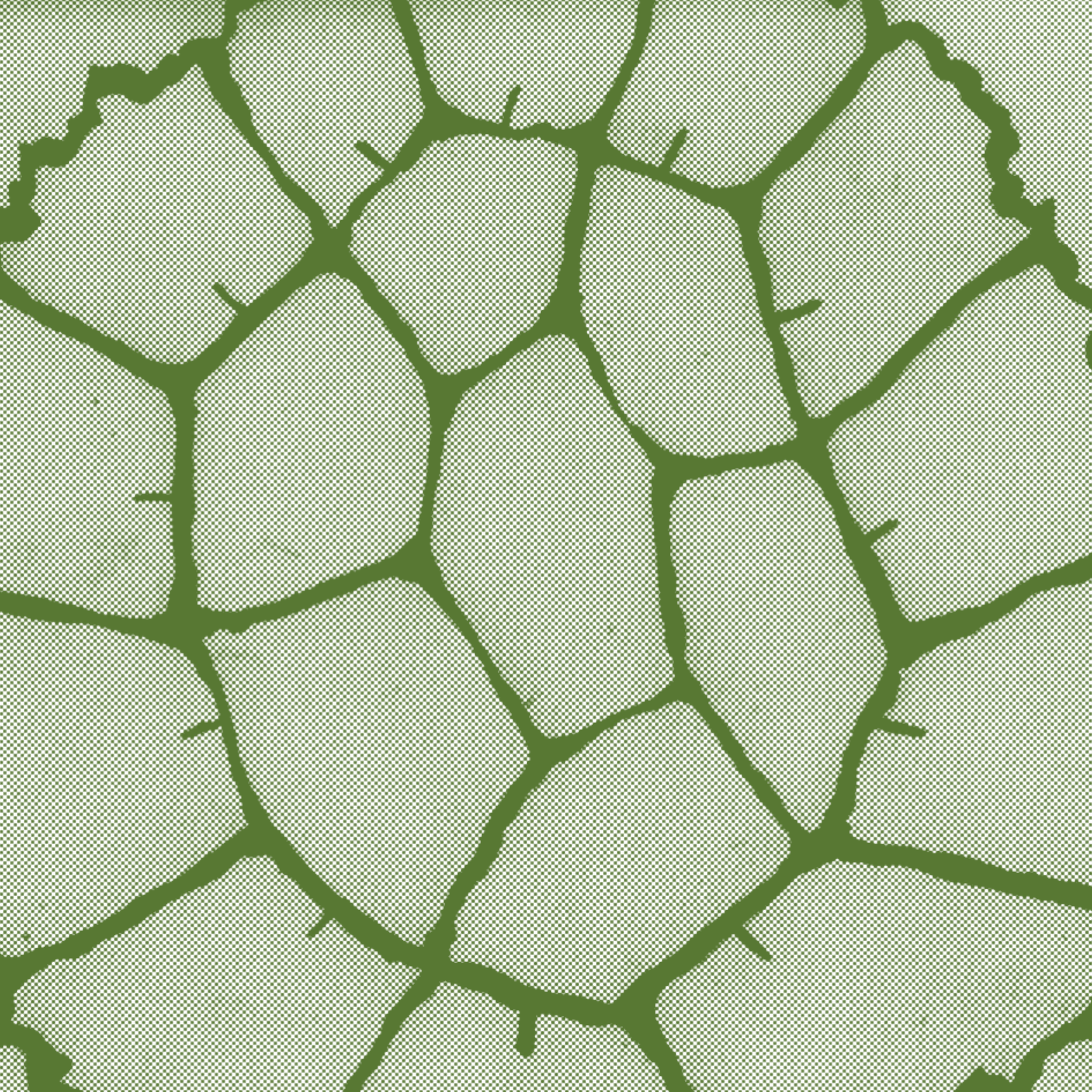

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ABOUT THIS NUMBER

Sobre este número

(en) In today's digital era, media literacy has emerged as an essential skill for effective and critical participation in society. The convergence of traditional and digital media has transformed how information is produced, distributed, and consumed, creating the need for educational approaches that address these complex dynamics.

Media literacy encompasses not only the ability to access information but also to analyze, evaluate, and create content critically and ethically. This process is fundamental to developing informed and engaged citizens capable of navigating a media environment saturated with information and misinformation.

YUYAY, committed to disseminating multidisciplinary research in the educational field, acknowledges the importance of addressing media literacy in the digital age. This perspective is crucial for understanding how information and communication technologies are redefining educational processes and civic participation.

Proposed Themes for the Issue

1. **Integrating Media Literacy into the Educational Curriculum:**
    - Strategies for incorporating media education across various levels and subjects.
    - Developing critical competencies to engage with digital media.
2. **Impact of Social Media on Youth Development:**
    - Analyzing the influence of digital platforms on identity and value formation.
    - The role of education in managing information and combating misinformation.
3. **Ethical Challenges in the Information Age:**
    - Privacy, security, and ethical considerations in using digital media.
    - Responsibilities of educators and students in producing and consuming digital content.
4. **Digital Tools for Media Literacy:**
    - Leveraging applications, video games, and interactive resources to teach media competencies.
    - Assessing the effectiveness of digital tools in learning processes.
5. **Teacher Training in Media Competencies:**
    - Professional development programs for educators in the use and teaching of digital media.
    - Case studies and experiences in implementing media literacy programs.
6. **Multidisciplinary Perspectives on Media Literacy:**

- Contributions from social sciences, humanities, and arts to the understanding and teaching of media literacy.
- Research addressing the intersection of media education with other disciplines.

7. **New Perspectives: Algorithmic Literacy and Gamification:**
   - Understanding algorithms and their implications for information access.
   - Utilizing game mechanics to develop media competencies.
8. **Artificial Intelligence and Media Literacy:**
   - The potential of AI tools in teaching critical competencies.
   - Examining the challenges posed by AI, including the creation of automated misinformation.

Under this premise and as an exercise in consolidating the published works, the direction of YUYAY proposes an issue an academic dialogue that enriches the understanding and application of these competencies in educational and social contexts. This special issue will serve as a valuable resource for educators, researchers, and professionals interested in promoting critical and engaged citizenship in the digital age.

Theoretical Framework and Recommendations for Authors

Critical Media Education Theory: Douglas Kellner and Jeff Share emphasize analyzing the power structures influencing media systems. They argue that *"critical media literacy is not an option but a necessity in the digital age"* (Kellner & Share, 2007).

Connectivism Theory: Proposed by George Siemens and Stephen Downes, this theory underscores the importance of creating and navigating networks of information. According to Siemens, *"knowledge resides in networks"* (Siemens, 2005).

Digital Literacy Theory: Authors like Gilster (1997) have defined digital literacy as the ability to understand and use information in multiple formats from a wide range of sources when presented through computers. This theory emphasizes the importance of skills such as critical evaluation of information and understanding digital media as communication tools. Gilster argues that *"digital literacy is about mastering ideas, not keystrokes."*

Algorithmic Literacy: Noble (2018), in her work *Algorithms of Oppression*, analyzes algorithmic biases and their impact on information access, advocating for education about filter bubbles.

Gamification in Media Education: McGonigal (2011) argues that video game mechanics can foster collaborative and creative learning in educational contexts.

Media, Information, and Digital Literacy (MIDL): Hernández-Marín, Castro-Montoya, and Figueroa-Rodríguez (2024) examine evaluation tools for MIDL, highlighting the need to develop critical competencies for reflective interaction with media in the digital age.

Media Literacy in Pandemic Educational Contexts: Corona (2021) revisits the core principles of media literacy and proposes theoretical and conceptual updates, emphasizing its importance in educational contexts during the COVID-19 pandemic.

Evolution of the MIDL Concept: Hernández-Marín and Castro-Montoya (2020) explore the evolution of the concept of Media, Information, and Digital Literacy, emphasizing the need to foster critical abilities in consuming information from diverse media sources.

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(es) En la era digital contemporánea, la alfabetización mediática se ha convertido en una competencia esencial para la participación efectiva y crítica en la sociedad. La convergencia de medios tradicionales y digitales ha transformado la manera en que se produce, distribuye y consume la información, generando la necesidad de enfoques educativos que aborden estas dinámicas complejas.

La alfabetización mediática no solo implica la capacidad de acceder a la información, sino también de analizarla, evaluarla y crear contenido de manera crítica y ética. Este proceso es fundamental para el desarrollo de ciudadanos informados y comprometidos, capaces de navegar en un entorno mediático saturado de información y desinformación.

YUYAY, comprometida con la difusión de investigaciones multidisciplinarias en el ámbito educativo, reconoce la importancia de abordar la alfabetización mediática en la era digital. Este enfoque es crucial para comprender cómo las tecnologías de la información y la comunicación están redefiniendo los procesos educativos y la participación ciudadana.

Las temáticas propuestas para el número son:

1. **Integración de la Alfabetización Mediática en el Currículo Educativo:**
    - Estrategias para incorporar la educación mediática en diferentes niveles y asignaturas.
    - Desarrollo de competencias críticas frente a los medios digitales.
2. **Impacto de las Redes Sociales en la Formación de Jóvenes:**
    - Análisis de la influencia de plataformas digitales en la construcción de identidad y valores.
    - Rol de la educación en la gestión de la información y desinformación.
3. **Desafíos Éticos en la Era de la Información:**
    - Privacidad, seguridad y ética en el uso de medios digitales.
    - Responsabilidad de educadores y estudiantes en la producción y consumo de contenido digital.
4. **Herramientas Digitales para la Alfabetización Mediática:**
    - Uso de aplicaciones y recursos interactivos en la enseñanza de competencias mediáticas.
    - Evaluación de la eficacia de herramientas digitales en el aprendizaje.
5. **Formación Docente en Competencias Mediáticas:**
    - Programas de capacitación para educadores en el uso y enseñanza de medios digitales.
    - Experiencias y estudios de caso en la implementación de programas de alfabetización mediática.
6. **Perspectivas Multidisciplinarias sobre la Alfabetización Mediática:**

- Contribuciones desde las ciencias sociales, humanidades y artes en la comprensión y enseñanza de la alfabetización mediática.
- Investigaciones que aborden la intersección de la educación mediática con otras disciplinas.

7. **Nuevas Perspectivas: Alfabetización Algorítmica y Gamificación:**
    - Comprensión de los algoritmos y sus implicaciones en el acceso a información.
    - Uso de mecánicas de videojuegos para desarrollar competencias mediáticas.
8. **Inteligencia Artificial y Alfabetización Mediática:**
    - Potencial de las herramientas de IA en la enseñanza de competencias críticas.
    - Análisis de los desafíos de la IA, incluyendo la creación de desinformación automatizada.

Bajo esta premisa y como ejercicio de consolidación de los trabajos publicados, desde la dirección de YUYAY se propone un número pensando en modelos de alfabetización desde el habla hispana y para con los modelos de investigación y educación europeos y estadounidenses. Al convocar a contribuciones que exploren la alfabetización mediática desde diversas perspectivas teóricas y prácticas, YUYAY busca fomentar un diálogo académico que enriquezca la comprensión y aplicación de estas competencias en contextos educativos y sociales. Este número especial servirá como un recurso valioso para educadores, investigadores y profesionales interesados en promover una ciudadanía crítica y comprometida en la era digital.

Recomendaciones teóricas para los autores:

Teoría de la Educación Mediática Crítica: Autores como Douglas Kellner y Jeff Share, enfatizan la importancia de analizar y comprender las estructuras de poder que influyen en los sistemas mediáticos. La educación mediática crítica busca empoderar a los individuos para que cuestionen y desafíen las representaciones mediáticas dominantes, promoviendo una participación activa y democrática en la sociedad. Kellner y Share (2007) argumentan que "la alfabetización mediática crítica no es una opción, sino una necesidad en la era digital".

Teoría del Conectivismo: Propuesta por George Siemens y Stephen Downes, esta teoría sostiene que el aprendizaje en la era digital se basa en la creación y navegación de redes de información. El conectivismo destaca la importancia de la capacidad para identificar fuentes confiables y establecer conexiones significativas entre diferentes modos de información. Según Siemens (2005), "el conocimiento reside en las redes" y la habilidad para construir y mantener estas redes es esencial para el aprendizaje continuo.

Teoría de la Alfabetización Digital: Autores como Gilster (1997) han definido la alfabetización digital como la capacidad de comprender y utilizar la información en múltiples formatos desde una amplia gama de fuentes cuando es presentada a través de computadoras. Esta teoría enfatiza la importancia de habilidades como la evaluación crítica de la información y la comprensión de los medios digitales como herramientas de comunicación. Gilster argumenta que "la alfabetización digital es sobre dominar ideas, no teclas".

Alfabetización Algorítmica: Noble (2018), en su obra *Algorthims of Oppression*, analiza los sesgos algorítmicos y su impacto en el acceso a la información, proponiendo educar sobre las burbujas de filtro.

Gamificación en la Educación Mediática: McGonigal (2011) argumenta que las mecánicas de los videojuegos pueden fomentar el aprendizaje colaborativo y creativo en contextos educativos.

Alfabetización Mediática, Informacional y Digital (AMID): Hernández-Marín, Castro-Montoya y Figueroa-Rodríguez (2024) analizan instrumentos de evaluación de la AMID, destacando la necesidad de desarrollar competencias críticas para interactuar reflexivamente con los medios en la era digital.

Alfabetización Mediática en Contextos Educativos Pandémicos: Corona (2021) revisa los postulados centrales de la alfabetización mediática y propone una actualización teórico-conceptual, subrayando su importancia en el contexto educativo durante la pandemia de COVID-19.

Evolución del Concepto de AMID: Hernández-Marín y Castro-Montoya (2020) exploran la evolución del concepto de Alfabetización Mediática, Informacional y Digital, enfatizando la necesidad de fomentar capacidades críticas en el consumo de información de diversos medios.

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(port) Na era digital contemporânea, a educação midiática tornou-se uma competência essencial para a participação efetiva e crítica na sociedade. A convergência entre os meios de comunicação tradicionais e digitais transformou a forma como a informação é produzida, distribuída e consumida, gerando a necessidade de abordagens educacionais que considerem essas dinâmicas complexas.

A educação midiática abrange não apenas a capacidade de acessar informações, mas também de analisá-las, avaliá-las e criar conteúdo de maneira crítica e ética. Esse processo é fundamental para formar cidadãos informados e engajados, capazes de navegar em um ambiente midiático saturado de informações e desinformações.

YUYAY, comprometida com a disseminação de pesquisas multidisciplinares no campo educacional, reconhece a importância de abordar a educação midiática na era digital. Este enfoque é crucial para compreender como as tecnologias da informação e da comunicação estão redefinindo os processos educacionais e a participação cidadã.

Temas Propostos para a Edição

1. **Integração da Educação Midiática no Currículo Educacional:**
    - Estratégias para incorporar a educação midiática em diferentes níveis e disciplinas.
    - Desenvolvimento de competências críticas diante dos meios digitais.
2. **Impacto das Redes Sociais na Formação dos Jovens:**
    - Análise da influência das plataformas digitais na construção de identidades e valores.
    - O papel da educação na gestão da informação e no combate à desinformação.
3. **Desafios Éticos na Era da Informação:**
    - Privacidade, segurança e ética no uso dos meios digitais.
    - Responsabilidades de educadores e estudantes na produção e consumo de conteúdos digitais.
4. **Ferramentas Digitais para a Educação Midiática:**
    - Utilização de aplicativos, jogos e recursos interativos no ensino de competências midiáticas.
    - Avaliação da eficácia das ferramentas digitais nos processos de aprendizagem.
5. **Formação de Professores em Competências Midiáticas:**
    - Programas de capacitação para educadores no uso e ensino de mídias digitais.
    - Estudos de caso e experiências na implementação de programas de educação midiática.
6. **Perspectivas Multidisciplinares sobre a Educação Midiática:**

- Contribuições das ciências sociais, humanidades e artes para a compreensão e o ensino da educação midiática.
- Pesquisas que abordem a interseção entre a educação midiática e outras disciplinas.

7. **Novas Perspectivas: Literacia Algorítmica e Gamificação:**
   - Compreensão dos algoritmos e de suas implicações no acesso à informação.
   - Uso de mecânicas de jogos para desenvolver competências midiáticas.
8. **Inteligência Artificial e Educação Midiática:**
   - O potencial das ferramentas de IA no ensino de competências críticas.
   - Análise dos desafios impostos pela IA incluindo a criação de desinformação automatizada.

A partir dessa premissa e como exercício de consolidação dos trabalhos publicados, a direção da YUYAY propõe um número precisamente pensando em modelos de alfabetização do mundo hispanofalante e em relação aos modelos de pesquisa e educação europeus e norte-americanos.

Ao convocar contribuições que explorem a educação midiática a partir de diversas perspectivas teóricas e práticas, YUYAY busca fomentar um diálogo acadêmico enriquecedor enquanto a compreensão e aplicação dessas competências em contextos educacionais e sociais. Esta edição especial servirá como um recurso valioso para educadores, pesquisadores e profissionais interessados em promover uma cidadania crítica e engajada na era digital.

Referencial Teórico e Recomendações para os Autores

Teoria Crítica da Educação Midiática: Douglas Kellner e Jeff Share destacam a importância de analisar as estruturas de poder que influenciam os sistemas midiáticos. Eles argumentam que *"a educação crítica em mídias não é uma opção, mas uma necessidade na era digital"* (Kellner & Share, 2007).

Teoria do Conectivíssimo: Proposta por George Siemens e Stephen Downes, essa teoria enfatiza a importância de criar e navegar em redes de informação. Segundo Siemens, *"o conhecimento reside nas redes"* (Siemens, 2005).

Teoria da Alfabetização Digital: Autores como Gilster (1997) definem a alfabetização digital como a capacidade de compreender e utilizar informações em múltiplos formatos provenientes de diversas fontes, quando apresentadas por meio de computadores. Essa teoria enfatiza a importância de habilidades como a avaliação crítica das informações e a compreensão dos meios digitais como ferramentas de comunicação. Gilster argumenta que "a alfabetização digital é sobre dominar ideias, não teclas."

Alfabetização Algorítmica: Noble (2018), em sua obra *Algorithms of Oppression*, analisa os vieses algorítmicos e seu impacto no acesso à informação, propondo a educação sobre as bolhas de filtro.

Gamificação na Educação Midiática: McGonigal (2011) argumenta que as mecânicas dos videogames podem promover a aprendizagem colaborativa e criativa em contextos educativos.

Alfabetização Midiática, Informacional e Digital (AMID): Hernández-Marín, Castro-Montoya e Figueroa-Rodríguez (2024) analisam instrumentos de avaliação da AMID, destacando a necessidade de desenvolver competências críticas para interagir de forma reflexiva com os meios na era digital.

Alfabetização Midiática em Contextos Educativos Pandêmicos: Corona (2021) revisa os postulados centrais da alfabetização midiática e propõe uma atualização teórico-conceitual, sublinhando sua importância no contexto educacional durante a pandemia de COVID-19.

Evolução do Conceito de AMID: Hernández-Marín e Castro-Montoya (2020) exploram a evolução do conceito de Alfabetização Midiática, Informacional e Digital, enfatizando a necessidade de fomentar capacidades críticas no consumo de informações provenientes de diversos meios.

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Road Safety Education in Citizen Training

(esp) Educación Vial en la Formación Ciudadana
(port) Educação em Segurança Viária na Formação de Cidadãos

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Abstract (en)

This research process seeks to respond to how educational curricula, curricula, teacher methodologies and specialized programs for students in technical and professional careers can be integrated in the field of road safety education as a strategy to prevent accidents, accidents and promote a culture of safer urban mobility on the streets of Guayaquil. The documented levels of traffic accidents are taken into consideration, and it is hypothesized that, due to a lack of a road park in the city for citizens, these rates have had periodic growth. The objective of this review is to analyze how the performance of road simulations in suitable spaces allows a standardized evaluation of the knowledge acquired about traffic rules, the correct use of the zebra crossing and from this promote a culture of road learning through experimentation in a controlled and safe space for the benefit of users. the improvement of road knowledge and the reduction of traffic accidents from pedagogical practice for the different educational levels of the Ecuadorian curriculum.

Keywords: Training, education, road safety, learning, curriculum, traffic.

Resumen

Este proceso investigativo busca responder a como se pueden integrar los currículos educativos, planes de estudios, metodologías de los docentes y programas especializados para los estudiantes en las carreras técnicas y profesionales, en el ámbito de la educación vial como una estrategia para prevenir accidentes, siniestros y fomentar una cultura de movilidad urbana más segura en las calles de guayaquil. Se toma en consideración los niveles documentados de siniestros de tránsito y en el que se aborda como hipótesis que, debido a una carencia de un parque vial en la ciudad para la ciudadanía, estos índices han tenido crecimientos periódicos. El objetivo de esta revisión es analizar cómo la realización de las simulaciones viales en espacios idóneos permite una evaluación estandarizada de los conocimientos adquiridos sobre las normas de tránsito, el correcto uso del paso cebra y a partir de ello fomentar una cultura de aprendizaje vial por medio de la experimentar en un espacio controlado y seguro para el beneficio de los usuarios, la mejora del conocimiento vial y la reducción de siniestros de tránsito desde la práctica pedagógica para los diferentes niveles educativos del currículo ecuatoriano.

Palabras claves: Formación, educación, seguridad vial, aprendizaje, currículo, tránsito.

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Resumo

Este processo de pesquisa busca responder a como currículos educacionais, currículos, metodologias docentes e programas especializados para estudantes em carreiras técnicas e profissionais podem ser integrados no campo da educação viária como estratégia para prevenir acidentes, acidentes e promover uma cultura de mobilidade urbana mais segura nas ruas de Guayaquil. Os níveis documentados de acidentes de trânsito são levados em consideração e levanta-se a hipótese de que, devido à falta de um parque viário na cidade para os cidadãos, essas taxas têm tido crescimento periódico. O objetivo desta revisão é analisar como a realização de simulações viárias em espaços adequados permite uma avaliação padronizada dos conhecimentos adquiridos sobre as regras de trânsito, o uso correto da faixa de pedestres e a partir disso promover uma cultura de aprendizagem viária por meio da experimentação em um espaço controlado e seguro para o benefício dos usuários. a melhoria do conhecimento viário e a redução de acidentes de trânsito a partir da prática pedagógica para os diferentes níveis educacionais do currículo equatoriano.

Palavras-chave: Formação, educação, segurança viária, aprendizagem, currículo, trânsito.

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Introduction

Ecuador's National Transit Agency (ANT) has made available to citizens the Transportation Statistical Report (ESTRA) on traffic accidents that occurred in Ecuador during the fourth quarter of 2023, which reports a total of 20,994 accidents. This represents a decrease of 745 cases compared to 2022, equivalent to a reduction of 3.43%, according to information updated as of February 2024. The report highlights that the main cause of these accidents lies in the incompetence and recklessness of drivers, placing the province of Guayas in first place nationally in terms of injured citizens.

Road safety is presented as a global challenge that requires interdisciplinary solutions. In this context, the research focuses on the role of road safety education as a key strategy to prevent accidents and accidents, promoting a culture of safe mobility on the streets of Guayaquil. Existing gaps in the implementation of road safety education programs are identified and concrete actions are proposed to strengthen the training of citizens, drivers, pedestrians, and transport professionals (ANT, 2023).

Road safety is a global problem that claims thousands of lives every year, which requires researchers and users to reflect deeply on the causes that generate high accident rates. Despite advances in technology and vehicle design, accident numbers are still alarming. In this context, road safety education is presented as a key factor to prevent accidents, promote safe mobility and promote a road culture. However, despite its relevance, road safety education is not always effectively integrated into educational curricula, curricula, teaching methodologies and specialized programs of technical and professional careers. This is particularly concerning in areas such as land transport and logistics, where future drivers and professionals will play a critical role in promoting safe mobility.

Technical and professional careers related to transport, logistics and civil engineering, among others, train specialists who will have a direct impact on road safety. These future engineers, technologists and technicians must receive a solid training in road safety education and vehicular traffic modeling, which allows them to make informed decisions about traffic laws and promote safe practices in their work performance. The integration of road safety education in the curricula of these careers is essential to guarantee a road culture, safer and more efficient mobility, as well as to contribute to the reduction of accident rates.

Currently, when talking about road safety education, it is essential to develop an educational project that involves all the actors of the Urban Mobility Pyramid. This approach seeks to ensure that each group understands its role in mobility, with special emphasis on ensuring road safety for children and young people, with the aim of reducing accident rates. This effort is part of compliance with the Organic Law on Land Transport, Transit and Road Safety (ANT, 2023).

From the above, it is evident that the problem of road safety education is a priority issue that must be addressed throughout the national curriculum. This implies promoting the active participation of institutions and ensuring that teachers include learning in road safety education as a priority, considering institutional, regional, local and community needs.

In line with the 2030 Agenda, specifically Sustainable Development Goal (SDG) 11, it seeks to provide access to safe, affordable, accessible and sustainable transport systems for all. This goal includes improving

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road safety by expanding public transport and paying special attention to the needs of vulnerable groups, such as women, children, people with disabilities, and older adults (United Nations, 2015). In this framework, Valcárcel (2021) points out that the Road Safety 2030 strategy must adopt tools that allow responding to the evolution of mobility, offering solutions always appropriate to the implications for road safety.

The purpose of this research is to collect, systematize and analyze a wide range of data regarding traffic accidents in Ecuador in the fourth quarter of 2023, to integrate educational curricula, curricula, teacher methodology and the correct specialized program in technical and professional careers. in the field of road safety education as a strategy to prevent accidents, accidents and promote a culture of safe mobility in the streets of Guayaquil.

Background

Initially, the studies focused on Santiago de Chile, ranked 30th, which obtained the highest score in cities in Latin America according to the Urban Mobility Index study, which evaluated 84 large cities in the world on a scale of 0 to 100, the research was oriented to road safety education because it is not a content inserted in the school system and there are few educational institutions, such as schools, that implement this type of program in the curriculum. From the bibliographic review, a study was identified regarding the Chilean legislation, it only prohibits talking on a cell phone when driving, being considered a serious offense, unless hands-free or Bluetooth is used, in addition the study in question indicates that the user will continue to adapt their needs to these new technologies, but must be educated about the proper use of them and the risk caused by distraction when manipulating these mobile devices when manipulating them. go.

Consequently, according to traffic statistics from the Carabineros de Chile, during 2015 there were 22,221 accidents caused by "distracted" drivers, much higher than the 5,180 accidents attributable to alcohol. Talking or tampering with your cell phone while driving is just as dangerous as driving under the influence of alcohol. In this regard, the use of the telephone increases the risk of an accident at the same levels as driving with a blood alcohol level of 1.0 g/l (National Institute of Statistics Chile, 2015) according to Cabrera, Escobedo & Rodríguez (2017) Risk of accident associated with inattentive driving observed on corners with high road accidents in Greater Santiago.

Later in the city of Bogotá, it is ranked 32nd with 46.3 points with the Urban Mobility Index study, therefore the Road Signage Manual was issued: Uniform devices for the regulation of traffic in streets, highways and bicycle routes of Colombia, allows to establish the classification and definition of traffic signs, whose function is to indicate to the road user about the precautions that must be taken into account, the restrictions and releases that are governed in the traffic section. Different studies have shown that signage influences safety and reduces road accidents; Warning signs, for example, can reduce accidents by up to 20% (Tignor, 1999), or the use of traffic lights at intersections and crosswalks could reduce the number of accidents by about 15% at T-intersections and about 30% at crossings (Rune et al. 2013).

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For example, at the European level, road safety education is formally taught from educational institutions and driving schools, where all the necessary information is provided to raise awareness from childhood. In addition, this training is also carried out in a non-formal and informal way, involving families and complementing the teaching given in the classrooms. In Europe, state bodies, private institutions and the media contribute to the incorporation of road safety education into the curricula of Primary Education and Compulsory Secondary Education (ESO). In Spain, for example, there are road parks aimed at training responsible pedestrians, which allows the principles of the urban mobility pyramid to be correctly applied (Tuteórica, 2023).

In contrast, due to the absence of an adequate academic curriculum, Ecuador is one of the countries with the highest road accident rates. Therefore, it is urgent to propose a citizen training program from school that allows, in the future, to form responsible, tolerant citizens, with self-control and respect for traffic rules. The correct implementation of the urban mobility pyramid must be the central axis of this training, promoting safer and more sustainable mobility.

In this context, there are training schools for obtaining driver's licenses, both professional and non-professional, where applicants have access to programs designed to train them in road responsibility. These schools offer structured programs to comply with the academic guidelines established by the ANT, ensuring that students acquire the necessary tools to apply them in a practical way in their daily lives. It is important to note that the target audience to access these training courses are people of legal age. These institutions focus on developing teaching methodologies that promote road responsibility and the correct application of traffic rules.

This study explores the importance of learning in the context of victims of traffic accidents, specifically in the period between January and December 2013. According to transportation statistics, 3,615 victims were reported among people between 18 and 29 years old, an alarming figure that highlights the urgency of promoting effective road safety education. The main objective of this research is to analyze the effectiveness of different didactic evaluation strategies within the classroom to improve the teaching of road safety education which, according to Castaño (1995), is defined as any permanent educational action that favors the development of knowledge, skills, behavioral habits, values and positive attitudes towards traffic, in order to improve road safety and reduce the number of accidents and their consequences. This approach underlines the importance of integrating responsible values and behaviors in citizens from an early age.

The implementation of a road park in the city of Guayaquil would represent a key educational resource for citizens. This space would allow road simulations to be carried out where participants could practice and evaluate traffic rules, acquire basic knowledge in automotive mechanics, apply PAS (Protect, Warn and Assist) standards, and promote the correct use of the zebra crossing. In addition, a road park would contribute to creating a culture of road learning through experiences in a controlled environment supervised by assessors appointed by competent bodies. These activities would benefit the community by raising awareness about the importance of road safety and responsible behavior on the roads.

The development of these educational spaces, both virtual and physical, allows students and citizens in general to acquire essential practical skills, promoting safe and sustainable mobility in Guayaquil. With this, a

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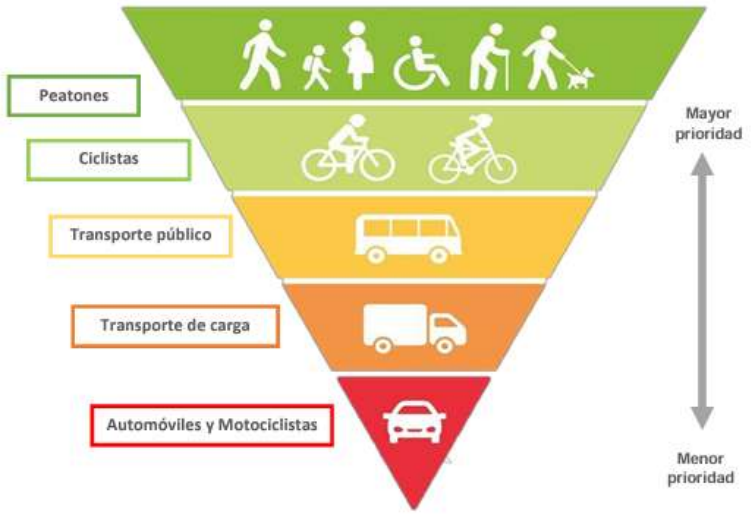
fundamental step is taken towards the construction of a road culture that reduces accident rates and promotes respect for traffic rules.

Development

The Urban Mobility Pyramid allows an understanding of the order of priorities for each citizen, with the aim of promoting healthy and sustainable mobility. This tool establishes hierarchies that seek to improve daily mobility habits, promoting equity, social benefit, reduction of environmental impact, and prevention of traffic accidents on the roads (CEPAJ, 2016).

Figure 1
Urban mobility pyramid



Note: Guía global de diseño de calles / Global Designing Cities Initiative, National Association of City Transportation 2016

Pedestrians occupy the first place, as they represent 39% of urban trips. In addition, at some point in the day, we are all pedestrians, which highlights the need to have infrastructure that guarantees their safety (CEPAJ, 2016).

Cyclists, located on the second level, represent an efficient means of transport for short distances. It is economical, does not pollute, takes up less space and is healthy. However, their vulnerability requires measures to guarantee their protection (CEPAJ, 2016).

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Public transport takes it to the next level, as it uses less public space than private vehicles and can mobilize a greater number of people. This means of transport is also more economical and favors intermodally with pedestrians (CEPAJ, 2016).

Cargo transport must be regulated so that its activities are carried out at times and places that do not obstruct circulation. It is essential to have adequate space so that these activities do not harm other mobility users (CEPAJ, 2016).

Cars and motorcycles are at the base of the pyramid due to their high consumption of public space and their significant contribution to environmental pollution in cities (CEPAJ, 2016).

That is, due to the need to promote a road culture in Guayaquil citizens, it is essential to train teachers in rules, theory and practice related to road education. This implies reinforcing existing theoretical knowledge and designing content aligned with the real needs of the country. This type of teaching should be considered a priority and included in the curricula. In a context of constant growth of the vehicle fleet and transport in Ecuador, it is essential to promote adequate urban mobility, understanding and attending to the needs of citizens with the aim of saving lives on the roads.

For example, at the European level, road safety education is formally taught from educational institutions and driving schools, where all the necessary information is provided to raise awareness from childhood. In addition, this training is also carried out in a non-formal and informal way, involving families and complementing the teaching given in the classrooms. In Europe, state bodies, private institutions and the media contribute to the incorporation of road safety education into the curricula of Primary Education and Compulsory Secondary Education (ESO). In Spain, for example, there are road parks aimed at training responsible pedestrians, which allows the principles of the urban mobility pyramid to be correctly applied (Tuteórica, 2023).

In contrast, due to the absence of an adequate academic curriculum, Ecuador is one of the countries with the highest road accident rates. Therefore, it is urgent to propose a citizen training program from school that allows, in the future, to form responsible, tolerant citizens, with self-control and respect for traffic rules. The correct implementation of the urban mobility pyramid must be the central axis of this training, promoting safer and more sustainable mobility.

In this context, there are training schools for obtaining driver's licenses, both professional and non-professional, where applicants have access to programs designed to train them in road responsibility. These schools offer structured programs to comply with the academic guidelines established by the ANT, ensuring that students acquire the necessary tools to apply them in a practical way in their daily lives. It is important to note that the target audience to access these training courses are people of legal age. These institutions focus on developing teaching methodologies that promote road responsibility and the correct application of traffic rules.

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On the other hand, Fernández et al., (2017) point out that currently learning in road safety education is motivated by digital media, in contrast to more traditional methods. Web environments amplify communication between teachers and students, offering new dimensions to the teaching-learning process. The integration of digital tools in this context allows for the formation of more conscious citizens, with solid values and committed to safe and sustainable mobility on the streets of Guayaquil. In this way, it contributes to reducing traffic accidents and improving road safety in the community.

Virtual environments have significantly transformed the educational process, creating learning environments that positively impact the development of students' competencies. During the feedback process, it is essential to complement the knowledge acquired at the methodological level and translate it into practice. In this context, Díaz and Soto (2013) define the learning environment as "the organization of space, the arrangement and distribution of teaching resources, the management of time, and the interactions that take place in the classroom" (p. 28). In the field of road education, learning environments must simulate real driving situations, transcending theoretical knowledge to provide practical experiences that allow students to develop skills and make correct decisions when driving a vehicle.

The implementation of a road park in the city of Guayaquil would represent a key educational resource for citizens. This space would allow road simulations to be carried out where participants could practice and evaluate traffic rules, acquire basic knowledge in automotive mechanics, apply PAS (Protect, Warn and Assist) standards, and promote the correct use of the zebra crossing. In addition, a road park would contribute to creating a culture of road learning through experiences in a controlled environment supervised by assessors appointed by competent bodies. These activities would benefit the community by raising awareness about the importance of road safety and responsible behavior on the roads.

The development of these educational spaces, both virtual and physical, allows students and citizens in general to acquire essential practical skills, promoting safe and sustainable mobility in Guayaquil. With this, a fundamental step is taken towards the construction of a road culture that reduces accident rates and promotes respect for traffic rules.

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Conclusions

The research proposes the need to integrate road safety education in a transversal way at all educational levels from primary to higher education, which requires a well-structured curriculum, which works on the methodological and practical part, with the purpose of creating citizens with road responsibility, values and awareness about urban mobility and thus reduce road accidents on the streets of Guayaquil.

Therefore, the lack of a road park in Guayaquil has been identified as a necessity, because it is a significant limitation for the practical training of the citizen in road education, the implementation of a safe space allows license applicants to simulate situations behind the wheel, which reinforces practical knowledge, theoretically and in turn develop safe driving skills.

Therefore, road safety education should not only focus on citizens who aspire to obtain a license, but also involve pedestrians, cyclists, drivers, etc. It is necessary to carry out campaigns for society and thus promote a culture of safe mobility that involves all road actors.

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Hard and soft skills requested by the business sector from Financial Engineering professionals

(es) Habilidades duras y blandas solicitadas por el sector empresarial a profesionales de Ingeniería Financiera

(port) Hard e soft skills solicitadas pelo setor empresarial aos profissionais de Engenharia Financeira

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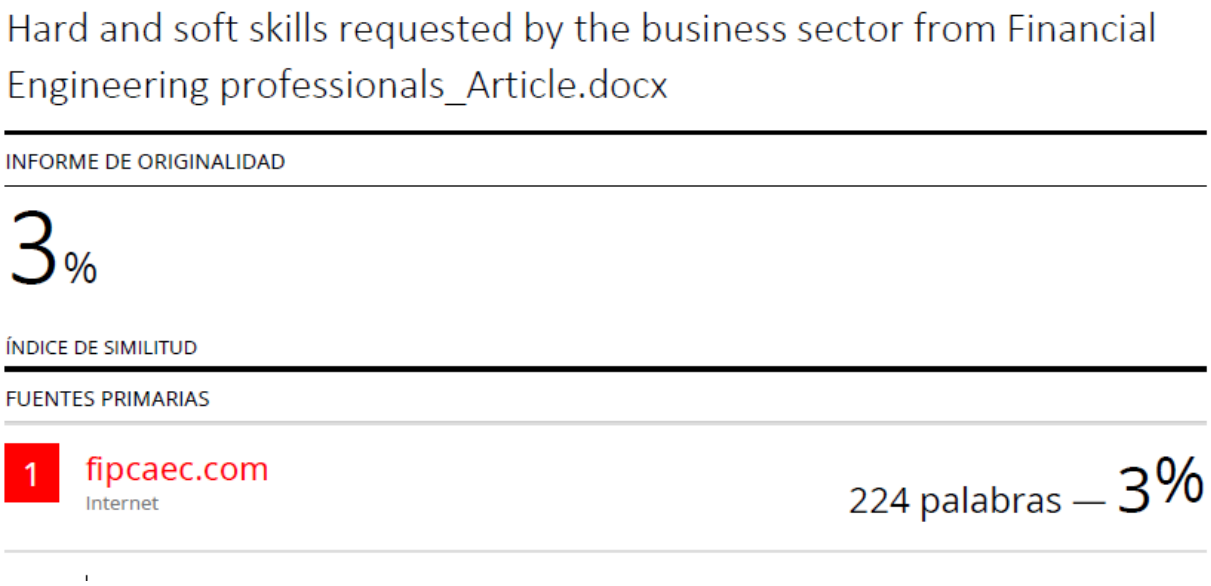

Hard and soft skills requested by the business sector from Financial Engineering professionals_Article.docx

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Abstract

The article, entitled barriers that prevent quality virtual learning in students of the virtual modality of the Bolivian Higher Institute of Technology (ITB), for the realization of this article, it was allowed to work with the students of the Faculty of Transportation and Roads (FATV), in order to determine the main barriers that prevent meaningful learning in students of generation X, Y & Z. Students of these generations are the ones with the highest number of conglomerations in the total student population, which is why andragogical approaches are used that promote the direct appropriation of the knowledge shared in the key ideas of each unit, in order to determine which of these barriers are the ones that prevent their good performance and learning. A descriptive research was carried out on a sample group of 70 Transportation students, which consisted of a 20-question form, which when adding the information obtained based on direct observation identified 4 essential barriers that make meaningful learning impossible in virtual modalities: technological barriers, lack of availability of time, lack of motivation generated by not receiving feedback from the teaching staff and lack of commitment to exploring explicit content for their professional training; This allowed us to obtain a more precise overview of what must be worked on so that virtual education processes are effective in the learning process.

Keywords: *Barriers, learning, virtual education, limitations, FATV*

Resumen

El artículo, titulado barreras que imposibilitan el aprendizaje virtual de calidad, en los estudiantes de la modalidad virtual en el Ecuador para la realización del presente artículo, se permito trabajar con los estudiantes de la Facultad de Transporte y Vialidad (FATV), con la finalidad poder determinar las principales barreras que imposibilitan el aprendizaje significativo en los estudiantes de la generación X, Y & Z. Los estudiantes de estas generaciones son las que tienen mayor número de conglomeración en la población total de alumnos, por lo cual se utiliza enfoques andragógicos que impulsen a la apropiación directa de los conocimientos compartidos en las ideas claves de cada unidad, para llegar a determinar cuáles de estas barreras son las que imposibilitan su buen desempeño y aprendizaje. Se realizó una investigación descriptiva a un grupo muestral de 70 estudiantes de la Transporte. Esta investigación consistió en un formulario de 20 preguntas, las cuales al ir sumando la información obtenida en base a la observación directa de los autores de este articulo científico, se pudo determinar qué existen 4 barreras esenciales que imposibilitan el aprendizaje significativo en las modalidades virtuales. Una de estas barreras es la tecnología, otra es la falta disponibilidad de tiempo, la falta de motivación generada al no receptar retroalimentaciones por el cuerpo docente y la falta de compromiso a la exploración de los contenidos explícitos para su formación profesional, esto permitirá obtener un panorama con mayor precisión en la cual se debe de trabajar para que los procesos de educación virtual sean eficaces en el proceso de aprendizaje.

Palabras claves: *Barreras, aprendizaje, educación virtual, limitaciones, FATV..*

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Resumo

O artigo, intitulado barreiras que impossibilitam a aprendizagem virtual de qualidade, em estudantes da modalidade virtual no Equador para esta uma Instituição de Ensino Superior, Instituto Superior Boliviano de Tecnologia (ITB), foi levado para a realização deste artigo, foi permitido trabalhar com os alunos da Faculdade Acadêmica de Transportes e Estradas (FATV). a fim de determinar as principais barreiras que impossibilitam a aprendizagem significativa em alunos da geração X, Y & Z. Os alunos destas gerações são os que apresentam o maior número de conglomeração na população total de alunos, razão pela qual são utilizadas abordagens andragogias que promovem a apropriação direta do conhecimento partilhado nas ideias-chave de cada unidade, para determinar quais destas barreiras são as que os impossibilitam de ter um bom desempenho e aprender. Foi realizada uma pesquisa descritiva em um grupo amostral de 70 alunos do Departamento de Transportes. Esta pesquisa consistiu em um formulário de 20 questões, que somando as informações obtidas com base na observação direta dos autores deste artigo científico, foi possível determinar que existem 4 barreiras essenciais que impossibilitam a aprendizagem significativa em modalidades virtuais. Uma dessas barreiras é a tecnologia, outra é a falta de disponibilidade de tempo, a falta de motivação gerada por não receber feedback do corpo docente e a falta de compromisso com a exploração de conteúdos explícitos para a sua formação profissional, isso permitirá obter um panorama mais preciso no qual trabalhar para que os processos de educação virtual sejam eficazes no processo de aprendizagem.

Palavras-chave: *Barreiras, aprendizagem, educação virtual, limitações, FATV*

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Introduction

The skills and competencies that entrepreneurs demand from professionals in the financial area have been significantly transformed, and even more so in recent years with the accelerated advancement of technology. This transformation is not only focused on technical or hard competencies, but also on soft skills that are essential for professional and organizational success.

Hard skills are those competencies that can be acquired through training and professional experience, they are also specific skills that give way to the performance of activities, tasks or work aimed at achieving objectives and decision-making. (Buxarrais M., 2013).

Soft skills refer to the capabilities that allow a person to develop holistically in different areas, including the ability to work under pressure, adaptability to different environments, skills to receive and learn from criticism, self-confidence and reliability, effective communication, problem solving, critical and analytical thinking, efficient time management, teamwork, proactivity and initiative, curiosity and imagination, willingness to learn, and balance between personal, family, social and work life, among other aspects. (Buxarrais M., 2013).

Chiavenato (2007) points out that work performance is linked to collaborative development, he also indicated that productivity in an institution occurs when the individual has been instilled with positive behaviors towards work, so that he feels committed and identified with the ideals of the institution, thus he defines as characteristics of work performance, commitment, quality at work, teamwork and productivity. (p. 203).

The present study identifies and analyzes the hard and soft skills that entrepreneurs demand from financial professionals in Cercado – Cochabamba, through a descriptive analysis research, it seeks to distinguish the requirements of companies in both the corporate and banking sectors, to achieve the aforementioned objective, data collection instruments were applied to the aforementioned sampling frames, data that after being collected was meticulously analyzed from specialized software. Through this study, it is expected to provide information that contributes to the training and professional development of future financiers, as well as the adaptation and updating of what companies require.

Methodology

The research was carried out from a quantitative approach, for this purpose surveys were used as data collection instruments. Once the data were collected, they were statistically processed using specialized SPSS software.

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Sample Design Process

There is a registry of 59,323 companies in the department of Cochabamba, the number of financial intermediation entities that exist in the country was also investigated and according to the Financial System Authority (ASFI) the supervised entities with operating licenses are 69, of which twelve belong to multiple banks, two to SME banks, three housing financial institutions, 41 open and corporate savings and credit cooperatives, two state financial institutions or with a majority stake and nine development financial institutions. To determine the sample size for private companies in the city of Cochabamba, the following proportional sampling formula for finite populations will be used:

$$n = \frac{K^2 N p q}{(N-1)e^2 + K^2 p q}$$

Where:

$n =$ Sample size to be calculated

$K^2 =$ Confidence level

$N =$ Population

p = Probability of success

q = Probability of failure

$e\text{^}2 =$ Absolute sampling error

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Considering that the number of private companies in the city of Cochabamba is 59,323, we will work with a confidence level of 95% with a significance level of 5%, an absolute error of 9%, a probability of success of 50% and a probability of failure of 50%, this probability is used since there are no studies like the one proposed. For this purpose, the sample size to carry out the research is the same:

Datos:

Tamaño de la población:	59.323
Proporción esperada:	50,000%
Nivel de confianza:	95,0%
Efecto de diseño:	1,0

Resultados:

Precisión (%)	Tamaño de la muestra
1,000	8.266
2,000	2.308
3,000	1.049
4,000	595
5,000	382
6,000	266
7,000	196
8,000	150
9,000	119
10,000	96

Therefore, a total of 119 surveys have been carried out, of which 99 surveys were applied to private companies and 20 surveys to the banking sector in the city of Cochabamba. The chart was obtained and presented in their native language (Spanish).

Results and analysis

The following software was used to analyze the perceptions of the private business sector regarding hard and soft skills and job performance in professionals of the Financial Engineering career: Epidat software was used for sample design, Microsoft Forms software was used for the design of the survey, SPSS statistical software was used for tabulation, coding and analysis of the information.

Regarding the development of the fieldwork, surveys were carried out with private sector entrepreneurs in Cochabamba Cercado, segmenting the corporate sphere into the financial sphere, where the majority was banking. Subsequently, the data obtained from the univariate and multivariate analyses were systematized.

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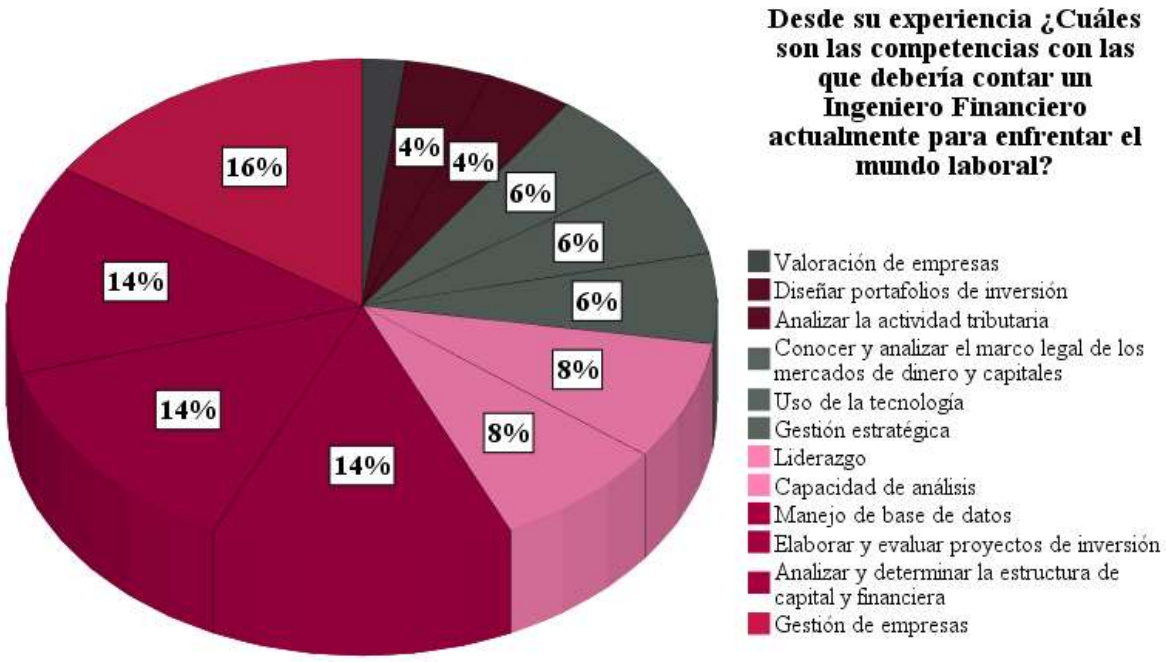
After conducting the study, it was observed that, of the total number of respondents, 55% belonged to the male gender and 45% to the female gender. The average age of the business sector of the people surveyed is 35 years old on average. The survey involved private sector companies, both corporate companies and financial intermediation entities.

Figure 1.
Competencies for a financier – entrepreneur vision



Source: Own elaboration (2024). The chart was obtained and presented in their native language (Spanish).

16% of respondents consider that knowledge in business management is the most important skill for a financier, followed by the management of databases and the ability to evaluate and develop investment projects while analyzing and determining the financial capital structure, both with 14% of the responses.

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Figure 2.
Competencies for a financier according to banking experts

Source: Own elaboration (2024). The chart was obtained and presented in their native language (Spanish).

According to respondents from the banking sector, a Financial Engineer must possess key competencies such as a solid analytical ability to evaluate financial statements, recent information regarding news and news. In addition, it is essential that they master technological tools and programs such as Python, SQL, and R. They must be proficient in risk management, proactive, and have analytical thinking for decision-making, as well as be able to adapt to changes.

Figure 3.
More erranded jobs

Source: Own elaboration (2024). The chart was obtained and presented in their native language (Spanish).

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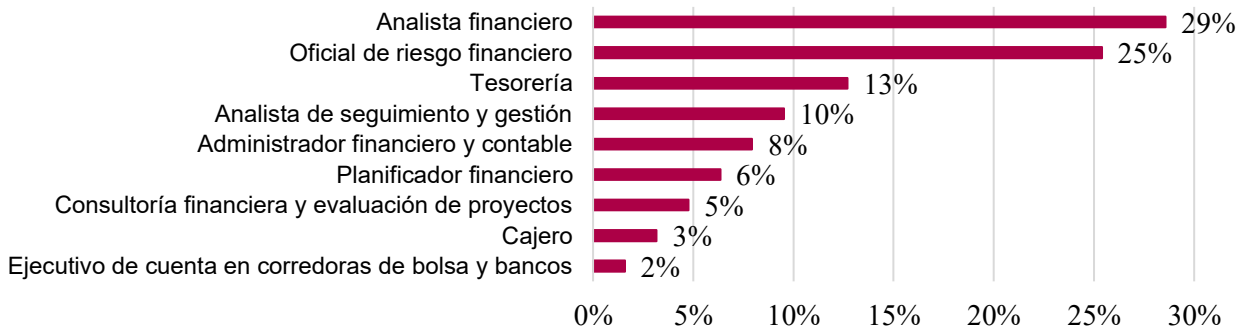
The jobs most in demand by Financial Engineers, according to respondents who work in the corporate sector are: 18% financial analyst, 16% consulting and project evaluation and 15% financial administrators and accountants.

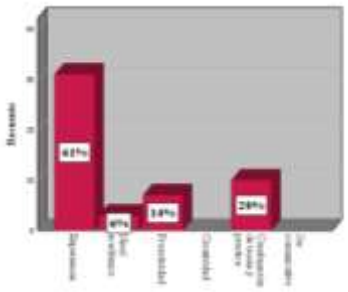
Figure 4.
Most in-demand jobs, banking sector



Source: Own elaboration (2024) The chart was obtained and presented in their native language (Spanish).

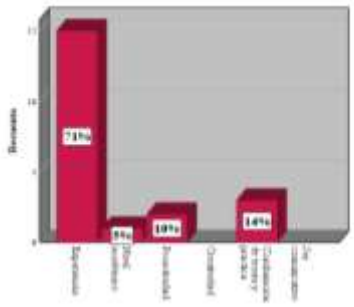
The jobs most in demand by financial engineers, according to the opinion of entrepreneurs working in the banking sector are: 29% financial analyst, 25% financial risk officer and 13% treasury. The jobs most in demand by financial engineers, according to the opinion of entrepreneurs working in the banking sector are: 29% financial analyst, 25% financial risk officer and 13% treasury.

Figure 5.
Senior Manager - Entrepreneurs



Source: Own elaboration (2024)

Figure 6.
Senior Manager - Banking



Source: Own elaboration (2024)

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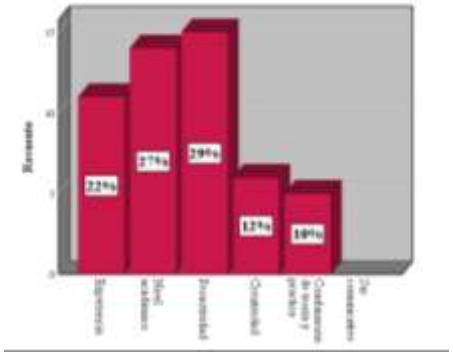
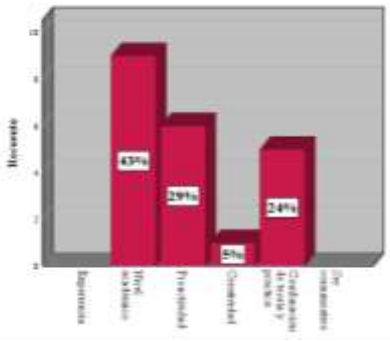
According to Figure 5, what they consider most important in a person who holds the position of senior manager according to entrepreneurs is experience. According to Figure 6, 71% of bankers value experience, followed by the combination of theory and practice.

Figure 7.
Junior Employee - Entrepreneurs



Source: Own elaboration (2024)

Figure 8.
Junior Clerk - Banking



Source: Own elaboration (2024)

In Figure 7, according to the employers, 29% of respondents consider proactivity to be the most relevant factor for a Junior position, followed by academic level and experience. Figure 8 shows that the opinions of entrepreneurs in the banking sector consider academic level to be more important, followed by proactivity.

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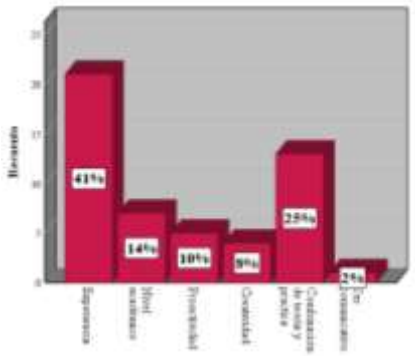
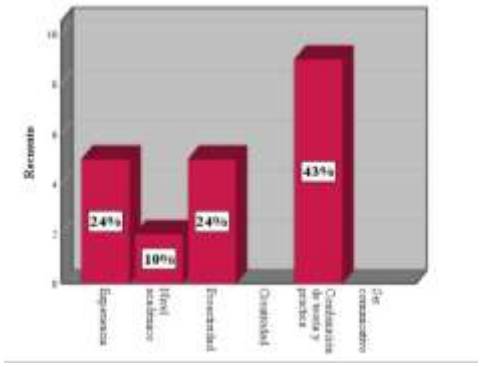
Figure 9.
Financial Analyst - Entrepreneurs



Source: Own elaboration (2024)

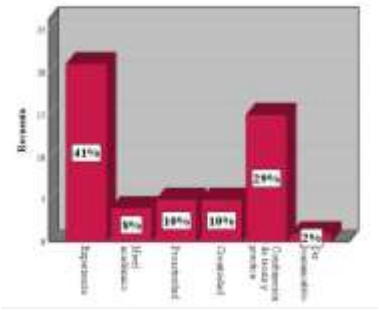
Figure 10.
Financial Analyst - Banking



Source: Own elaboration (2024)

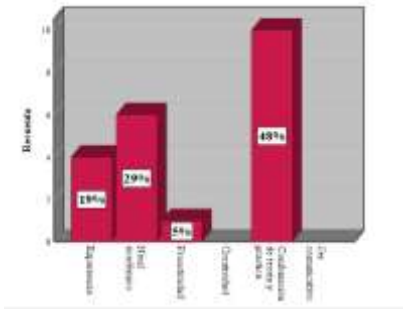
In Figure 9, 41% of respondents consider experience to be the most relevant factor for a person to perform their role as a financial analyst, 25% consider the combination of theory and practice to be crucial. In Figure 10, entrepreneurs in the banking sector consider the combination of theory and practice to be the most relevant factor, followed by experience and academic level respectively, and 10% value proactivity.

Figure 11.
Financial Risk Officer - Entrepreneurs



Source: Own elaboration (2024)

Figure 12.
Financial Risk Officer - Banking



Source: Own elaboration (2024)

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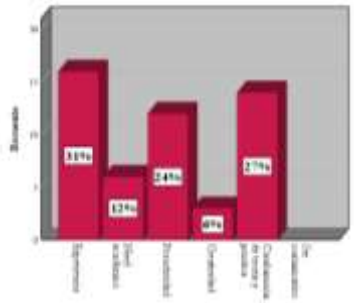
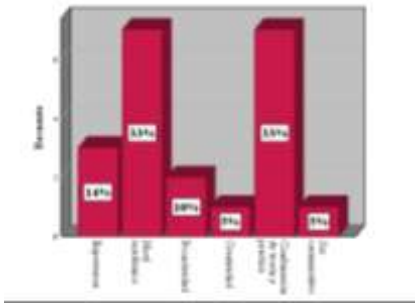
Figure 11 shows that 41% of respondents consider experience to be the most relevant factor for a person to perform their roles as a Financial Risk Officer, 29% the combination of theory and 10% value proactivity and creativity. Figure 12 shows that entrepreneurs in the banking sector consider the combination of theory and practice to be the most relevant factor, 29% who believe that academic level is important, 19% value experience and 5% proactivity.

Figure 13.
Monitoring and Management Analyst-Entrepreneurs



Source: Own elaboration (2024)

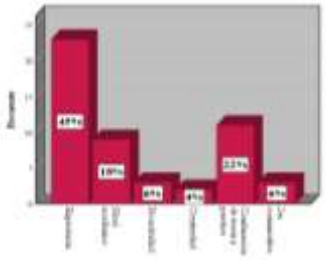
Figure 14.
Monitoring & Management Analyst - Banking



Source: Own elaboration (2024)

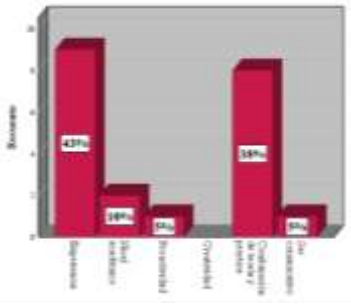
Figure 13 shows that 31% of respondents, from the business sector, consider that experience is the most relevant factor for professionals to work as a monitoring and management analyst, 27% believe that the combination of theory and practice is crucial. In Figure 14, 33% of the banking sector states that the academic level together with the combination of the theoretical and the practical are the most relevant factors.

Figure 15.
Financial Consulting & Project Evaluation-Entrepreneurs



Source: Own elaboration (2024)

Figure 16.
Financial Consulting & Project Evaluation - Banking



Source: Own elaboration (2024)

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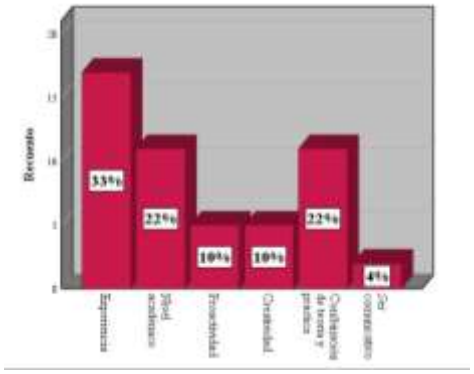
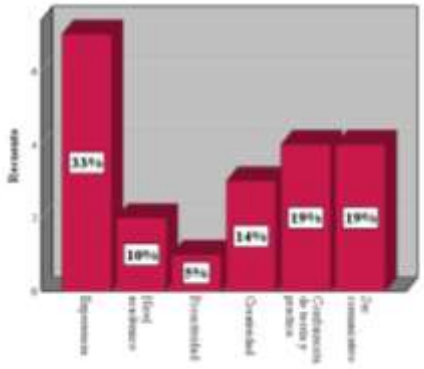
In Figure 15, 45% of respondents consider experience to be the most relevant factor, 22% the combination of theory and practice is crucial and 18% value academic level to work as a financial consultant and project evaluator. In Figure 16, 43% of respondents consider experience to be the most relevant factor, followed by 38% who believe that the combination of theory and practice is crucial, while 10% value academic level and 5% consider proactivity and being communicative, to work as a financial consultant and project evaluator.

Figure 17.
Account Executive at Brokerages and Banks - Entrepreneurs



Source: Own elaboration (2024)

Figure 18.
Account Executive at Brokerages and Banks - Banking



Source: Own elaboration (2024)

Figure 17 shows that 33% of respondents believe that experience is considered the most relevant factor for a professional to work as an account executive, and 22% say that the combination of theory, practice and academic level is crucial. In Figure 18, 33% of banking entrepreneurs indicate that experience is the most relevant factor, 19% believe that the combination of theory, practice and being communicative is crucial, while 14% value creativity.

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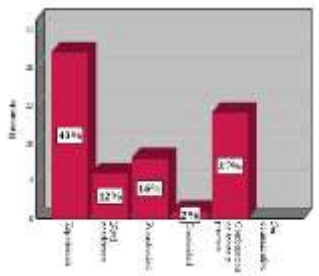
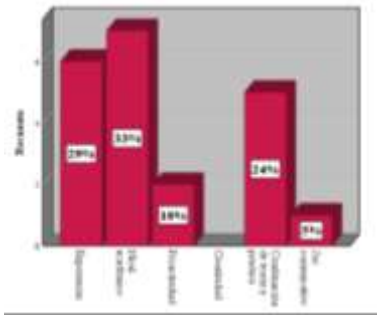
Figure 19
Financial and Accounting Administrators - Entrepreneurs



Source: Own elaboration (2024)

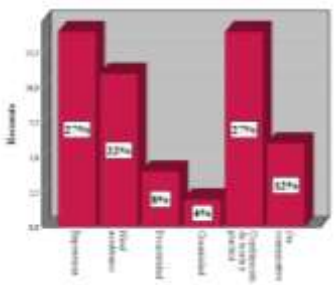
Figure 20
Financial Administrator & Accountant - Banking



Source: Own elaboration (2024)

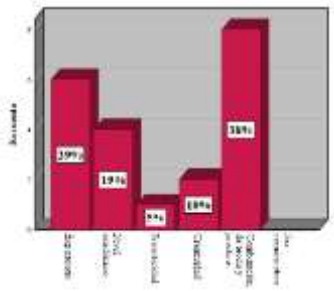
Figure 19 shows that 43% of respondents believe that experience is the most relevant factor for a professional to work as a financial manager, 27% believe that the combination of theory and practice is crucial, and 16% value proactivity. Figure 20, 33% of respondents consider that academic level is the most relevant factor, 29% believe that experience is crucial and 24% value that the person combines theory with practice.

Figure 21
Treasury- Entrepreneurs



Source: Own elaboration (2024)

Figure 22
Treasury - Banking



Source: Own elaboration (2024)

In Figure 21, for a person who works in the Treasury area, 27% of respondents consider that experience and the combination of theory and practice are the most relevant factors, followed by 22% who believe that academic level is important. Figure 22 shows that 38% of respondents from the banking sector consider the

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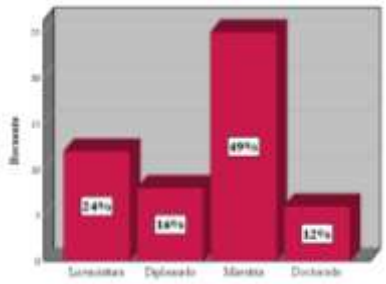
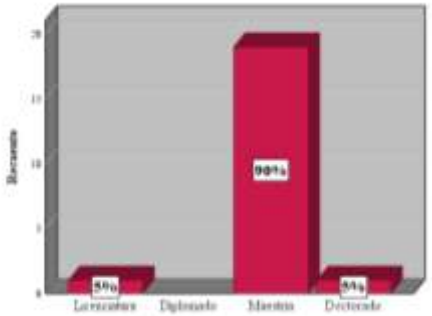
combination of theory and practice as the most relevant factors, followed by 29% who believe that experience is important and 19% value academic level.

Figure 23
Level of Education for a Senior Manager - Entrepreneurs



Source: Own elaboration (2024)

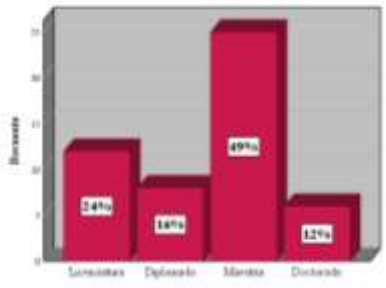
Figure 24
Academic Level - Senior Manager - Banking



Source: Own elaboration (2024)

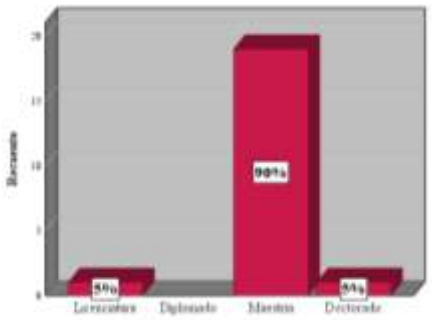
According to Figure 23, 49% of respondents from the business sector believe that it is necessary to have a master's degree, 24% consider that a bachelor's degree is sufficient and 16% believe that a diploma would be adequate. In Figure 24, 90% of respondents from the banking sector believe that it is necessary to have a master's degree, while 5% consider that a bachelor's degree is sufficient, although they recognize that it all depends on the field and the specialization required.

Figure 23
Level of Education for a Senior Manager - Entrepreneurs



Source: Own elaboration (2024)

Figure 24
Academic Level - Senior Manager - Banking



Source: Own elaboration (2024)

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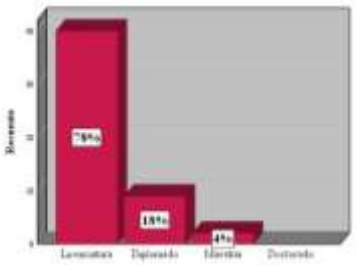
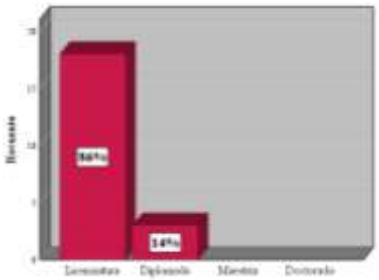
According to Figure 23, 49% of respondents from the business sector believe that it is necessary to have a master's degree, 24% consider that a bachelor's degree is sufficient and 16% believe that a diploma would be adequate. In Figure 24, 90% of respondents from the banking sector believe that it is necessary to have a master's degree, while 5% consider that a bachelor's degree is sufficient, although they recognize that it all depends on the field and the specialization required.

Figure 25
Level of Education for a Junior - Entrepreneurs



Source: Own elaboration (2024)

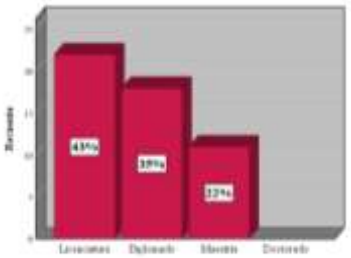
Figure 26
Academic level for a Junior - Banking



Source: Own elaboration (2024)

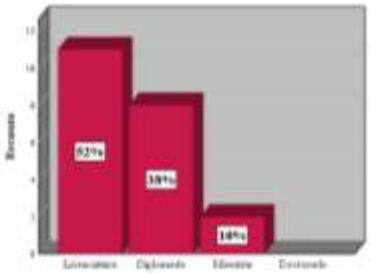
According to Figure 25, 78% of respondents from the business sector consider that a bachelor's degree is sufficient to perform this position, while 18% consider a master's degree. Looking at Figure 26, 86% of the banking sector consider that a bachelor's degree is sufficient to perform this position, while 14% believe that it is necessary to have a master's degree.

Figure 27
Level of Education for a Financial Analyst - Entrepreneurs



Source: Own elaboration (2024)

Figure 28
Academic level - financial analyst - Banking



Source: Own elaboration (2024)

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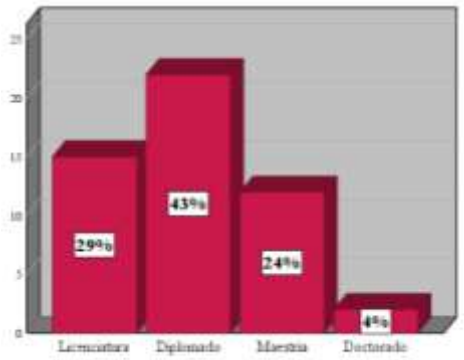
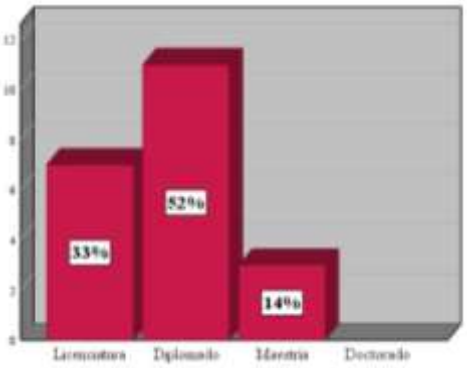
According to Figure 27, 43% of respondents from the business sector consider that a bachelor's degree is sufficient to perform this position, while 35% believe that it is necessary to have a diploma in the area. Looking at Figure 28, 52% of respondents from the banking sector consider that a bachelor's degree is suitable for this position, while 38% believe that it is necessary to have a diploma in the area.

Figure 29
Academic Level - Financial Risk Officer - Entrepreneurs



Source: Own elaboration (2024)

Figure 30
Academic Level - Financial Risk Officer - Banking



Source: Own elaboration (2024)

According to Figure 29, 43% of the business sector considers that a diploma in the area is suitable for the position, while 29% believe that a bachelor's degree is suitable. In Figure 30, 52% of respondents from the banking sector consider that a diploma in the area is suitable for the position, while 33% say that a bachelor's degree is suitable.

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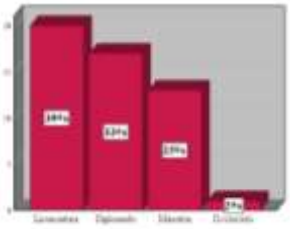
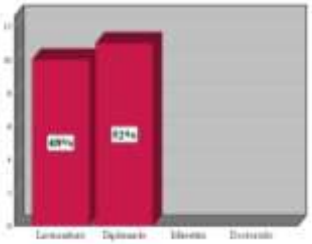
Figure 31
Academic level - Monitoring and management analyst - Entrepreneurs



Source: Own elaboration (2024)

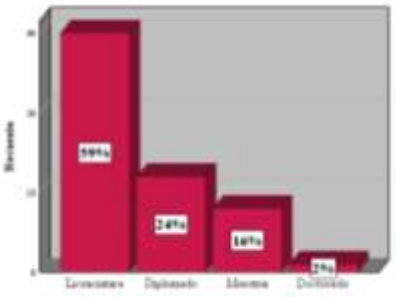
Figure 32
Academic Level - Monitoring and Management Analyst - Banking



Source: Own elaboration (2024)

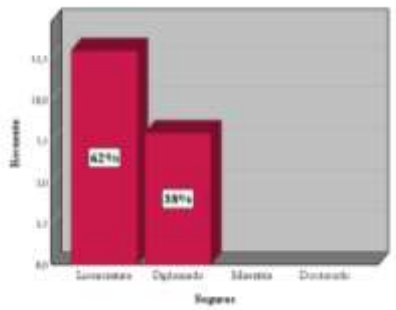
According to Figure 31, 39% of respondents from the business sector consider that a bachelor's degree is sufficient to occupy a position as a monitoring and management analyst, while 33% believe that a diploma is a better option. According to Figure 32, the results of the banking sector, 52% of respondents believe that a diploma is a good option and 48% of entrepreneurs take a bachelor's degree as an optimal choice.

Figure 33
Academic Level – Insurance – Entrepreneurs



Source: Own elaboration (2024)

Figure 34
Academic level – Insurance - Banking



Source: Own elaboration (2024)

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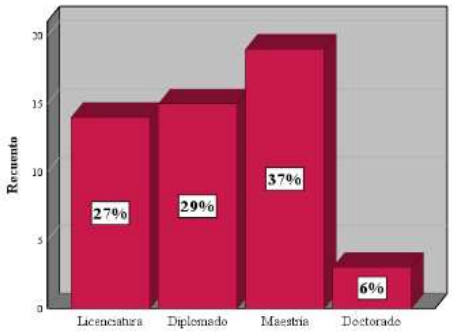
According to Figure 33, 59% of respondents from the business sector consider that a bachelor's degree is sufficient for the insurance area, 24% believe that a diploma is more convenient. According to Figure 34, the results of the banking sector, 62% of respondents consider that a bachelor's degree is suitable for the position, while 38% believe that a diploma is a better option. They also value continuous training and specialization in insurance, which suggests the importance of practical and specific skills.

Figure 35

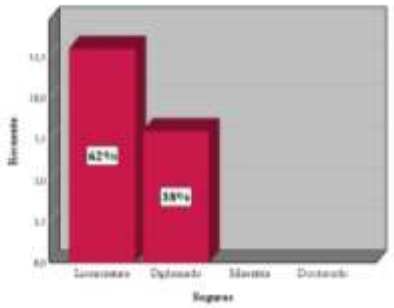
Academic level - Financial consulting and project evaluation - Entrepreneurs



Source: Own elaboration (2024)

Figure 36

Academic level - Financial consulting and project evaluation - Banking



Source: Own elaboration (2024)

Figure 35 illustrates the opinions of entrepreneurs on the level of education required to occupy a position in financial consulting and project evaluation. 27% of those surveyed believe that a bachelor's degree is enough, 29% think that a diploma is convenient and 37% consider that a master's degree in the area is the optimal choice. According to Figure 36, the results of the banking sector, 43% consider that a master's degree in the area is the right choice and 38% believe that a diploma is a better option.

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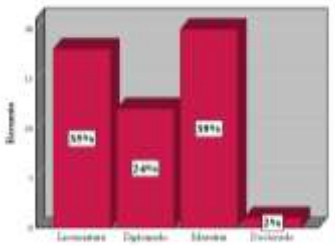
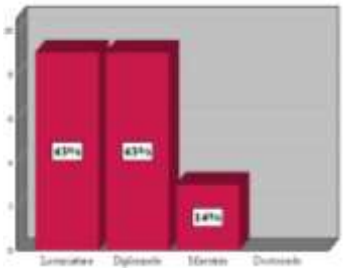
Figure 37
Academic level - Account executive in stockbrokers and banks - entrepreneurs



Source: Own elaboration (2024)

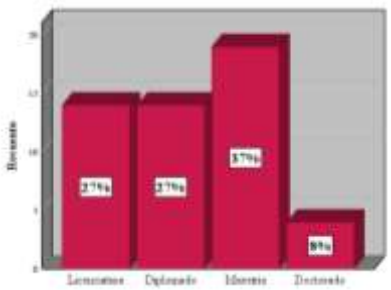
Figure 38
Academic level - Account executive in stockbrokers and banks - Banking



Source: Own elaboration (2024)

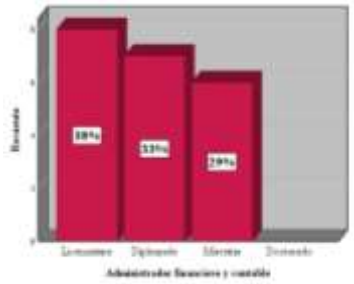
According to Figure 37, 35% of respondents from the business sector consider that a bachelor's degree is sufficient, while 24% believe that a diploma would be ideal. According to Figure 38, Results of the Banking Sector, 43% of respondents consider that a bachelor's degree and a diploma respectively are convenient, while 14% believe that a master's degree in the area is the optimal choice.

Figure 39
Academic Level - Financial and Accounting Administrator



Source: Own elaboration (2024)

Figure 40
Academic Level - Financial and Accounting Administrator



Source: Own elaboration (2024)

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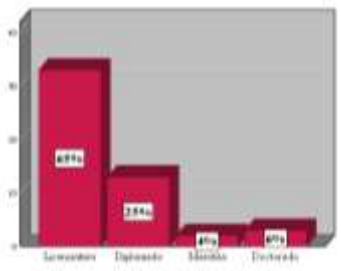
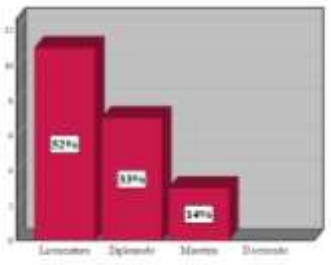
According to Figure 39, 27% of the entrepreneurs surveyed consider that a bachelor's degree is suitable, while 27% believe that a diploma is a better option. According to Figure 40, the results of the banking sector, 38% of those surveyed consider that a bachelor's degree is convenient, while 33% believe that a diploma is another alternative.

Figure 41
Academic level – Treasury – Entrepreneurs



Source: Own elaboration (2024)

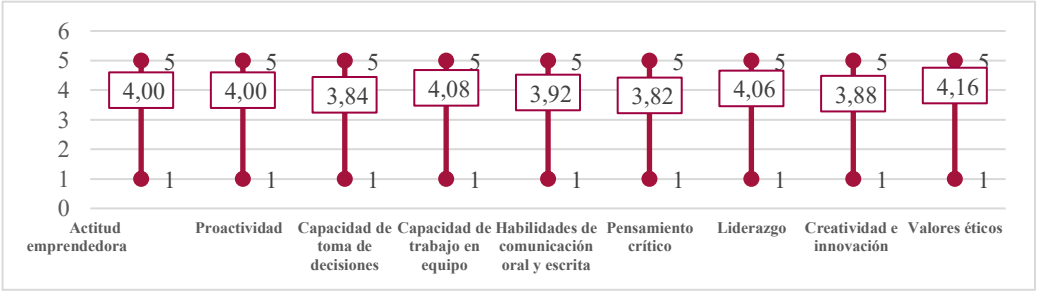
Figure 42
Academic level – Treasury - Banking



Source: Own elaboration (2024)

The results in Figure 41 show that 65% of the employers consider that a bachelor's degree is sufficient for the position of Treasurer, 25% believe that it would be preferable to have a diploma, 6% state that a doctorate would be a suitable alternative. According to Figure 42, the opinion of the Banking sector, 52% of those surveyed consider that having a bachelor's degree is sufficient for the position, while 33% believe that it would be preferable to have a diploma.

Figure 43
From your experience you are asked to qualify the soft skills of engineers - Entrepreneurs



Source: Own elaboration (2024). The chart was obtained and presented in their native language (Spanish).

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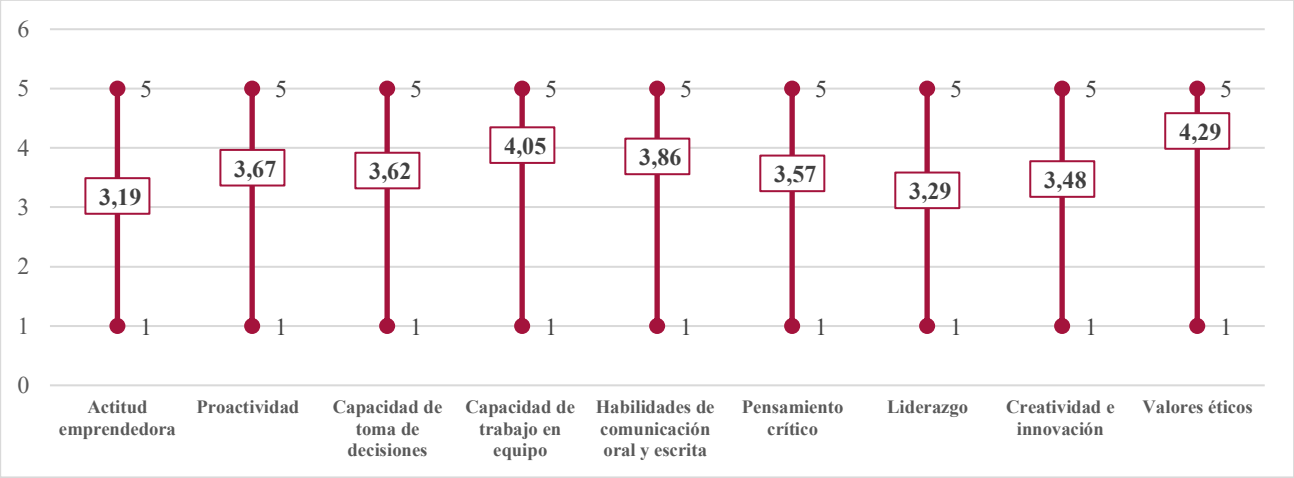
From the point of view of entrepreneurs, the soft skills most requested by the business side are ethical values, leadership and teamwork.

Figure 44

From your experience you are asked to rate the skills of the engineers - Banking



Source: Own elaboration (2024). The chart was obtained and presented in their native language (Spanish).

The soft skills most appreciated by banks are: Ethical values, oral and written communication skills and proactivity. Regarding the evaluation of the soft skills of Financial Engineers, it is observed that entrepreneurs rate them on average as important. Skills such as ethical values, teamwork skills, oral and written communication skills, proactivity, critical thinking, creativity and innovation, leadership, and entrepreneurial attitude are especially highlighted.

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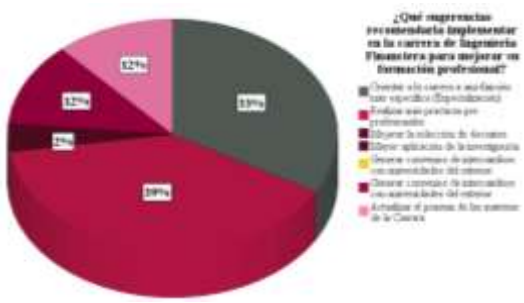
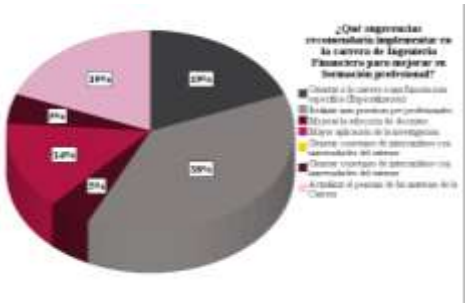
Figure 45
Suggestions - Entrepreneurs



Source: Own elaboration (2024)

Figure 46
Tips - Banking



Source: Own elaboration (2024)

In Figure 45, 39% of the employers suggest that graduate or graduate students carry out more pre-professional internships, while 33% believe that universities should orient the career to a more specific function, 12% indicate that they should generate exchange agreements and update the curriculum of the career respectively.

In Figure 46, 38% of the banking sector suggest that graduate or graduate students carry out more pre-professional internships, while 19% believe that universities should orient the career to a more specific function and update the curriculum of the subjects, 14% indicate that greater application should be generated to research, 5% indicate improving the selection of teachers and generating international agreements. Among the suggestions, the contribution indicates that content should be updated based on the FRM (Financial Risk Management) and CFA (Chartered Financial Analyst) certifications stands out.

As for the current content suggested by entrepreneurs, the highlighted competencies are: leadership capacity, to lead teams and make strategic decisions, financial management skills, efficient management of financial resources, software knowledge, data analysis, languages, development of soft skills, management of updated information.

Respondents from the banking sector have identified a series of fundamental contents that they consider crucial for a Financial Engineer: financial risks, carrying out more professional internships, introduction of applied econometrics subjects, development of critical thinking, work organization methodologies, business intelligence, big data, local regulations, CFA (Level 1 and 2) and FRM (Level 1). Preparation of business plans.

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Conclusions

For the research, they worked with private sector companies, both corporate entities and financial intermediation companies, in the city of Cochabamba Cercado, to obtain information, specifically from high-ranking managers in the respective identities.

Regarding the evaluation of the soft skills of Financial Engineers, it is observed that entrepreneurs rate them on average as important. Skills such as ethical values, teamwork skills, oral and written communication skills, proactivity, critical thinking, creativity and innovation, leadership, and entrepreneurial attitude are among the main ones.

As for the analysis of hard skills, companies in the field suggest the inclusion of specializations, additional courses, a more rigorous selection process, and significant updates in the curriculum can improve the skills and performance of professionals in Financial Engineering. Opinion varies by job type. For managerial positions, a master's degree tends to be required, while for more specific positions, such as analysts and sales executives, a bachelor's degree or diploma may be sufficient.

Positions such as financial analyst, financial consulting and administrator, and accounting are identified as the most demanded by Financial Engineers. It is suggested that essential content should include topics such as financial risks, applied econometrics, critical thinking, work organization methodologies, Business Intelligence, Big Data, and content related to certifications such as FRM and CFA.

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DIA DE EMISION

Nº 0724

Barriers Preventing Quality Virtual Learning for Students of the Facultad de Transporte y Vialidad (FATV)

(en) **Barreras que imposibilitan un aprendizaje virtual de calidad, en los estudiantes de la Facultad de Transporte y Vialidad (FATV)**

(port) **Barreiras que impossibilitam a aprendizagem virtual de qualidade para os alunos da Faculdade de Transportes e Estradas (FATV)**

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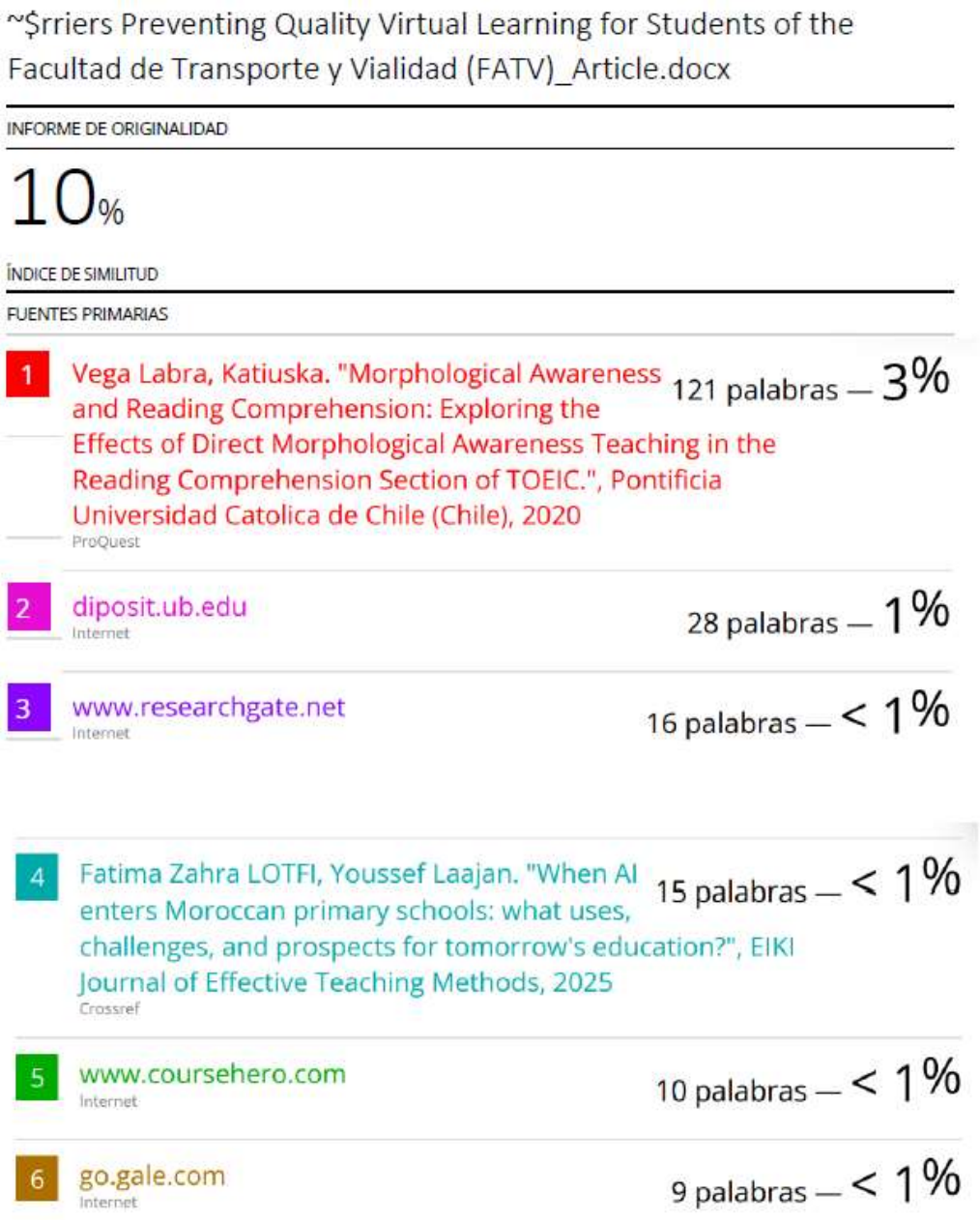

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Abstract

The article, entitled barriers that prevent quality virtual learning in students of the virtual modality of the Bolivian Higher Institute of Technology (ITB), for the realization of this article, it was allowed to work with the students of the Faculty of Transportation and Roads (FATV), in order to determine the main barriers that prevent meaningful learning in students of generation X, Y & Z. Students of these generations are the ones with the highest number of conglomerations in the total student population, which is why andragogical approaches are used that promote the direct appropriation of the knowledge shared in the key ideas of each unit, in order to determine which of these barriers are the ones that prevent their good performance and learning. A descriptive research was carried out on a sample group of 70 Transportation students, which consisted of a 20-question form, which when adding the information obtained based on direct observation identified 4 essential barriers that make meaningful learning impossible in virtual modalities: technological barriers, lack of availability of time, lack of motivation generated by not receiving feedback from the teaching staff and lack of commitment to exploring explicit content for their professional training; This allowed us to obtain a more precise overview of what must be worked on so that virtual education processes are effective in the learning process.

Keywords: *Barriers; learning; virtual education; limitations; FATV.*

Resumen

El artículo, titulado barreras que imposibilitan el aprendizaje virtual de calidad, en los estudiantes de la modalidad virtual del Instituto Superior Boliviano de Tecnología (ITB) en la Facultad de Transporte y Vialidad (FATV), con la finalidad poder determinar las principales barreras que imposibilitan el aprendizaje significativo en los estudiantes de la generación X, Y & Z. Los estudiantes de estas generaciones son las que tienen mayor número de conglomeración en la población total de alumnos, por lo cual se utiliza enfoques andragógicos que impulsen a la apropiación directa de los conocimientos compartidos en las ideas claves de cada unidad, para llegar a determinar cuáles de estas barreras son las que imposibilitan su buen desempeño y aprendizaje. Se realizó una investigación descriptiva a un grupo muestral de 70 estudiantes de la Transporte. Esta investigación consistió en un formulario de 20 preguntas, las cuales al ir sumando la información obtenida en base a la observación directa de los autores de este articulo científico, se pudo determinar qué existen 4 barreras esenciales que imposibilitan el aprendizaje significativo en las modalidades virtuales. Una de estas barreras es la tecnología, otra es la falta disponibilidad de tiempo, la falta de motivación generada al no receptar retroalimentaciones por el cuerpo docente y la falta de compromiso a la exploración de los contenidos explícitos para su formación profesional, esto permitirá obtener un panorama con mayor precisión en la cual se debe de trabajar para que los procesos de educación virtual sean eficaces en el proceso de aprendizaje.

Palabras claves: *Barreras; aprendizaje; educación virtual; limitaciones; FATV.*

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Resumo

O artigo, intitulado barreiras que impossibilitam a aprendizagem virtual de qualidade, em estudantes da modalidade virtual de Instituto Superior Boliviano de Tecnologia (ITB com os alunos da Faculdade Acadêmica de Transportes e Estradas (FATV). a fim de determinar as principais barreiras que impossibilitam a aprendizagem significativa em alunos da geração X, Y & Z. Os alunos destas gerações são os que apresentam o maior número de conglomeração na população total de alunos, razão pela qual são utilizadas abordagens andragogias que promovem a apropriação direta do conhecimento partilhado nas ideias-chave de cada unidade, para determinar quais destas barreiras são as que os impossibilitam de ter um bom desempenho e aprender. Foi realizada uma pesquisa descritiva em um grupo amostral de 70 alunos do Departamento de Transportes. Esta pesquisa consistiu em um formulário de 20 questões, que somando as informações obtidas com base na observação direta dos autores deste artigo científico, foi possível determinar que existem 4 barreiras essenciais que impossibilitam a aprendizagem significativa em modalidades virtuais. Uma dessas barreiras é a tecnologia, outra é a falta de disponibilidade de tempo, a falta de motivação gerada por não receber feedback do corpo docente e a falta de compromisso com a exploração de conteúdos explícitos para a sua formação profissional, isso permitirá obter um panorama mais preciso no qual trabalhar para que os processos de educação virtual sejam eficazes no processo de aprendizagem.

Palavras-chave: *Barreiras; aprendizagem; educação virtual; limitações; FATV.*

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Introduction

With the increase in information technologies in education, the Faculty of Transport and Roads (FATV) has provided a background of possibilities to the population to opt for specialized or university training, this gap in possibilities has allowed many students to enter the educational system to acquire university degrees, technicians, and specializations.

This has led to teaching processes and methodologies being transformed towards the new trends demanded by the current market. For this reason, the main purpose of this presentation was born, which focuses on determining the barriers that FATV students have within virtual learning platforms; This is how it becomes one of the main challenges as described by which he states that these processes can generate different difficulties in the learning of students, because students have had to adapt to a new way of studying and many of them are unable to keep up with this new methodology (Santana et al., 2020) (Fardoun et al., 2020).

The population of students at the driving school in its entirety average and exceed 18 years of age, therefore, we are facing an andragogical learning process, which consists of the active intervention of students for the appropriate purpose of the contents (Bravo et al., 2024), because the student is the main interested in acquiring knowledge and more so when it is being studied in a virtual learning process (Aguilar et al., 2024) where Paretto's law can be applied and the commitment to learning depends on 80% of the students and 20% of the institutions, teachers and content (Guayasamin et al., 2024).

For this, it should be mentioned that percentage-wise there is a population that predominates in demographic distribution to students between the ages of 18 – 30 years, which represent 58% of the total student body enrolled, followed by the range of 31 – 40 years old with 28% of the total number of students, it should be noted that a large part of these students belong to generation X, Y & Z.

It is important to define the essential concepts of the group of people who are called generation as mentioned when explaining the so-called generation X, it is indicated that they are people born between the years 1965 to 1981, known as the lost generation. Generation Y, also known as Millennials, is understood to be people born between 1982 and 1994 (Galdames et al., 2022). This generation is so called because they grew up in an era of rapid technological advancements and are attributed to having an entrepreneurial mindset and valuing between work and personal life (Vásquez et al., 2021). And finally, generation Z born specifically between 1995 and 2010, their main characteristic is that they have grown up in an overwhelming digital environment and are considered to show advanced technological skills and above all to have greater cultural diversity (Rísquez Navarro, 2023).

Given these definitions, it is essential to analyze behavior individually, that is, to study the groups of people where they are more likely to adapt to technological changes, the same who belong to generation Z, followed by the students who represent generation “Y” (Clarin, 2024), to find homogeneous information that can affect all students.It should be taken into account that a large part of those mentioned are heads of households, for this you can see image 1, where the INEC mentions that the average age of marriages at the national level

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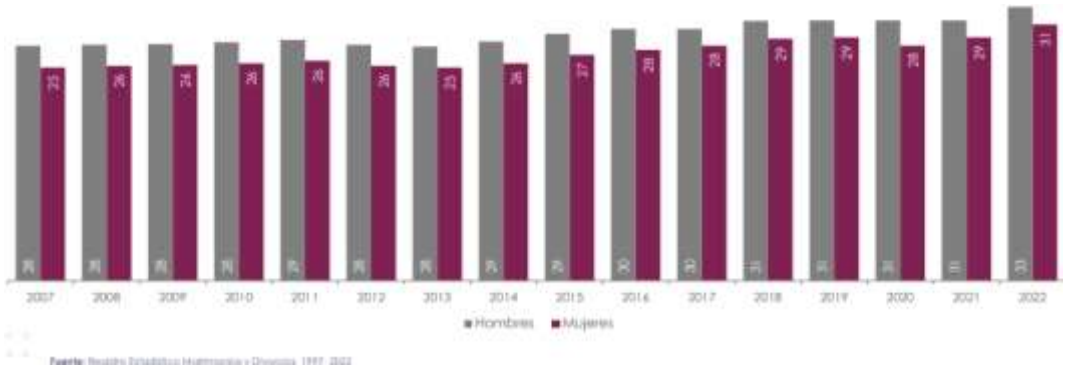
is 31 years, therefore they are of limited economic resources, with these observations it is sought to determine the barriers that arise in their educational learning process under the virtual scheme. (Instituto Nacional de Estadisticas y Censos-INEC, 2023)

Figure 1

Average ages of marriages in Ecuador.



Fountain: (Instituto Nacional de Estadisticas y Censos (INEC), 2023)

Students, due to the accumulation of activities, usually have problems in the learning process that makes it impossible for them to learn, among these causes is the lack of availability of time for synchronous learning when using a virtual platform, it causes a deterrence of the message, because at the time they are receiving a keynote talk, conference, they are doing other activities at the same time, in the Bailey" (2020) mentions that the dispersion of attention can become a relevant problem in this educational context" (p.26), therefore virtual learning processes must be promoted through changes in order for the contents to generate interest in students and generate that they voluntarily appropriate the knowledge established in the virtual learning platform (EVA).

In summary, information technologies in learning processes have revolutionized the way of teaching and receiving synchronous classes, for this reason, it is necessary to know the obstacles that FATV students experience, to opt for academic strategies that are focused on improving the experience and quality of professional drivers.

Development

To carry out this study, the descriptive research methodology was used, which is focused on analyzing data in homogeneous groups, the research instrument used was the application of structured surveys, which is composed of closed questions applied to the students of the FATV, being a total of 70 respondents through digital forms, The questionnaire consisted of a total of 20 questions, which focused on knowing the reasons behind the absence of the students, the low percentage of participation, the knowledge of the use of

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technological learning tools, the use of the resources of the virtual learning platform, contents, recorded classes, forums and the self-assessment of their teaching process in a virtual environment.

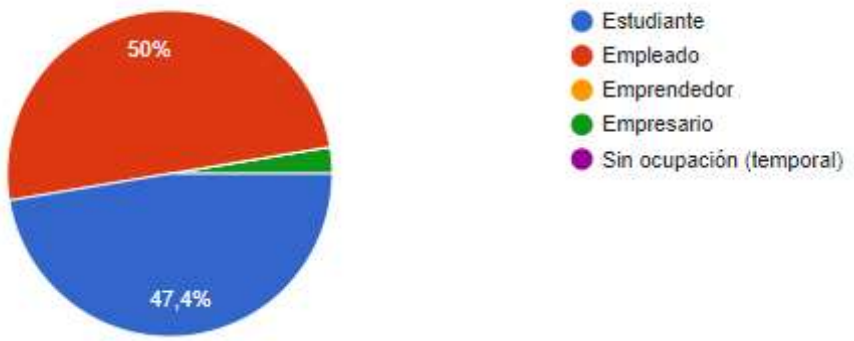
Data analysis:

For the present study, a random sample of 70 FATV students was taken, whose demographic data revealed significant patterns in the distribution of the respondents. It is observed that there is a conglomeration of students in the city of Guayaquil with a total of 32 people that percentagewise represents 45%, which is lower than the average, therefore, the remaining 55% of the respondents are distributed in other cities.

As for the distribution by gender, it can be observed that there is a male predominance since it represents 80% of the respondents. Regarding the educational level of the student population, it was determined that 100% of those surveyed have completed high school, of these students, there is a small percentage of students who are studying a second third-level career, aimed at being more competitive professionally and professionally.

Regarding the role or activities that are carried out in their day-to-day work, 47.4% of the respondents are economically independent, some students have their own business or provide services for a company under a dependent role, and 50% of the respondents are dedicated to their academic training.

Figure 2
Activities carried out by FATV students



Source: Own elaboration

From the survey applied to the sample of 70 students, the most relevant information will be considered to summarize in 4 points the barriers that make it impossible for students to learn on virtual platforms.

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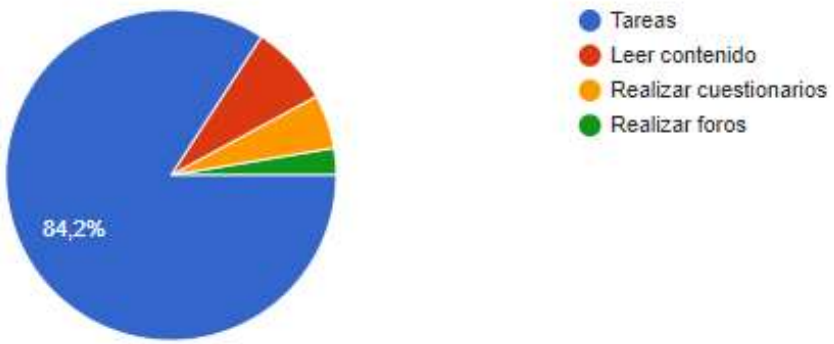
First technological barrier

When analyzing the collected questions, it can be observed that the low performance of the students in many of the cases is due to the fact that they use the Moodle platform to fulfill their weekly tasks, which represents 84.2% of the respondents, and only 8.6% enter to read the contents of the class ideas, whose asynchronous activity should be the most important for their learning process

Figure 3

Activities that students carry out when they enter the EVA platform



Source: Own elaboration

Second technological barrier

For this analysis, data will be used from two questions that were aimed at determining if technological tools can become an impediment to the learning process, for this it should be emphasized that the use of mobile phones predominates as the main resource in the reception of synchronous classes, obtaining 77.1% of the total respondents. therefore, for a virtual session or class to take place without any obstacle, the student must have good signal reception and battery charge, which becomes one of the main limitations in their learning process, these restrictive situations are due to the fact that many of the students are not in cities with 4G coverage and the battery capacity in a mid-range phone, It lasts approximately 5 hours on indefinitely, and as mentioned in the demographic questions, 47.4% of students carry out work activities, so they usually interrupt classes to be absent because they do not have a phone charge or signal.

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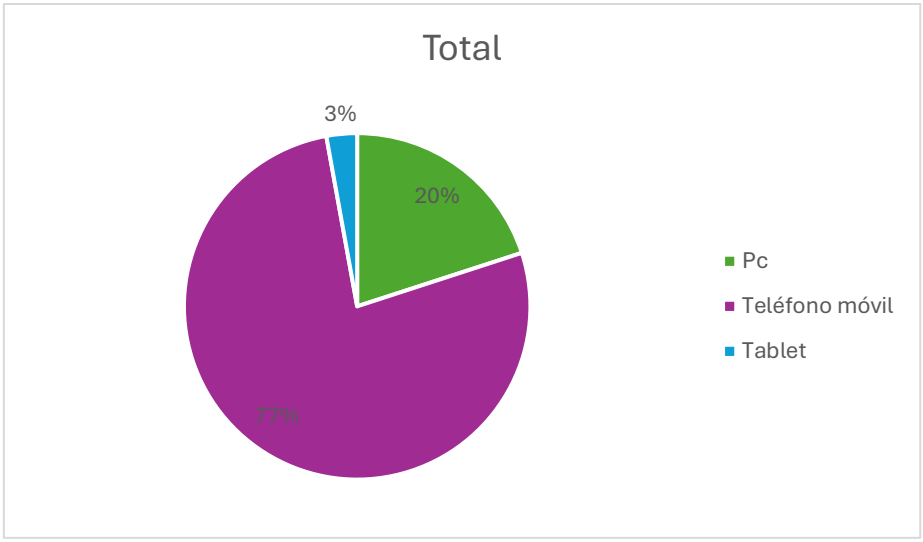
Figure 4
Technological devices are used to receive synchronous classes.



Source: Own elaboration

Third Barrier – Lack of Time Availability

The current lifestyle leads many people to perform multiple activities at the same time, which in English is called multitasking people, for this reason when asked what are the most common problems that have led to their learning process being impossible, 50% of those surveyed were able to express that it is due to the lack of availability of time, for this reason they usually enter the virtual classroom late, deliver the activity outside the established schedule, etc. This can be caused by the impact on student motivation, this has been observed in the exercise of teaching, where students begin to decrease their interactions when teachers do not give them feedback on their activities on the Eva platform and they are not recognized in public for their contributions.

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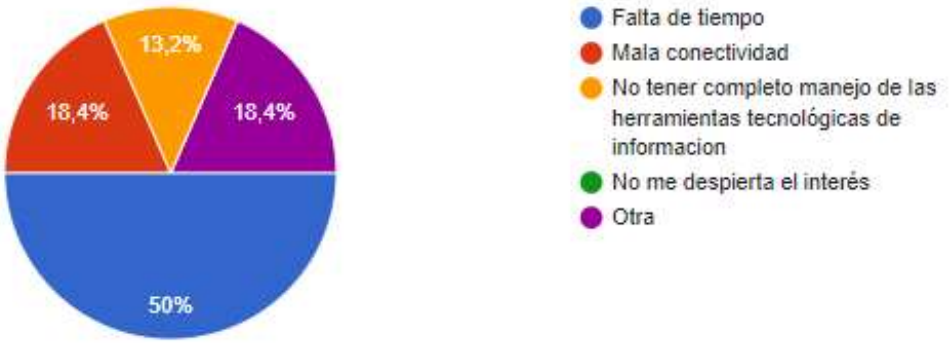
Figure 5

Third Barrier that makes meaningful learning impossible.



Source: Own elaboration

Conclusions

At the end of this presentation, it can be concluded that FATV students do not exploit in depth the information provided by the Moodle virtual learning environment, which they only use as a storage cloud to download and upload asynchronous tasks, this could be corroborated in the previous research that showed that 84.2% only enter the platform to carry out this activity, relegating the review of content and observing recorded classes, master talks.

Therefore, the tool that predominates to receive synchronous classes is the mobile phone, which on many occasions comes to have intermittency within the signal which makes it impossible to receive messages properly due to the lack of 4G coverage nationwide and the capacity of battery life in constant use.This causes students to lose interest in continuing to participate in the classroom.

It should be noted that one of the main limitations that make it impossible for students to obtain an interest in synchronous classes and that the training process is affected due to the lack of availability of time that represents 50% of the respondents, which shows an overload of daily activities, which has an impact on a scarce interaction in virtual classrooms and the sending of activities after the deadlines.

One of the causes is that the motivation of students over time decreases for this reason, it is important to recognize that the commitment to the training of FATV students is a joint effort of students, teachers and the educational institution. To continuously improve educational processes, for this to be carried out, a self-critical examination and the implementation of improvement plans are required. To all this, we have a shared responsibility to adapt methodologies, provide training in virtual learning environments and the faculty give all their knowledge with charisma, dedication and providing constant feedback to ensure meaningful learning.

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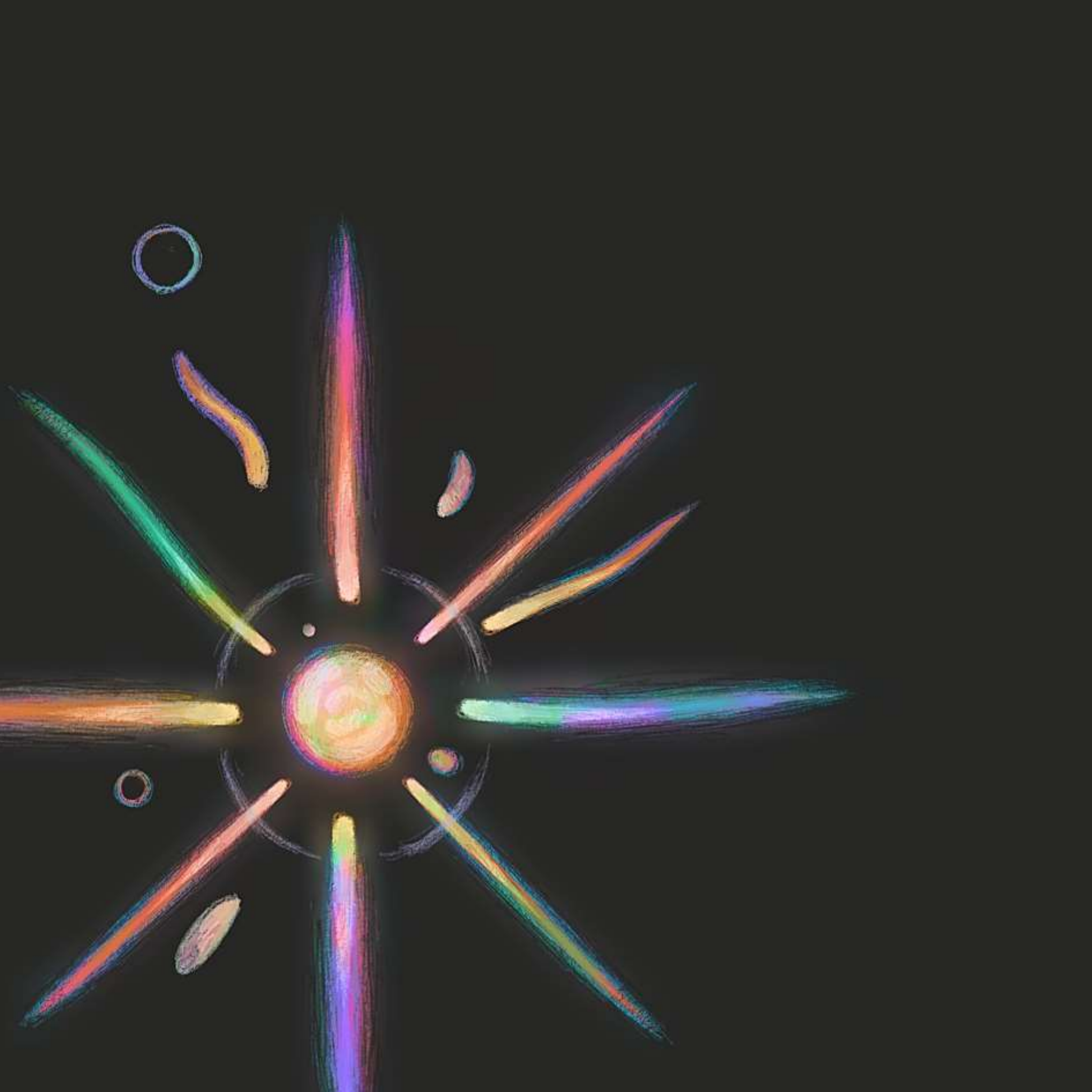

Literary Narratives in Teacher Education: A Pedagogical Approach for Developing Critical and Reflective Competencies in Basic Education

(esp) **Narrativas literarias en la formación docente: Un enfoque pedagógico para desarrollar la capacidad crítica y reflexiva en la educación básica**

(port) **Narrativas Literárias na Formação de Professores: Uma Abordagem Pedagógica para o Desenvolvimento de Competências Críticas e Reflexivas na Educação Básica**

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Alban-Vera, C. G. (2025). Narrativas literarias en la formación docente: Un enfoque pedagógico para desarrollar la capacidad crítica y reflexiva en la educación básica. *YUYAY: Estrategias, Metodologías & Didácticas Educativas*, *4*(2), 50–61. https://doi.org/10.59343/yuyay.v4i2.98

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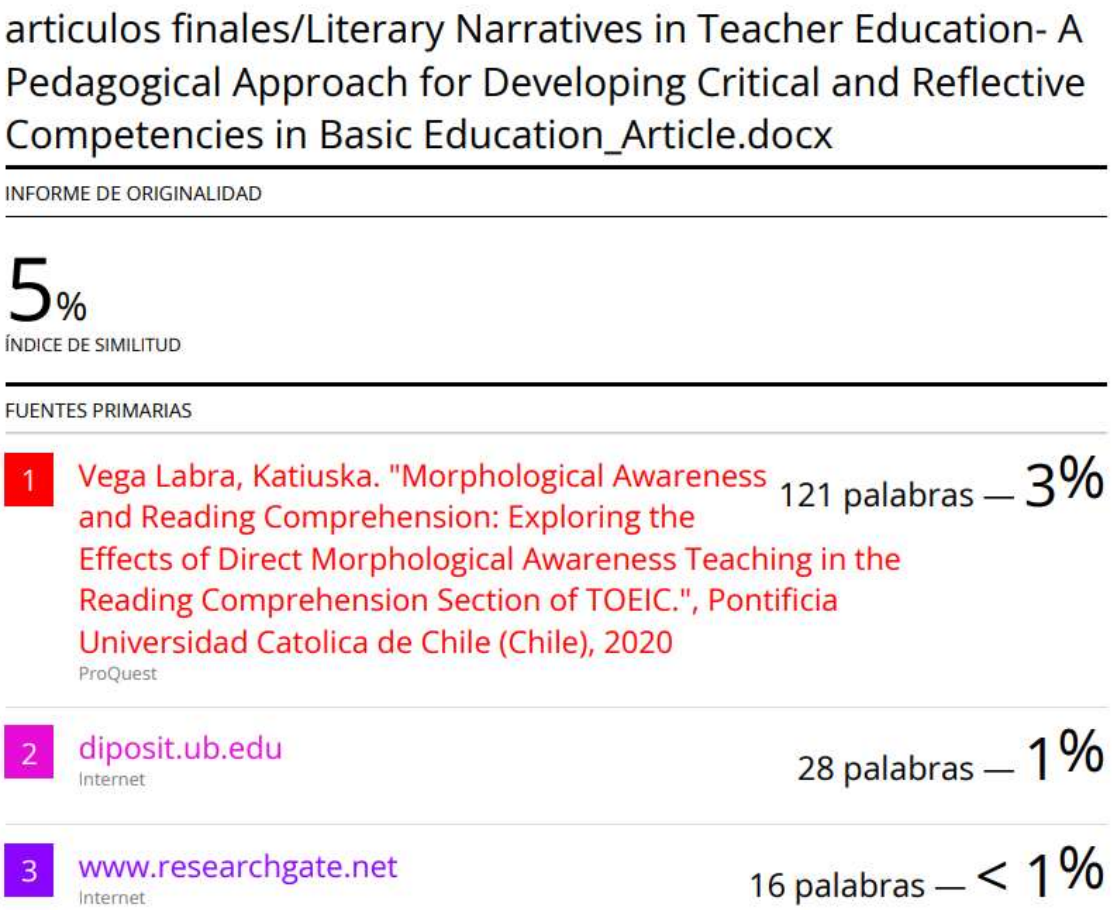

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FUENTES PRIMARIAS

1 Vega Labra, Katiuska. "Morphological Awareness and Reading Comprehension: Exploring the Effects of Direct Morphological Awareness Teaching in the Reading Comprehension Section of TOEIC.", Pontificia Universidad Catolica de Chile (Chile), 2020
ProQuest — 121 palabras — 3%

2 diposit.ub.edu
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3 www.researchgate.net
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Abstract

This research explores the role of literary narratives in teacher education, emphasizing their significance in shaping professional identity and pedagogical practices. Through storytelling, pre-service teachers engage in self-reflection, gaining a deeper understanding of their experiences, beliefs, and ethical dilemmas. Literary narratives serve as a bridge between theory and practice, allowing educators to critically analyze their roles and interactions in the classroom. The study examines theoretical frameworks that support narrative methodologies, highlighting their potential to foster empathy, self-awareness, and critical thinking. Additionally, case studies and practical examples illustrate how literature can be effectively integrated into teacher training programs to enhance learning and professional growth. By engaging with diverse narratives, teachers develop a broader perspective on cultural, social, and educational contexts, enriching their teaching approaches. The findings suggest that incorporating literary narratives in teacher education not only strengthens instructional strategies but also promotes meaningful reflection and dialogue among educators. Ultimately, this approach contributes to the development of more reflective, ethical, and adaptive teachers prepared to navigate complex educational environments.

Keywords: *Educational experience; Narrative pedagogy; Teaching; Knowledge; Innovative teaching.*

Resumen

Esta investigación explora el papel de las narraciones literarias en la formación del profesorado, destacando su importancia en la formación de la identidad profesional y las prácticas pedagógicas. A través de la narración de historias, los profesores en formación reflexionan sobre sí mismos y adquieren una comprensión más profunda de sus experiencias, creencias y dilemas éticos. Las narraciones literarias sirven de puente entre la teoría y la práctica, permitiendo a los educadores analizar críticamente sus funciones e interacciones en el aula. El estudio examina los marcos teóricos que sustentan las metodologías narrativas, destacando su potencial para fomentar la empatía, la autoconciencia y el pensamiento crítico. Además, estudios de casos y ejemplos prácticos ilustran cómo la literatura puede integrarse eficazmente en los programas de formación del profesorado para mejorar el aprendizaje y el crecimiento profesional. Al relacionarse con diversas narrativas, los profesores adquieren una perspectiva más amplia de los contextos culturales, sociales y educativos, lo que enriquece sus enfoques pedagógicos. Los resultados sugieren que la incorporación de narraciones literarias en la formación del profesorado no sólo refuerza las estrategias de instrucción, sino que también promueve una reflexión y un diálogo significativos entre los educadores. En última instancia, este enfoque contribuye al desarrollo de profesores más reflexivos, éticos y adaptables, preparados para desenvolverse en entornos educativos complejos.

Palabras clave: *Experiencia educativa; Pedagogía narrativa; Docencia; Conocimiento; Enseñanza innovadora.*

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Resumo:

Esta pesquisa explora o papel das narrativas literárias na formação de professores, enfatizando sua importância na formação da identidade profissional e das práticas pedagógicas. Por meio da narração de histórias, os professores em formação se envolvem em autorreflexão, obtendo uma compreensão mais profunda de suas experiências, crenças e dilemas éticos. As narrativas literárias servem como uma ponte entre a teoria e a prática, permitindo que os educadores analisem criticamente suas funções e interações em sala de aula. O estudo examina as estruturas teóricas que apoiam as metodologias narrativas, destacando seu potencial para promover a empatia, a autoconsciência e o pensamento crítico. Além disso, estudos de caso e exemplos práticos ilustram como a literatura pode ser integrada de forma eficaz aos programas de treinamento de professores para aprimorar o aprendizado e o crescimento profissional. Ao se envolverem com diversas narrativas, os professores desenvolvem uma perspectiva mais ampla sobre os contextos culturais, sociais e educacionais, enriquecendo suas abordagens de ensino. Os resultados sugerem que a incorporação de narrativas literárias na formação de professores não apenas fortalece as estratégias de instrução, mas também promove a reflexão e o diálogo significativos entre os educadores. Em última análise, essa abordagem contribui para o desenvolvimento de professores mais reflexivos, éticos e adaptáveis, preparados para navegar em ambientes educacionais complexos.

Palavras-chave: *Experiência educacional; Pedagogia narrativa; Ensino; Conhecimento; Ensino inovador.*

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Introduction

Teacher training for basic education faces the challenge of developing critical and reflective thinking skills in future teachers that enable them to analyse and improve their pedagogical practice. In this context, the use of literary narratives - understood as stories, histories and narrated experiences - has gained relevance as a pedagogical approach in teacher training. Many educational theorists argue that narrative is a privileged way of constructing meaningful knowledge in education. Indeed, narrative discourse is considered essential in our attempts to understand teaching and learning processes. Through stories and narratives, trainee teachers can connect theory with experience, make sense of complex classroom situations and develop a deeper understanding of their role.

The central thesis of this essay is that incorporating literary narratives in basic education teacher education contributes significantly to the development of critical thinking and pedagogical reflection. This narrative approach not only enriches the training experience of teachers but also prepares educators capable of fostering these same critical and reflective skills in their students. The theoretical foundations that support this claim, concrete examples of the application of narratives in teacher education contexts, their relationship with the development of critical- reflective thinking, as well as the challenges and limitations of this pedagogical strategy will be presented below.

Development

The use of narratives in education is underpinned by a rich theoretical base. Influential authors such as Paulo Freire have advocated dialogical and contextual pedagogical approaches where the life stories and experiences of teachers and students become learning texts for critical consciousness-raising. Freire's critical pedagogy stresses the importance of educators and learners jointly analysing reality from their own narratives, thus developing a critical consciousness about their world. In line with this view, much contemporary research has explored narrative rationality in educational practice, noting that people make sense of our experience of the world through narratives. "Narrating a pedagogical experience can account for the individual process of organising, knowing and learning from that experience", says Ruiz Juri in highlighting the formative value of first-person writing by trainee teachers.

In other words, by recounting and writing down their experiences, the future teacher not only reconstructs what happened but also reflects on their actions, decisions and emotions, integrating theory and practice into situated knowledge.

From educational psychology and epistemology, Jerome Bruner already distinguished narrative thinking as complementary to logical thinking, highlighting that narratives facilitate the understanding of human intentionality and the context of actions. Following this line, Edith Litwin (2008) argues that narratives are a way of approaching knowledge and a strategy for approaching teaching. This means that presenting educational content through stories or concrete cases can make pedagogical knowledge more comprehensible and

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accessible, connecting it to real situations. Donald Schön (1983) introduced the idea of the reflective practitioner, emphasising the importance of teachers analysing their practice in and about action. Narrative becomes a key tool to foster such reflection, as by narrating their practices, teachers can identify theories in use (Argyris & Schön) - that is, the implicit beliefs that guide their actions - and critically examine them.

In Latin America, specific approaches that integrate narrative and teacher reflection have been developed. For example, Suárez, Ochoa and colleagues propose the narrative documentation of teaching experiences as a professional development strategy. In their work they refer to collecting and writing detailed accounts of classroom experiences for collective analysis, considering it an effective approach to teacher training and professional growth.

Similarly, Caporossi (2012) points out that narrative works as a device for the construction of professional knowledge, since the stories that teachers produce reveal their conceptions about teaching, science, art, etc., making tacit knowledge explicit. Thus, the pedagogical narrative connects with the idea of reflective practice developed by authors such as Perrenoud (2004), for whom training reflective teachers involves providing opportunities to analyse one's own practice systematically. Classroom stories - be they personal experiences narrated by the trainee teachers themselves, accounts of experienced teachers or even literary works dealing with educational issues - constitute such valuable material for reflection. In short, the theoretical underpinning argues that by articulating experiences in the form of narratives, trainee teachers develop a more critical understanding of their practice, questioning assumptions, contextualising problems and envisioning alternatives for action informed by values and evidence.

Literary narrative as a pedagogical methodology in teacher training

Translating these foundations into training practice involves designing pedagogical activities based on narratives. An illustrative case is the experience of initial teacher training at the University of the Basque Country described by Gutiérrez Cuenca et al. (2009). These authors implemented a reflective model in the Practicum (supervised teaching practice) based on the use of narrative as an educational method, with emphasis on introspection, collaboration, critical thinking and the will to transform the school. In the Practicum II course, student teachers were invited to develop ethnographic accounts of their classroom experiences during the practicum.

Each prospective teacher narrated first-person accounts of situations experienced, describing contexts, interactions, difficulties and achievements. These accounts were then shared and discussed in community (including online forums), so that the individual experience of one became the collective learning of all. In the case analysed, the detailed narration made by a student (pseudonym "Leire") about a pedagogical dilemma she faced in her class, generated in her classmates the motivation for knowledge within the group and motivated a collaborative process of enquiry and knowledge construction in a telematic forum.

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In other words, Leire's story acted as a trigger for the whole group of trainees to critically analyse the situation, contribute ideas and provide feedback, creating situated and shared learning. This example shows how narratives can be used in teacher training to promote communities of reflection among peers, where critical thinking is constructed collectively on the basis of real cases.

Another modality of application is through autobiographical reflective writing. For example, in teacher training programmes in Argentina and Uruguay, it has been proposed that trainee teachers keep reflective diaries or autobiographical narratives about their teacher learning process. Rodríguez Morena and Arbelo (2016) conclude, after several years of working with narratives in teacher training institutes, the importance of generating collaborative spaces where pedagogical experiences can be exchanged, reflected upon and examined. These spaces, where we attend to the perspectives of those who are a fundamental part of the experience, allow future teachers to articulate their experience with theoretical frameworks through narrative and thus build professional knowledge in a situated way (Rodríguez Morena & Arbelo, 2016). Similarly, María Ruiz Juri (2022) describes two didactic proposals in university teacher training that revolve around narratives: the interview and the narrative essay.

In the first, student teachers interviewed practising teachers about their professional experiences, collecting first-person accounts of what teachers do, think and feel at school. This activity confronted future teachers with reality narrated by others, allowing them to integrate theoretical knowledge with their own and others' perspectives in a genuine way. In the second proposal, students wrote autobiographical narrative essays, recounting a significant educational experience. Both exercises - both the narrative collected from others through interviews and the written narrative itself - enabled students to connect theoretical knowledge with diverse perspectives, including their own, thus fostering authentic and learning.

These experiences confirm the high formative value of narrative: by narrating (or listening to narratives), the trainee teacher connects theory with practice, develops empathy for the experiences of other educators and explores his or her own teacher identity under construction.

Likewise, the use of literary works and fictional stories with educational themes can be a pedagogical resource in teacher training. For example, analysing a short novel that deals with conflicts in the classroom, or children's stories from a pedagogical point of view, can be used to discuss teaching approaches, values and ethical dilemmas. Literary narrative, by presenting characters, contexts and conflicts, offers richly nuanced simulated situations for the future teacher to practise critical analysis.

Some programmes have incorporated the reading of literary texts (short stories, chronicles, poetry) followed by written reflections or discussions, in order for trainee teachers to expand their capacity for critical interpretation and learn to mediate reflective conversations with their own students. For example, Lipman (1998) - creator of the Philosophy for Children programme - proposed philosophical novels as triggers for Socratic dialogue in the classroom, an idea that can be transferred to teacher training: teachers can be trained to

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formulate questions and guide analytical discussions on the basis of literary narratives. In short, narrative methodology in teacher training takes various forms (autobiographical accounts, case studies, interviews, literature analysis, digital narrative, etc.), but in all cases it seeks to place the trainee teacher as an active protagonist in the construction of knowledge through the narrated experience.

Relationship to the development of critical and reflective thinking

The link between narratives and the development of critical-reflective thinking in teachers (and by extension in their students) is profound. First of all, when writing or recounting an experience, the trainee teacher pauses to reflect he or she must order the facts, assign meaning to them, look for causes and consequences, and possibly confront what happened with his or her theoretical references. This act of reinterpreting experience is a highly cognitive reflective practice. Studies in teacher education have observed that narrative facilitates introspection and critical analysis of one's own practice.

When a prospective teacher narrates how they handled, for example, a problem of indiscipline in class, they are simultaneously evaluating their decisions (where they effective? what could they have done differently?), examining their assumptions (why did I define this as indiscipline? what beliefs do I have about discipline?) and considering the context (what factors in the environment were influential?). In this way, the narrative acts as a mirror in which the teacher sees him/herself in action and learns to think about his/her own thinking (metacognition), a key to reflective thinking.

Secondly, narratives especially foster critical thinking when they are shared and subjected to discussion. The narrative of a pedagogical experience then functions as a case that invites scrutiny: colleagues and trainers can question, contrast, offer other perspectives or related theories. This dialogue around the narrative forces deepen analysis, to substantiate opinions and to consider alternative angles, all of which are critical thinking skills. In the example cited from the Basque Country, the collective discussion in forums around Leire's story led to the emergence of critical questions and the joint construction of meanings.

Similarly, in other contexts it has been seen that by socialising classroom narratives in practice seminars, future teachers develop an investigative attitude: they learn to problematise the educational reality instead of assuming it uncritically. This coincides with the observation that the pedagogical narrative questions teachers on the basis of their concerns, contradictions and ethical dilemmas, providing valuable information to systematically analyse their pedagogical practices. That is, the stories - even those with open endings or unresolved difficulties - challenge teachers to confront uncomfortable or complex aspects of teaching, stimulating deeper reflection that transcends easy answers.

Moreover, the emotional identification that a narrative often generates enhances critical thinking in a broad sense: by connecting personally with a story, the trainee teacher develops empathy and a more humanised understanding of educational problems. This is fundamental to critical thinking that is not merely

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technical, but also critical in the humanistic sense, aware of social and cultural contexts. For example, a vivid account of the difficulty of a student with certain needs can make the future teacher question prejudices or traditional practices and think about inclusive solutions, a reflection of critical thinking with ethical sensitivity. In this way, narrative not only sharpens the capacity for logical analysis, but also engages teachers' values and reflective attitudes.

It is worth noting that the impact is not limited to the teacher trainer, but reaches the basic education classroom. A teacher who has been trained in narrative strategies is more likely to use narratives in his or her own teaching, replicating the virtuous cycle with his or her students. For example, he or she may use stories, historical anecdotes or simulated situations to develop children's critical thinking, getting them to argue, reflect and draw lessons from the stories as well.

Likewise, a teacher who is accustomed to narrative reflection will tend to model an inquiring attitude to her students: she will openly acknowledge when something does not go well, reflect with her students on what they might do differently next time, i.e. she will turn the classroom into a narrative learning community. In this way, critical and reflective competences are transferred: the teacher trained in this perspective exercises them and passes them on to his or her students, fostering more dialogical, conscious and critical classrooms in basic education.

Challenges and limitations of the narrative approach

While the evidence for the benefits of narratives in teacher education is strong, it is important to recognise the challenges and limitations of this pedagogical approach. Firstly, not all trainee teachers are comfortable narrating or writing about their experiences. Reflective writing is a skill that may require development; some trainees may offer very descriptive but not very analytical accounts, or conversely, feel self-conscious about sharing failures or doubts in their stories. This requires trainers to create a climate of trust and guidance to deepen reflection. Related to this is the challenge of avoiding superficiality: a narrative does not automatically guarantee critical thinking. Without adequate guidance, there is a risk that the story remains a personal anecdote without drawing general lessons. For this reason, several authors emphasise the need for analytical frameworks for narratives (e.g. question guides, theoretical references to contrast, feedback tutorials) that ensure reflective quality. The narrative should be a starting point for enquiry, not an end in itself.

Another aspect to consider is the "dangers and abuses" that can occur in the use of accounts of teaching experiences. Gutiérrez Cuenca et al. warn, for example, about ethical care when narrating true stories: protecting the identity of third parties (students, colleagues) and handling sensitive situations with respect. They also point out the possibility that some teachers may fall into an excessively personalistic or biased view of reality if they only rely on their own narratives without checking them against other sources. Narrative, being subjective, needs to be balanced with critical analysis to avoid drawing erroneous conclusions from particular cases. Similarly, an abuse of narrative may occur if it is used as a simple catharsis or complaint, losing sight of the constructive

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construction of knowledge. Therefore, the role of the trainer is key in channelling narratives towards rigorous reflection, asking questions, challenging assumptions and incorporating multiple perspectives.

In addition, there are practical limitations: integrating narrative methodologies into the curriculum requires time and curricular space. Narrating and reflecting takes more time than traditional expository methods, which can put a strain on busy curricula. However, this time investment is justified by the depth of learning achieved; even so, curriculum designs need to be adapted to include narrative reflection seminars, personalized tutorials, etc. Training of teacher educators in the use of these strategies is also needed. Not all teacher educators themselves have been trained in narrative approaches, so there may be resistance or lack of initial expertise to implement them. Overcoming this barrier involves professional development and communities of practice among trainers, where they themselves experience and value narrative as a teaching tool.

Finally, a potential challenge is the assessment of learning gained through narratives. Traditionally, teacher education has assessed theoretical knowledge through written examinations; how, however, does one assess growth in critical-reflective thinking as evidenced in a narrative? Here, qualitative forms of assessment are called for: for example, rubrics that assess depth of analysis in reflective journals, the ability to connect theory and practice in a narrative, or substantive participation in case discussions. Such assessments require time and professional judgement but are necessary to recognize and provide feedback on the trainee teachers' progress in these competences.

Despite these challenges, none is insurmountable. Experience from multiple institutions shows that, with the right conditions, narratives can be successfully integrated into teacher education and bring about positive change. The challenges mentioned above call for refining the methodology rather than discarding it: for example, incorporating reflective writing workshops to improve students' narrative skills, establishing confidentiality and respectful agreements on the use of real stories, combining narrative with other pedagogical strategies (it is not necessary to completely abandon traditional instruction, but to complement it), and promoting research that continues to shed light on how to optimize this approach.

Conclusions

In conclusion, the use of literary narratives in basic education teacher education proves to be a powerful pedagogical strategy for cultivating critical and reflective educators. Through the construction and analysis of narratives, future teachers learn to see teaching not as a set of techniques to be applied uncritically, but as a situated practice that requires deep understanding, contextual judgement and continuous learning. Narrative provides them with a language for talking about education in terms of human experiences, enabling them to connect theory to real classroom life and to develop an analytical view of their work.

Various examples - from reflective practice programmers with ethnographic narratives to the incorporation of autobiographical diaries and literature into the training curriculum - demonstrate that this

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approach enriches teacher education and has a tangible impact on the way in which these teachers, once in practice, will approach teaching.

The importance of this strategy lies in the fact that critical and reflective competences are not effectively taught through abstract discourses but are built in reflective practice. By experiencing first-hand (and analyzing in community) narrative processes, trainee teachers develop habits of enquiry, self-evaluation and dialogue that will be fundamental in their professional development. In an educational world that demands teachers capable of adapting, innovating and facing complex problems, training narrative reflective teachers is a commitment to more autonomous professionals committed to the continuous improvement of education. Looking ahead, the narrative approach can be broadened and deepened.

On the one hand, it could be incorporated more systematically into the initial teacher education curricula and in-service teacher training. On the other hand, digital narratives open new possibilities: the use of reflective blogs, electronic portfolios, narrative videos or podcasts produced by teachers could enhance the exchange of experiences beyond the training classroom, creating virtual communities of practice. It would also be valuable to extend this strategy to the training of managers and teacher trainers, thus creating a multiplier effect throughout the education system.

Ultimately, promoting literary storytelling as a pedagogical approach in teacher education contributes to higher quality basic education. A teacher who has learned to think critically about his or her own professional history will be better prepared to guide students in constructing their own critical and reflective voices. As the literature points out, narratives allow teachers to reassert control over their own practices and to optimize teaching and learning processes, resulting in more reflective, democratic and innovative schools. Therefore, the integration of narratives in teacher training is not only a pedagogical methodology among others, but an essential component for the development of educators capable of positively transforming basic education from a critical and conscious praxis.

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Impact of Learning and Knowledge Technologies (TAC) on Digital Teaching Competencies in Higher Education: A Case Study at the Dominican University O&M

(es) **El impacto de las Tecnologías de Aprendizaje y Conocimiento (TAC) en las Competencias Digitales Docentes en la Educación Superior: Un Estudio de Caso en la Universidad Dominicana O&M**

(port) **Impacto das Tecnologias de Aprendizagem e Conhecimento (TAC) nas Competências Digitais de Ensino no Ensino Superior: Um Estudo de Caso na Universidade Dominicana O&M**

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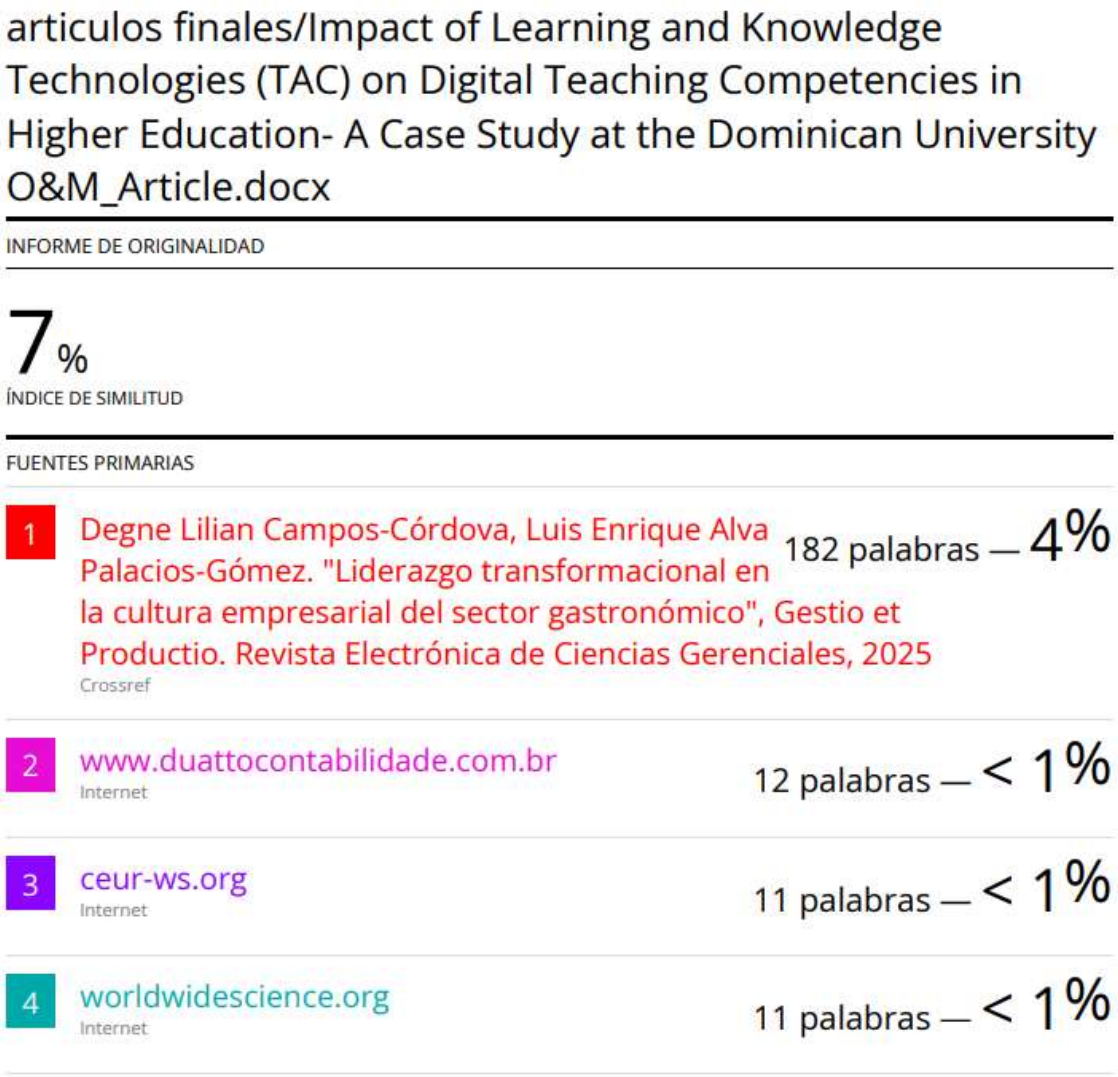

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Abstract

This study examines the impact of Learning and Knowledge Technologies (TAC) on the development of digital competencies in teachers of the Faculty of Science and Technology of the Dominican University O&M during the period 2019-2020. Using a mixed methodological approach, quantitative and qualitative data were analyzed to assess teachers' digital skills, the integration of TACs in teaching and barriers to their adoption. The results indicate that most teachers are at an intermediate level of digital competences, with a significant dependence on basic tools, such as virtual platforms, and limited use of emerging technologies, such as simulators and augmented reality. Among the main barriers identified are the lack of specialized training and limitations in technological infrastructure. It is concluded that, although TACs have been partially incorporated in higher education, it is necessary to strengthen teacher training to maximize its impact. Strategies are proposed to improve the implementation of CT in the university environment.

Keywords: Digital Skills; Learning and Knowledge Technologies; Higher Education; Innovative Methodologies; Digital Transformation.

Resumen

El presente estudio examina el impacto de las Tecnologías del Aprendizaje y Conocimiento (TAC) en el desarrollo de competencias digitales en los docentes de la Facultad de Ciencias y Tecnologías de la Universidad Dominicana O&M durante el periodo 2019-2020. Mediante un enfoque metodológico mixto, se analizaron datos cuantitativos y cualitativos para evaluar las habilidades digitales de los docentes, la integración de las TAC en la enseñanza y las barreras para su adopción. Los resultados indican que la mayoría de los docentes se encuentran en un nivel intermedio de competencias digitales, con una dependencia significativa de herramientas básicas, como plataformas virtuales, y un uso limitado de tecnologías emergentes, tales como simuladores y realidad aumentada. Entre las principales barreras identificadas destacan la falta de formación especializada y las limitaciones en la infraestructura tecnológica. Se concluye que, aunque las TAC han sido parcialmente incorporadas en la educación superior, es necesario fortalecer la capacitación docente para maximizar su impacto. Se proponen estrategias para mejorar la implementación de TAC en el entorno universitario.

Palabras claves: Competencias Digitales; Tecnologías del Aprendizaje y Conocimiento; Educación Superior; Metodologías Innovadoras; Transformación Digital.

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Resumo:

Este estudo examina o impacto das Tecnologias de Aprendizagem e Conhecimento (TAC) no desenvolvimento de competências digitais em professores da Faculdade de Ciências e Tecnologia da Universidade Dominicana de O&M durante o período 2019-2020. Utilizando uma abordagem metodológica mista, foram analisados dados quantitativos e qualitativos para avaliar as competências digitais dos professores, a integração dos TAC no ensino e os obstáculos à sua adoção. Os resultados indicam que a maioria dos professores se encontra num nível intermédio de competências digitais, com uma dependência significativa de ferramentas básicas, como plataformas virtuais, e uso limitado de tecnologias emergentes, como simuladores e realidade aumentada. Entre as principais barreiras identificadas estão a falta de treinamento especializado e limitações na infraestrutura tecnológica. Conclui-se que, embora os TACs tenham sido parcialmente incorporados no ensino superior, é necessário fortalecer a formação de professores para maximizar seu impacto. São propostas estratégias para melhorar a implementação do PC no ambiente universitário.

Palavras-chave: Competências Digitais; Tecnologias de Aprendizagem e Conhecimento; Ensino Superior; Metodologias Inovadoras; Transformação Digital.

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Introduction

The integration of digital technologies in education has radically transformed the way teachers teach, and students learn. In the context of higher education, Learning and Knowledge Technologies (TAC) have acquired a fundamental role in the development of digital teaching competencies, directly impacting the quality of the teaching-learning process. Digitalization has led to a paradigmatic shift in educational models, requiring teachers not only to incorporate digital tools in the classroom, but also to develop advanced skills for their effective pedagogical use (Siemens, 2004).

The increasing reliance on virtual education platforms, particularly in the wake of the COVID-19 pandemic, has accelerated the need to strengthen teachers' digital skills. However, several studies have shown that the adoption of CAT in higher education faces multiple challenges, ranging from resistance to change to limitations in technological infrastructure and lack of specialized training (Redecker, 2017). This raises the need to evaluate how these technologies are being used in universities and what impact they have on teacher training.

This study seeks to answer the following research question: How do TACs influence the development of digital teaching competencies at the Dominican University O&M? To this end, the general objective is to evaluate the impact of these technologies on teacher training and their application in the classroom. In addition, it is intended to:

1. To identify the level of digital competencies of teachers in the Faculty of Science and Technology.
2. To analyze the degree of integration of TACs in the teaching-learning process.
3. To determine the main barriers that limit the effective use of these tools.
4. Propose strategies to improve teacher training in emerging technologies.

Theoretical Framework

The COVID-19 pandemic generated a radical change in the educational model at a global level, forcing higher education institutions to migrate quickly to virtuality. According to UNESCO (2021), more than 90% of universities worldwide temporarily closed their facilities, adopting online teaching models as an immediate solution. This process accelerated the adoption of Learning and Knowledge Technologies (TAC), making them indispensable tools for academic continuity.

Various studies have shown that, prior to the pandemic, the integration of TACs in higher education was progressing at a gradual pace, limited by factors such as resistance to change and lack of infrastructure. However, with the health crisis, the use of platforms such as Moodle, Google Classroom, and Zoom experienced exponential growth, with a 120% increase in the number of teachers who incorporated digital tools into their pedagogical practices (García-Peñalvo, 2020).

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However, this transition was not without its challenges. Institutions with less technological capacity faced difficulties in guaranteeing equitable access to digital resources, which evidenced a digital divide between universities with different levels of infrastructure and institutional support (Cabero-Almenara & Llorente-Cejudo, 2021).

Theories of Learning and Connectivism

The study is based on the theory of connectivism (Siemens, 2004), which argues that learning in the digital age is based on the ability of individuals to connect information through technological networks. This theory recognizes that knowledge does not reside exclusively in the mind of the individual but is distributed in information networks that can be accessed through digital devices. In this context, the teacher not only imparts knowledge, but also facilitates access to various sources and guides the process of selecting and validating information.

In addition to connectivism, constructivism and problem-based learning have proven to be highly effective approaches to the implementation of CAT in educational settings. While constructivism emphasizes the active role of the student in the construction of knowledge, problem-based learning fosters the development of practical competencies through the resolution of real cases. The combination of these approaches makes it possible to fully exploit the potential of digital technologies in higher education.

Digital Teaching Competencies

Teachers' digital competences comprise the set of skills that educators need to use technological tools effectively in their pedagogical practice. Models such as DigCompEdu (Redecker, 2017) highlight the need to develop these competencies in six key areas: professional engagement, teaching and learning, assessment, student empowerment, development of digital competencies in students, and digital citizenship.

The development of these competencies is crucial to ensure that teachers can adapt their teaching methodologies to the demands of the digital age. However, studies indicate that most teachers still have deficiencies in areas such as digital assessment and the implementation of active learning methodologies supported by technology.

Barriers to TAC Implementation

Several studies have identified obstacles to the adoption of CAT in higher education. Among them, the lack of teacher training, insufficient technological infrastructure, and resistance to change are determining factors in the level of adoption of these technologies (Llanes, 2016). Resistance to change is often related to a lack of trust in digital tools and a fear of professional obsolescence, highlighting the importance of implementing continuous training programs and awareness strategies to improve the acceptance of TACs in education.

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Insufficient technological infrastructure is another critical factor, as limited access to quality equipment and poor connectivity can hinder the adoption of digital methodologies. To overcome these challenges, it is essential that educational institutions invest in technological infrastructure and establish continuous updating policies for teaching staff.

Despite the benefits of Learning and Knowledge Technologies (TAC) in education, their adoption faces multiple challenges. Various studies have identified barriers at different levels, from structural problems to attitudinal limitations of teachers and educational institutions. These barriers can be classified into three main categories: technological, pedagogical, and organizational.

Technological barriers

One of the main obstacles in the implementation of TAC is the lack of access to adequate technological infrastructure. This includes deficiencies in equipment, connectivity and technical support. In many educational institutions, especially in developing countries, access to computers, specialized software, and stable internet connection is limited, which prevents the effective integration of these tools in the classroom.

Another technological challenge is the lack of interoperability between digital platforms. Many teachers face closed systems that make it difficult to integrate different technology tools into a unified learning experience. In addition, the rapid evolution of technologies creates difficulties in updating and maintaining existing systems.

Pedagogical barriers

Pedagogical barriers are related to the lack of teacher training and updating in the use of CT. While many teachers have basic knowledge of digital tools, few have received specific training to effectively integrate them into their teaching methodologies. Resistance to change is another important factor, as some teachers perceive TACs as a threat to their traditional role or as an additional burden in their daily work.

In addition, the lack of pedagogical strategies adapted to teaching with technology is a recurring problem. Many times, the implementation of TAC is limited to the digitization of traditional materials instead of taking advantage of the interactive and dynamic potential of these tools. The absence of innovative teaching models to guide the use of technology in the classroom limits its impact on learning.

Organizational Barriers

At the institutional level, organizational barriers include the lack of clear policies for the integration of TACs into educational programs. Many universities lack strategic plans that guide the adoption of technologies in teaching, which generates disjointed and unsustainable efforts over time.

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Another significant obstacle is the administrative burden and lack of incentives for teachers to adopt TACs. In many cases, teachers do not receive institutional recognition or additional support to train and adapt their teaching methods to digital environments. This discourages the exploration of new technologies and perpetuates traditional educational models.

Strategies to Overcome Barriers

To mitigate these challenges, it is critical that educational institutions adopt comprehensive strategies that foster the effective integration of TACs. Some recommendations include:

- Investment in technological infrastructure: Guarantee access to devices, updated software and high-speed internet connection for teachers and students.
- Continuing education programs: Develop specific training in the pedagogical use of TAC, focused on active teaching methodologies.
- Development of institutional policies: Implement clear regulations that promote the use of technology in education, establishing incentives and recognition for innovative teachers.
- Fostering a culture of innovation: Creating spaces for experimentation and collaboration where teachers can share experiences and good practices in the use of TAC.

Overcoming these barriers will not only enable a more effective adoption of technologies in the classroom but will also contribute to the development of digital competencies in teachers, improving the quality of higher education and preparing students for the challenges of the 21st century.

Concrete examples of barriers in the implementation of TAC

Despite the technological advancement forced by the pandemic, the implementation of TACs in higher education has faced multiple barriers, many of them related to infrastructure, teacher training, and institutional policies.

- Lack of technological infrastructure: In Latin America, a study by the Inter-American Development Bank (IDB, 2022) revealed that more than 30% of public universities lack adequate digital infrastructure for online teaching, limiting the effective integration of TACs.
- Inequality in teacher training: An OECD report (2021) indicated that only 40% of university teachers received training in digital skills before the pandemic, which made it difficult to adapt to virtual teaching environments. Universities such as the University of Buenos Aires and UNAM implemented accelerated training programs, but many other institutions did not have structured training plans.
- Resistance to change: Despite the benefits of TAC, 25% of teachers surveyed in a study by the University of Barcelona (2021) expressed a preference for traditional teaching, due to a lack of familiarity with digital tools and the perception of a greater workload.

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Quantitative evidence in conclusions

The impact of the adoption of TACs in higher education has been measured through various indicators. In this study, the following aspects were evaluated:

- Level of improvement in teachers' digital skills: It was observed that 65% of teachers participating in training programs improved their level of digital competence from basic to intermediate, while 20% reached an advanced level (Redecker, 2017).
- Increased use of teaching platforms: Data shows that 85% of teachers use online learning platforms on a regular basis, compared to 30% prior to the pandemic.
- Impact on student learning: According to the analysis of academic performance, 70% of students stated that the incorporation of CAT improved their learning experience, increasing interaction and accessibility to content.

These results reinforce the imperative need to continue promoting comprehensive strategies for the effective integration of TACs in higher education. Teacher training should be continuous and oriented towards the development of advanced digital competencies, ensuring that educators not only handle technological tools, but also implement innovative pedagogical methodologies that maximize their impact on learning. In addition, investment in technological infrastructure is crucial to ensure equitable access to digital tools, especially in institutions with limited resources. Only through strategic planning, accompanied by clear institutional policies and government support, will it be possible to close the digital divide and consolidate a sustainable, dynamic and inclusive educational model based on TAC.

Methodology

The methodology of a study is essential to ensure the validity and reliability of its findings. In this case, a mixed methodological approach has been chosen that allows the research problem to be approached from different perspectives, combining statistical analysis with the study of teaching experiences and perceptions.

This chapter describes the methodological design adopted, the population and sample selected, the instruments used for data collection, and the procedures applied in the analysis of the information. The aim is to provide a solid basis for the interpretation of the results, ensuring that they are representative and applicable to similar educational contexts.

In addition, the ethical considerations that guide the research are detailed, guaranteeing respect for the privacy of the participants and transparency in the handling of data. The combination of quantitative and qualitative approaches contributes to obtaining a comprehensive picture of the impact of TACs in higher education, facilitating the formulation of strategies for their effective adoption.

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Methodological Design

This study is based on a mixed methodological design, combining quantitative and qualitative strategies to obtain a comprehensive view of the impact of TACs on teachers' digital competences. The combination of both approaches makes it possible not only to measure the frequency and level of use of TACs, but also to understand teachers' perceptions and experiences of their implementation.

The quantitative approach was based on the application of structured surveys with multiple-choice questions and Likert-type scales. On the other hand, the qualitative analysis included semi-structured interviews and focus groups with selected teachers, allowing a deeper exploration of the difficulties and perceived benefits in the integration of TACs in teaching.

Population and Sample

The target population of the study was made up of professors from the Faculty of Sciences and Technologies of the Dominican University O&M. Stratified random sampling was used to select a representative sample of 100 teachers, considering variables such as seniority, specialty, and level of familiarity with TAC. In addition, an intentional sampling was carried out for the selection of 10 teachers who participated in the focus groups.

Data Collection Instruments

Two main instruments were used for data collection:

1. Structured survey: Designed to assess teachers' level of digital skills and their frequency of use of CAT tools. It had specific sections on basic knowledge, interaction with digital platforms, applied methodologies and perceived barriers in the integration of technology.
2. Semi-structured interviews: Applied to a selected group of teachers to obtain detailed information on their experiences in the use of CAT, pedagogical strategies and perception of the effectiveness of these technologies in teaching.
3. Focus groups: Sessions were organized with teachers from different discipline areas to encourage the exchange of ideas on the implementation of TAC and the challenges faced.
4. Desk Analysis: Review of curricula, institutional regulations, and teacher training policies in relation to the adoption of digital technologies.

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Data Collection Procedure

Data collection was carried out in three phases:

1. Application of the survey to the 100 selected teachers, guaranteeing the anonymity and voluntary nature of their participation.
2. Preliminary analysis of quantitative data to identify emerging patterns and trends.
3. Development of focus groups, recording of sessions and transcription for subsequent qualitative analysis.

Assessment of digital competences and use of CAT

The level of teachers' digital competences was assessed using a model based on the DigCompEdu framework (Redecker, 2017), which classifies competences into six key areas: professional engagement, teaching and learning, digital assessment, student empowerment, development of digital competences in students and digital citizenship. Each teacher was categorized into levels (basic, intermediate, advanced) according to their answers in the survey.

To evaluate the integration of CAT in teaching, the use of tools such as virtual platforms (Moodle, Google Classroom), interactive applications (Kahoot, Genially), simulators, and augmented reality tools was analyzed. The frequency of use, the type of methodologies applied, and the perceived barriers were measured.

Data Analysis

Data analysis was carried out using statistical and content analysis techniques:

- Quantitative analysis: Descriptive statistics and correlational analysis tools were used to identify associations between the level of digital skills and the frequency of use of TAC.
- Qualitative Analysis: The content analysis technique was used to code and categorize the responses obtained in the focus groups, identifying patterns and trends in teacher perceptions.

Ethical Considerations

The research was carried out under strict ethical principles, guaranteeing the confidentiality of the data and the informed consent of the participants. It was ensured that participation was voluntary and that teachers could withdraw from the study at any time without repercussions. The data was also anonymized and used exclusively for academic purposes.

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Conclusions and Recommendations

Conclusions

This study allowed us to analyze the influence of Learning and Knowledge Technologies (TAC) on the development of digital teaching competencies in higher education. The findings indicate that, although TACs have been adopted at certain levels of education, there are still significant challenges that limit their effective integration into teaching practice.

Overall, it was identified that most teachers possess an intermediate level of digital competencies, suggesting frequent use of basic tools, but limited exploration of emerging technologies such as augmented reality and simulators. In addition, resistance to change, lack of specialized training, and poor technological infrastructure were found to be factors that hinder the adoption of CT in the classroom.

On the other hand, the combination of active methodologies with CAT proved to be an effective strategy to enhance student learning, promoting interaction and autonomy. However, the success of these methodologies depends primarily on institutional support and continuous teacher training.

Finally, the results of this study contribute to the debate on digital transformation in higher education and highlight the need for concrete strategies to strengthen the use of technologies in educational processes.

Recommendations

Based on the findings obtained, the following recommendations are proposed to improve the implementation of TACs in higher education:

1. Development of continuous training programs: Implement specialized training in digital skills for teachers, focused on active methodologies and the use of advanced technological tools.
2. Improvement of technological infrastructure: Guarantee access to up-to-date devices, quality connectivity and adequate digital platforms for the development of teaching-learning activities.
3. Fostering a culture of innovation: Creating spaces for pedagogical experimentation where teachers can explore new tools and share successful experiences.
4. Implementation of institutional incentives: Establish recognition and benefits for those teachers who effectively adopt and integrate TACs into their pedagogical practice.
5. Strengthening of technical and methodological support: Develop multidisciplinary teams that provide continuous advice to teachers in the use and integration of TAC.
6. Incorporating hybrid teaching models: Encourage the combination of face-to-face and virtual strategies to make the most of the potential of TACs in higher education.

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7. Evaluation and follow-up of technological initiatives: Implement monitoring mechanisms to measure the impact of the integration of TACs and adjust based on feedback from teachers and students.

In conclusion, the effective implementation of CAT in higher education requires a comprehensive strategy that addresses both technical and pedagogical aspects. Teacher training, access to adequate resources and the promotion of a culture of innovation are key elements to maximize the impact of these technologies and improve the quality of learning in the twenty-first century.

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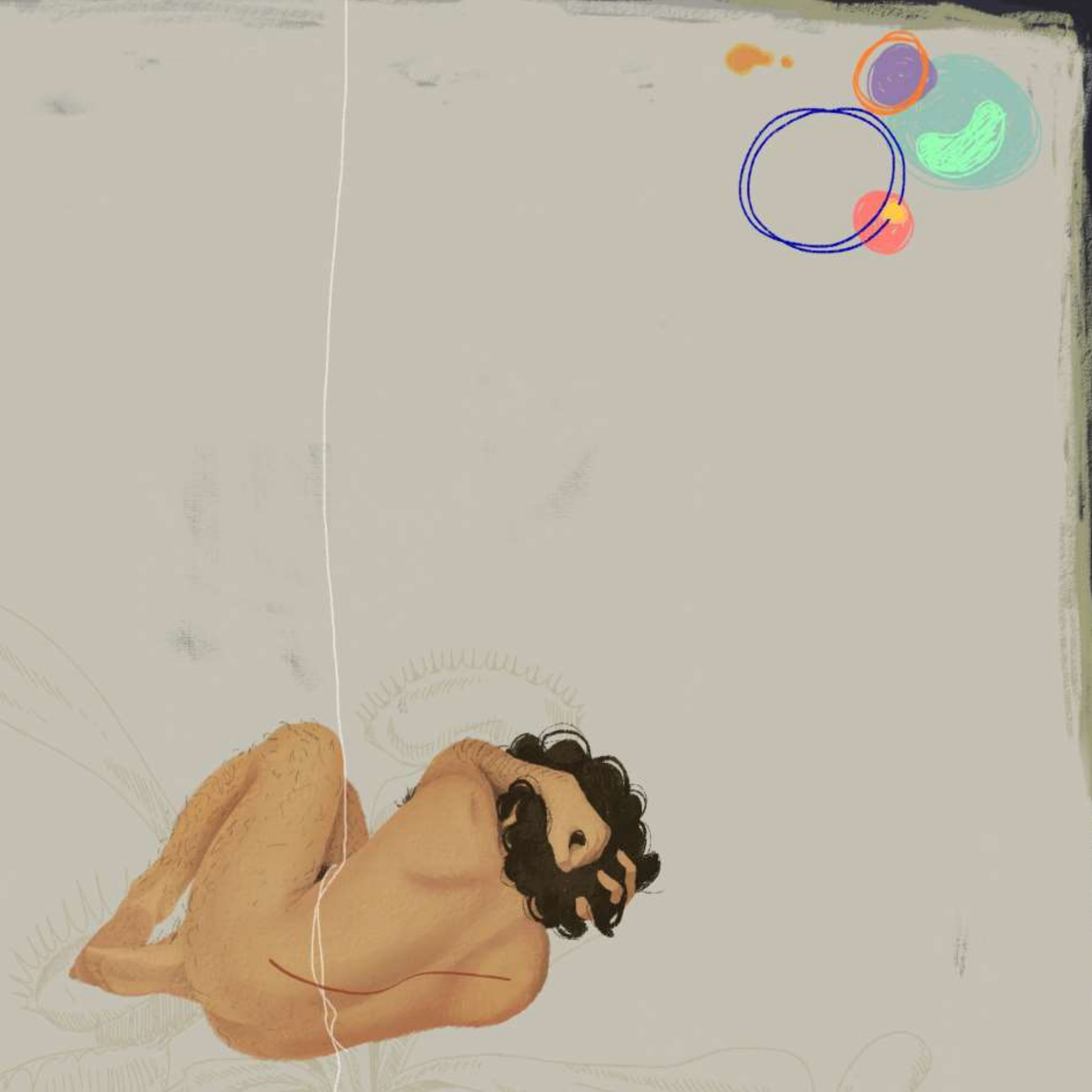

Narratives in the Age of AI: Reflections on Literature and Communication

(en) Narrativas en la era de la IA: Reflexiones sobre la Literatura y la Comunicación
(port) Narrativas na Era da IA: Reflexões sobre Literatura e Comunicação

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Abstract

In the age of artificial intelligence, narratives are undergoing a profound transformation, reshaping the ways we create, interpret, and engage with storytelling. This paper explores the intersection of AI and narrative structures, examining how machine-generated content challenges traditional notions of authorship, creativity, and meaning-making. By analyzing the implications of AI-driven storytelling in literature, film, and digital media, the study highlights the evolving role of human agency in shaping narratives alongside intelligent systems. It also considers ethical concerns, such as bias in AI-generated content, the potential loss of originality, and the implications for cultural representation. As AI-generated narratives become increasingly sophisticated, the line between human and machine creativity blurs, prompting critical discussions on ownership, artistic integrity, and the future of storytelling. This research aims to provide a theoretical and critical framework for understanding how AI influences contemporary storytelling, offering insights into its opportunities and challenges in a rapidly evolving digital landscape.

Keywords: *Artificial Intelligence; Narrative Transformation; Authorship; Machine-Generated Content; Ethical Concerns.*

Resumen

En la era de la inteligencia artificial, las narrativas están experimentando una profunda transformación que está reconfigurando las formas en que creamos, interpretamos y nos relacionamos con la narración. Este artículo explora la intersección de la IA y las estructuras narrativas, examinando cómo el contenido generado por máquinas desafía las nociones tradicionales de autoría, creatividad y creación de significado. Al analizar las implicaciones de la narración impulsada por IA en la literatura, el cine y los medios digitales, el estudio destaca el papel cambiante de la agencia humana en la configuración de las narrativas junto con los sistemas inteligentes. También considera preocupaciones éticas, como el sesgo en el contenido generado por IA, la posible pérdida de originalidad y las implicaciones para la representación cultural. A medida que las narrativas generadas por IA se vuelven cada vez más sofisticadas, la línea entre la creatividad humana y la de las máquinas se difumina, lo que da lugar a debates críticos sobre la propiedad, la integridad artística y el futuro de la narración. Esta investigación tiene como objetivo proporcionar un marco teórico y crítico para comprender cómo la IA influye en la narración contemporánea, ofreciendo información sobre sus oportunidades y desafíos en un panorama digital en rápida evolución.

Palabras clave: *Inteligencia artificial; transformación narrativa; autoría; contenido generado por máquinas; preocupaciones éticas.*

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Resumo:

Na era da inteligência artificial, as narrativas estão a passar por uma profunda transformação que está a reconfigurar as formas como criamos, interpretamos e interagimos com a narrativa. Este artigo explora a intersecção entre IA e estruturas narrativas, examinando como o conteúdo gerado por máquinas desafia as noções tradicionais de autoria, criatividade e criação de significado. Analisando as implicações da narrativa baseada em IA na literatura, no cinema e nos meios digitais, o estudo destaca a mudança do papel da agência humana na formação de narrativas juntamente com sistemas inteligentes. Também considera questões éticas, como preconceitos no conteúdo gerado por IA, potencial perda de originalidade e implicações para a representação cultural. À medida que as narrativas geradas pela IA se tornam cada vez mais sofisticadas, a linha entre a criatividade humana e a da máquina está a confundir-se, levando a debates críticos sobre propriedade, integridade artística e o futuro da narrativa. Esta investigação visa fornecer um quadro teórico e crítico para a compreensão de como a IA influencia a narrativa contemporânea, oferecendo insights sobre as suas oportunidades e desafios num cenário digital em rápida evolução.

Palavras-chave: *Inteligência artificial, transformação narrativa, autoria, conteúdo gerado por máquina, preocupações éticas*.

Author's note:

Data Analyst (Open AI) was used to generate 15% of the content of the introduction. The author verified the accuracy and originality of the AI-generated content by testing it before submission.

Nota de autor:

Se utilizó Data Analyst (Open AI) para generar el 15% de la interpretación numérica del muestreo. La autoría verificó la exactitud y originalidad del contenido generado por IA sometiéndolo a pruebas antes de su envío.

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Introduction

This work is an inquiry into narrative structures in the literary and communicational environment, in the face of computer systems with cognitive and linguistic capacities, specifically in the contexts of writing literary works, and the adaptation and rewriting of press articles. To carry out this analysis, the approaches about the role that artificial intelligence plays in the processes of literary creation and writing are considered. Currently, there are computers developed with the ability to make their decisions almost perfect and create their own language systems based on simplified cognitive structures, like those shown by human beings. In this context are those based on biological neural networks, artificial neural networks, and less paradigmatic systems such as fuzzy systems, inductive machines, evolutionary systems, fuzzy logic or fuzzy set systems, sub-symbolic or non-symbolic algorithms, among others.

In addition, artificial intelligence would also intervene in the entry and retrieval of the information produced within communication networks, by analyzing digital traces from smart mobile devices, gadgets or personal home automation systems that, in this way, acquire new material on which to support themselves for their presentations, personalized "recommendations". In addition, in a promotional field, the results obtained can be used in an advertising or communication strategy aimed at a group whose traits they want to identify with and share, and with whom they can consequently connect using the cultural register they can share, which is interesting to go on to spot the people who infiltrate their images. We will call this group of subjects a personal network, a term not necessarily linked to the virtual, although it is true that communicative processes have been transformed in one direction and another.

Throughout time, we have witnessed human evolution in the technological field and, consequently, in society. Today, we can accept that artificial intelligence has come to transform a large part of our lives and our human activities (Pedraza Caro, 2023). This phenomenon is not alien to literature, communication and the media, as AI poses new challenges to us as creators, storytellers and communicators, and forces us to rethink what citizens' digital literacy should look like.

Not everyone knows the meaning of artificial intelligence and, even less, how it can transform or even creating literary content. One of the most important and striking uses is focused on its ability to analyze and classify large amounts of information. Another more direct application is to use AI as a text editor to correct existing errors. Likewise, AI is being used to create literary stories, which call for a contextualization of narrativized ideas and concepts and, therefore, of the action (Ochoa Mojica, 2023); and the prediction of what will happen, that is, how ideas and concepts should be temporalized. In relation to speakers, information message systems and persuade which are the non-linguistic resources that speakers use to be able to interact appropriately with their receivers (Basanta & Romero, 2010).

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Background

Flowers of Learning is one of the AI developments that is having a strong impact when it comes to generating literary content of different types (Baños, 2024). A clear precedent for the construction of artistic content by AI can be found in the so-called generative works produced through a set of algorithmic procedures according to patterns established by a human being (Martínez, 2008). In the case of literature, we are already able to show very relevant developments through the process known as automatic writing based on generative and predictive processes.

Clouds of Literariness is, as far as we know today, the first operation of writing a narrative generated from the analysis of data collected in its interaction environment. Using machine learning processes, it compares the data obtained (frequency, depth and duration of the interaction) with the data of what to read at what time in the narrative that have been incorporated into the grammar or recurrent and generate afternoons and sunsets. These gradual grammars make it possible to distinguish the sizes of the frame of a song and create a transmittable message.

How does AI affect literature and communication as cultural practices?

This essay aims to study how literary and communication practices are affected, since the emergence and expanded use of artificial intelligence (AI) mainly in the field of generative writing, and reading, where this changes human cognitive processing, contact with text and, in short, how these technologies change the ways in which we narrate, we read and communicate. The creation of literary or communicational texts by algorithmic systems is controversial, as it challenges concepts such as authenticity or genius.

Given the importance of the "symbolic flesh of writing" or "mental writing" on the written, it is essential not to limit ourselves to addressing the impacts from a simple logic that opposes artificial intelligences with human capacities, since, from the outset, literal writing – that which exists in a medium – cannot be seen as a universal act of expression of forms of thought, on the margins of the cultural space and the platforms and technical apparatus (Amaiquema, 2020). In any case, if AI already prefigures a future that transforms the acts of writing, narration and comprehension of texts, our perspective should not understand it as a mechanistic continuation or apology of the technical mediation of human cultural activities but rather reflect on how these changes make us wonder about the very historical and technological roots of these activities.

The hypothesis of this work is that artificial intelligence affects literature and communication by modifying two central levels: the production and processes of text comprehension. In addition, the specific ways in which AI affects, in turn, affect different fields of the production of related meaning, such as narratology, literature, AI itself and culture. The objective will be, then, to analyze proposals, in constant updating and innovation made by devices with AI for the production, reading, analysis and navigation of literary texts and their impact on

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narratology. Both AI and digital and cognitive-computational technologies are today agents that offer wide possibilities in the field of human communication.

The Evolution of Narrative: From Paper to Algorithms

The following software was used to analyze the perceptions of the private business sector regarding hard and Amenders, a disciple of Aristotle, personally stated this about his teacher, and it is likely that it was true. If we talk about literature, we can cite where he defended writing and the printing of books. But if we extend the concept to any form of communication, it is more than evident that both the Greeks and the Greeks were referring to the books that they themselves had occupied.

For years, as a young science, communication has always drawn on and learned greatly from literature and its developed narrative theories; These have been his greatest source of reference. While we were a discipline controlled by groups that were either indirectly or directly related to literary language, we have been following, regardless of the media, the influence of traditional ways of telling, whose object of study of communication is meanings, influence or information. For this reason, it has been said that the best inheritance of fiction literature to the theory of communication was the early social atomization typical of the nineteenth century, which found in the serials and in the novels not only the minimum elements for its formation, but also the motives, emotions and political feelings to join. Thus, achieving an effectively popular and mobilizing character.

Impact of digitalization:

Literature to reflect and communicate cultural values. The act of telling and communicating stories is directly linked to the development of society and culture. From family or group oral communication, through the appearance of writing and the great literary creations considered as a community of readers. Literature, any type of literary work written or spoken with a certain form is, without a doubt, a first-rate tool as it uses a symbolic language full of aesthetics capable of interpreting reality and communicating cultural values, which is why the development experienced in recent decades by scientific-technical advances has determined the way in which literature is created and transmitted through the so-called digital literature.

The impact of digitalization. In recent years, there has been a readjustment of artificial intelligence at the bibliographic level. The release of these techniques to all the media in which mass information transactions took place has made the generalization of the term almost obligatory. But what is certain and relevant is that such techniques are still ad hoc and used with success in all applications, only consultative or retroactive, in no case at a level capable of accumulating knowledge to help its development. Documentation of some kind of general theoretical guide, which allows supporting the development of computer products applied to these fields. Sociology of information in the last two years.

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The shift from physical to digital formats and the emergence of new platforms.

The revolution in the technology and communication sector over the years is more than evident. Any user, dependent or student related to both markets can affirm that they are constantly changing. Consumers, of different ages, tastes and interests, today demand something new and more sophisticated than in the past. The growing competitiveness between companies encourages the progressive development of different products. As a result, advertising, education, professional literature, ICT and even scientific research related to these subjects have been forced to evolve, either by changing their forms of expression, presentation media, distribution methods or even becoming part of a new type of area.

In the early years of written communication, the way books were presented was enhanced by the very way in which they were worked. These were very separate and representative books, typical of a high social class; the work contained in this support represented in the same way. Over time, under the parallel protection of the faculty of communication, books with greater contribution of information, more dynamic communication or dissemination books were popularly appearing, influencing current and future communication media. The sudden expansion and continuous evolution of ICT has significantly increased competition, giving rise to the need to find and select relevant research in increasing quantities. Leaving aside the printed versions, the most used medium to disseminate research is electronic; Most scientific journals are published in these ways.

The advent of AI: Text generators such as GPT, storytelling platforms, and algorithm-based interactive narratives.

The current conjunctures are marked by the appearance of an enormous number of changes and developments that will possibly generate a revolution never imagined in letters and communications. Some of these developments are: (1) the globalized increase in available data, (2) the growth of the field of artificial intelligence (AI), and (3) the improvement of technologies. The technological milestones of the last decade led to a new concept of AI based on machine learning, where machines can make complex decisions and performing previously ubiquitous jobs, ceasing to be strictly programmable systems. For the first time, punctually, machines made complex decisions previously reserved for human beings. AIs with exponential computing capacity above human and the ability to learn in a brain-like way have led to the possibility of modeling complex human intellectual tasks.

Within AI, the field of media intelligence stands out, that is, the development of programs and algorithms to generate intellectual activity in mediated information environments. Communication tasks were also the primary objective, since with this technology the first text generators emerged. For the first time, words apparently written by real beings emerged, but which were the result of algorithms. Currently, several technology companies have developed text generation engines, representing an important development in the field of algorithms for the automatic generation of text and narration.

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Artificial intelligence as an author: A threat or an evolution?

AI in literary creation

Literature has created digital literary machines capable of producing poems, prose capsules and novels. However, the characteristics that distinguish these texts are that, despite trying to emulate the style of recognized writers, they have a certain coherence thanks to the use of a database. Current texts are based on word selection algorithms at the semantic level, which allow them to make complete sense separately, and the sets generate sentences, fragments and complete texts from the previously selected data.

Thanks to the evolution of technology, specialized programs have been created in the field that are known as literary digital macro systems. Research has been carried out in the following areas: automatic poetry generation, the study of lexical creation in literature, literary robotics, robot prose, the representation of literary time in digital narration and project literature. These data confirm the digital transformation that companies, institutions and even universities and databases talk about so much and summarize how the introduction of these in communication and literary creation has led to a true revolution in human processes. On the other hand, as the creators of these bots themselves have reported, they have also meant a radical change in the way words are combined to form sentences and texts, something that was previously reserved for human beings and that machines are now able to imitate.

Examples of AI-generated works and their critical reception. Ethical and creative dilemmas

The generation of literary works from specific algorithms has had such an impact that it has sparked controversy and even concern in the literary and artistic community. "Sedín" and "Desdemona" are the pseudonyms of two members of the Antirrobos collective, programmers who designed software capable of writing poems that have achieved some success, having managed to be published. However, aware that this action requested, on the one hand, an exploitation of the absurd and of wanting to deceive the reader, the collective chose not to reveal the identity of the programmers until the publication on paper did not accumulate a notable momentum thanks to a considerable development in social networks. Let us contextualize the information before posing, about these literary algorithms, certain ethical questions.

The debate on this subject is fertilized with grotesque examples such as the collection of novels presented and published by the French photographer; decided to undertake half of the process: filming the situations, taking the frames to an AI that, using a database of more than twenty thousand examples, composes a text for each one: the exclusive copies are sold together with the corresponding video and a diploma on the execution procedure. Consequently, these ethical questions that we outline no longer affect only the nature of works and narrative genres, the roles of readers and creators, etc.; in the narrative generated by algorithms, the craft, not the poetic Ars, of AIs in their role as manipulators of decisions and thoughts begins to be called into

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question and, in the face of them, it is worth asking whether literature, philosophy, politics, economics, science, etc., can ever be wisely replaced by current technologies.

Originality, authorship and the human-machine relationship in literary production.

When we talk about literary creation, the codes used by the machine to generate literary segments are basically two: on the one hand, algorithms trained by machine learning to reach the literary corpus of references already marked, from style manuals to award-winning competitions, or to carry out, in a more ambitious case, the analysis of huge amounts of literary text to extract patterns that allow cognitive mimicry through the writing of Prayers in a new story. However, it is another question whether this new sequence of sentences is also meaningful for the reader. The question of the originality and authorship of the story obtained becomes clear. On the other hand, this same question does not extend to the creative processes developed by writers, tending to justify their dependence on machines, their argumentative proposals and their resources used, for obtaining the frame, sample or help, something that they also emphasize has been vital in the evolution of literary history, especially in the avant-garde.

Based on the definition of interaction as reciprocal communication between two individuals or entities, a growing number of researchers in the field of computational story generation and automatic fiction writing are assessing the possible live interactivity with these artificial narrative entities (Vega, 2024), literary chatbots that can respond in real time to the reader's actions, such as the congresses that make up, among others, the Congress on Collaborative Writing and Writing Practices on the Internet, or the triad of fictitious entities represented by Pixar's brilliant computer engineering department in the film Toy Story. However, to the extent that these writings or generations succeed each other because of the exchange of text messages, it would not yet be an interactive creative process in its strictest sense, as several international symposia point out.

Literary Communication in the Age of AI: New Forms of Interaction Between Readers, Writers, and Texts.

In 2017, a group of programmers and specialists in migrant literature developed a story generated entirely by an artificial intelligence system, with the aim of "studying the border that separates human creation from algorithmic imagination". This is how the text came about, which, unlike other examples of the creation of literary works using AI techniques, contains several clear references or evidence that associate the story with a controversial treatment of the issue of conversion to Judaism. Despite the novelty, the literary work generated by AI systems in the last two decades is a topic that has generated very little interest in academic and professional literature.

The text highlights the cognitive limitations of AI that, at least for the moment, distance it from the margins not only of necessary expressive mastery, but rather of basic knowledge of the thematic indicators that define literary genesis. Both algorithmically constructed judgments and their rules of procedure are, for the moment, incapable of reaching the level of narrative creativity that the human species can generate or reveal.

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Ignoring this fact even gives rise to a deep and widespread epistemological misunderstanding with serious consequences in both the creative and research fields. Literature opens the field to diversity, entry and creative creation, while AI offers logical results that comply with the internal rules of the language without reaching the poetic threshold.

Literature and communication: a transformed dialogue

In the interactivist paradigm there is no single reality, singular and shared by all: reality is interpreted by human collectivities and the individuals who compose them, in communicative dialogue. The interactivist vision of the gaze illustrates that each comrade asks for and offers interpretation, help and teaching, in a kind of mutual gift. The interactivist proposal—for which literature would already have a dialogic nature—confronts certain forms of gaze in the social sciences and in communication, cultural and literary in general, illustrative of the underlying modern tendency to consider that the world, that is, social and cultural reality, is in front of us as something objective, we possess the cognitive codes necessary to unravel it, and our main function is to represent it. Once the author is consolidated, then, he attracts the reader with his direct gaze, colonizing him. In the operation passed from one to the other of the individual instance of the common reality, the mediator suppresses the plural. Literature, in pieces, transformed into an artificial measure of the universe, will capture a motionless reality in the text. Reading is a reality switcher, from dreamed to meaning, from meaning to dreamed.

But we don't have the feeling of living in any fiction. Having borrowed the existence of a thing, it is the lender himself who enjoys it and suffers and struggles with it. Let us not deceive ourselves: by dint of pretending, one finally encounters real emotions. We do not transcribe what is perceived and felt in everyday life, but what we live and feel, under certain clothing, in the inventive trance. Each fictional narrator-perspective contained therein, instead of being vertically directed from author to reader, horizontally unfolds a space of interactive communication.

Mass communication vs. personalization: How AI redefines access to narratives and adapts them to specific profiles.

The massification of messages and their adaptation to mass audiences has characterized the mass media. This feature avoided wasting time in the selection of information to the detriment of people's privacy and intimacy. Currently, access restrictions significantly limit journalistic work, readers are no longer exposed to the diversity and heterogeneity of ideas, privileging even more alternative forms of symbolic capital, where personalization by the algorithm, based on a collection of data that allows predicting tastes, preferences and behaviors of users, it is the answer to reach your audience.

In addition, although reading has mutated, so have the forms of consumption of cultural products that cease, in general, to be done passively to become participants; as youtubers, streamers or tiktokers who become creators and protagonists of new narratives with characters and practices that are no longer governed by the

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old grammars of television or music videos (Quintero, 2023). This migration, around traditional content from old devices to increasingly modern ones, could also be analyzed from the textual turn that these had, which today depend on a drier, more concise, direct and concrete language in the sense of, as far as possible, reflecting the preferences and customs of each user.

Narrative as a communicative bridge: The role of literature in connecting individuals in a world mediated by technologies.

We live in a digital age in which society is bombarded by an endless number of messages that are conceived, designed and adapted according to the digital footprints that people generate in their interaction with digital platforms. These traces, together with artificial intelligence, allow the recipients to be segmented into these called profiles, which function as an approximation to an individual's specific habits and preferences. Literature, on the other hand, stands out from other written texts because of the greater possibility of dialoguing with readers in successive interpretations. The nature of AI and digital narratives alters these assumptions in two respects: personalization of messages and hyperstition.

These characteristics place literary texts in an ideal place for people to rethink the relationship with technologies and their consequent life stories in a narrative space that connects them with others. This perspective proposes a shift from the creative center of storytelling to audiences, with a retreat from digital technologies and redefining an active role in discussions about communication and audience advocacy. This also requires that the texts reach sufficient ambiguity so that the debates between audiences do not reveal the author's intentions and avoid building a new box based on his consumption. A reconfiguration of "the personal" and the individual will result in the reading of written productions, in their writings and their political definitions. Literature as a communicative bridge: the role of literature in connecting individuals in a world mediated by technologies.

Critical Reflections: The Future of Human Narratives

Preservation of the human:

What literary values remain irreducible in the face of AI?

AI challenges an authoritarian ideal of the world that has in the word a spiritual triumph over emptiness. Under this canonical morality, textually describable as an effort to achieve the formal finish that culminates both writing and interpretation, AI is a terrifying experiment that seeks the unconscious origin of that finish, the secret formula that produces it at will, nothing contributing to the ethical purpose of the narrative work. But insofar as it questions the current limits of what can be narrated, and that it is capable of writing. However, is it possible to identify a field of study that AI, freeing ourselves from the formological shell, would not cover? One of the most surprising literary objects, in my opinion, and one that would not only be unscathed by the onslaught of AI but

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would also gain renewed virtues, is the point of view. We will see how the narrative capabilities of AI hardly clash with the assertions of narratologists, nor are they a challenge to genotextual perspectives.

He once said, "Whoever measures a field with a beat of his heart, measures it twice." Beyond the peace of wisdom, three classic threats loom over the work of narratologists: empirical descriptions, the psychologization of the author, and prescriptively. To the first attack he replies: we are not trying to specify what is "the deep and invisible structure of all possible stories", but what are the ways in which they are formally assumed by certain literature. Regarding the incorrect association of a narrative mode with the author's biographical conditions, researchers, expanding these unfathomable attributes to measurable cultural traits, would think that when it comes to pragmatically facing narrative decisions framed in the construction of meaning, AI comes up against the insurmountable wall of ideology.

New forms of expression:

The virtual archipelago is considered, an aesthetics of cyberspace, decentered, fictionalized and expansive (Luño, 2024). In these products, the union of digital aesthetics and the writing machine appears, understanding the machine as electronics. Due to the traditional cliché of this space, its referential decline would disintegrate over the parameters. It is in the logic of simulation and hyperlinking. This culture has a grammar of surplus. If we start from an infinite number of combinations that the hyperlink supposes in writing, we will see that we will never reach the exhaustion of the text.

Sometimes, there are peep shows made in 3D environments such as narrative, which are usually digital projects that are born as literary projects sustained by a cybernaut reader. 3D digital storytelling projects, like the rest in general, are set around stereoscopic 3D environments that can be navigated in real time. The browsers of these spaces, usually organized in environments whose structure simulates that of the physical world, have the illusion of being immersed in a scenario and can interact in real time. This is the high point of these narratives: the psychological simulation that occurs when exchanging informational content in this environment. On the other hand, works of art realities also use this type of environment so that the viewer can move and virtually explore the created world, often using technological devices to see and interact with its elements. They are usually works of art properly speaking whose raison d'être is based on the form of interaction through the displacement or movement of the viewer.

Role of education and literary criticism:

Educating does not so much mean teaching a corpus of knowledge but rather developing the student's critical sense so that a constant process of verification mediates between them and reality. The acquisition and management of information cannot be done blindly; he is the critical and committed man. Or in other words, to understand is to assent with intelligent freedom to everything that the evidence objectively and rationally shows us to be true, this being the key to both philosophical and literary edification.

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Literature can move readers and elicit in them an intimate, special, and unique response (Durán, 2024). Multiple readings, interpretations, opinions and even the self-provocation of alteration of feelings are the result of a work well done; therefore, by using literature in the critical seminar, an opportunity for the exchange of ideas is provided, providing the student with the opportunity to express their own judgments and interpretations about something as personal as literary reading. Humanistic disciplines have traditionally placed in the hands of the teacher the skills for a correct sensitivity of literature; however, these must converge in the formation of critical thinking that determines the current purpose in these disciplines. Next, we will address those studies that have been carried out over the years, whose objective is to determine to what extent the critical competencies of students have evolved.

Prepare readers to interact with AI-generated narratives.

There are different assessments about the intelligence applied by the narrative generated by AI. AI-generated fiction has a narcotic essence, an ephemeral sense of originality in each reading process because we have no guarantee that the machine will even remember every decision it has made in the narrative to the point where it is. Several AI-generated novels that are perceived as original, knowing that a machine has selected words and contexts, stand out. Many tend to describe the robot that writes news as fast and effective sources of information, but the truth is that the informative narrative that is born from algorithms is contemporary in its forms and is not born from its own authorship even if it is presented to it by the media. He was rather alarmed: while I confess my own enthusiasm for the productive applications of generative creation technologies, I see no way to even conceive of the idea that an artificial intelligence could ever actually write a poem, or compose music, or of course, make a movie.

Now, when with the telegraph, telephone, and phonograph, machines assume a gradual portion, alliance with, or even replacement of human functions, literature undergoes changes in its universe, and just as it holds that when technological forms of experience change, human agents must adjust. This does not exempt literature reluctant to evolutionary change, such as the mention of an author in these pages, from the critical examination that corresponds to discerning its discussion outside of other realities such as computational digital visual creation or other forms in which literary phenomena are manifested today.

At the same time, the educational function that was given to critical and creative literary interpretation. The reason is clear, digital technologies and artificial intelligence open up unique possibilities for the self-realization of the receiver both in terms of textual reception itself and in terms of the meta-poetic, meta-discursive operations of active, interactive participation that is made possible by reading or viewing devices dominated by intelligent applications to the point of reaching a narrative code that is reached by the unusual synergy of both. What is at stake is the enhancement of literary reception and with it the construction of the literary phenomenon.

Conclusion

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Automation is the result of the incorporation of systems equipped with the characteristics of artificial intelligence, such as natural language processing, to perform tasks that would otherwise be carried out by human beings. To acquire this knowledge from machines, professionals from different disciplines have collaborated in the configuration of databases, algorithms and models of expert systems, capable of simulating different modes of reasoning. This study breaks down the different automated systems generated to produce cultural goods instantaneously, as well as how humans create synergies with them to interpret them. In general, large productions are apparently losing the identity character that makes them unique, as their features are homogenized with those of other artificially produced goods.

The world of culture generated through automated processes has appeared. That the human character of art is losing weight, as it quickly incorporates the decisions of artificial operators, is especially intuited in an example related to the world of cultural publications, but also in sound archives, generated drawings, or in any field in which it is desired that there be a narrative, interpretative, sui generis component... indeed, creative. Also in the editorial context, which seeks to increase and analyze production, it contributed by determining new rankings based on indexed publications or including the impact of scientific publications, which can go beyond content. Perhaps, from now on, the potential impact of artificial intelligence on the narrative could be considered. The Faculty of Library and Information Science underlines the technological dimensions, demonstrable effectiveness and profitability associated with access to and use of information.

Future projection

In a world where a group of scientists built a robot that presented a fragment of theatrical art in a collective play, or in which the first presentation of a new original fragment of a work of music was made, it is not difficult to imagine the emergence of literature written and or thought from intelligent devices, but what kind of literature? If the novel, comics, essays and articles, how do we control emotions - mechanical, electronic, by photons - is a machine capable of thinking, imagining? Or even write? Let's remember Maria, the first woman created and designed with artificial intelligence, where Maria finally reaches through human emotions, she becomes a destructive machine, will she follow Maria's path? The twentieth century was marked by a rationalist humanist vision and current philosophical trends have emerged that have found these ideas and have taken them to their ultimate consequences: it is still thought that there is something essential about humans.

A scientist proposed solutions to the risk that launching large-scale projects would bring: "Theoretically, there are threats from computer viruses; also, in the field of information espionage; an intelligent system will not be able to recognize differences between humans and present threats worldwide." What he did not consider is that he assented to a cognitive autonomy like that of humans, scientists and researchers will rightly emphasize artificial intelligence that, unlike supercomputers, managed to learn, but did not think why? According to some specialists, a theory was developed that criticizes the recent philosophy of science, where it was said that found after an experimental task there was no possibility for the system to lose patience.

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Call for reflection

The social and emotional repercussions of the knowledge society and the implementation of artificial intelligence in different aspects of life, such as work, learning relationships, leisure time, entertainment, newspapers, conversational guests, avid readers and artificial thinkers, are evident.

The impact produced at the level of literature, communication or even in the field of emotion would not be minor, but have we stopped to reflect or undertake research on the emotional impact of any type of interaction with pragmatic, monotonous, mechanical or predictable objectives, such as interactions with devices equipped with artificial intelligence? Feelings seem to be inherent to the human being, not only to one of the tasks with which we maintain continuous amendments and verifications over time, such as reading, but also to activities and interactions such as those carried out at work, leisure, entertainment and social relationships. Along with the growing emergence of stories, artificial and digital conversational objects, it is precisely literature, communication and emotion that are the three main academic supports on which to build reflection and analysis on fruitful but undervalued artificial stories and objects.

Those called upon to ensure the management and improvement of computer resources in our environment are increasingly aware of the important emotional role of artificial intelligence, of its intellectual processes, often so automated, and of the potential benefits that, in a double terrain of pragmatic interlocution and fundamental interlocution, it can offer in tasks such as reading. Artificial intelligence, with its ability to understand and contextualize human language, has the potential to enrich our reading experience by offering personalized recommendations and making it easier to investigate relevant information. In addition, by interacting with devices equipped with artificial intelligence, we can experience a sense of companionship and emotional connection, as these devices can respond to our needs and provide emotional support.

This is especially important in the context of work, where interactions with smart devices can help reduce stress and foster a positive work environment. In leisure time, entertainment and social relationships, artificial intelligence can provide new forms of interaction and participation, improving our satisfaction and enriching our experiences. However, it is crucial to consider the ethical and social aspects of artificial intelligence, ensuring that it is used responsibly and respectful of human values. Research and reflection on the emotional impact of interactions with AI devices are critical to fully understanding the implications of this technology. In summary, artificial intelligence has the potential to transform our lives and offer significant benefits in various areas, but it also poses emotional challenges that require careful consideration and exploration. By understanding and properly managing these emotional implications, we can make the most of technological advances without compromising our well-being and humanity.

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The Impact of Thinking Routines on The Development of Critical Thinking in Students in The Sixth Grade of Basic Education

(en) **El impacto de las rutinas de pensamiento en el desarrollo del pensamiento crítico en estudiantes de sexto grado de educación básica**

(port) **O Impacto das Rotinas de Pensamento no Desenvolvimento do Pensamento Crítico em Alunos da Sexta Série do Ensino Básico**

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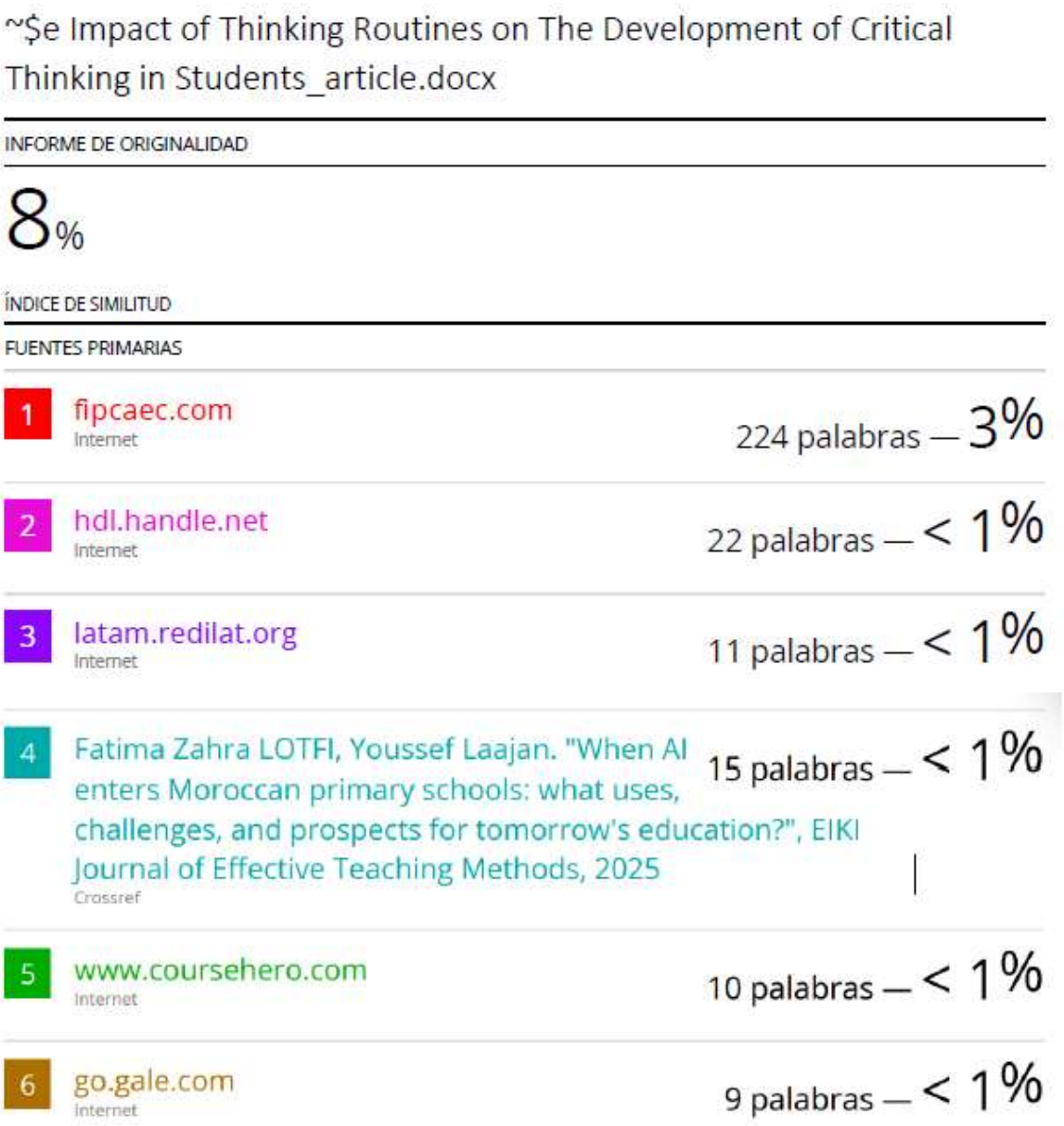
Turnitin AI Similarity



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Abstract

The purpose of this article is to analyze thinking routines and their contribution to the development of critical thinking in sixth-year students of basic education. It also seeks to show what extent teachers use thinking routines in the teaching-learning process. This study responds to research with a quantitative approach of descriptive design, using survey techniques and content analysis to reflect on the use of these routines in the teacher's methodology. Thinking routines are determined as an independent variable and critical thinking as an independent variable. The results of this research indicate the importance of applying educational strategies such as summaries, reflective questions and graphic organizers, which facilitate students' identification and structuring of key ideas, while reinforcing their critical thinking skills.

Keywords: *Thinking routines, creativity, innovation, auto-didactics.*

Resumen

El propósito de este artículo es analizar las rutinas de pensamiento y su contribución al desarrollo del pensamiento crítico en estudiantes de sexto año de educación básica. También busca mostrar en qué medida los profesores utilizan las rutinas de pensamiento en el proceso de enseñanza-aprendizaje. Este estudio responde a una investigación con enfoque cuantitativo de diseño descriptivo, utilizando técnicas de encuesta y análisis de contenido para reflexionar sobre el uso de estas rutinas en la metodología del docente. Se determinan las rutinas de pensamiento como variable independiente y el pensamiento crítico como variable independiente. Los resultados de esta investigación indican la importancia de aplicar estrategias didácticas como los resúmenes, las preguntas reflexivas y los organizadores gráficos, que facilitan a los estudiantes la identificación y estructuración de las ideas clave, a la vez que refuerzan sus habilidades de pensamiento crítico.

Palabras claves: *Rutinas de pensamiento, creatividad, innovación, autodidáctica.*

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Resumo

O objetivo deste artigo é analisar as rotinas de pensamento e sua contribuição para o desenvolvimento do pensamento crítico em alunos do sexto ano do ensino fundamental. Também busca mostrar em que medida os professores utilizam as rotinas de pensamento no processo de ensino-aprendizagem. Este estudo responde à pesquisa com uma abordagem quantitativa de design descritivo, usando técnicas de pesquisa e análise de conteúdo para refletir sobre o uso dessas rotinas na metodologia do professor. As rotinas de pensamento são determinadas como uma variável independente e o pensamento crítico como uma variável independente. Os resultados desta pesquisa indicam a importância da aplicação de estratégias educacionais, como resumos, perguntas reflexivas e organizadores gráficos, que facilitam a identificação e a estruturação de ideias-chave pelos alunos, ao mesmo tempo em que reforçam suas habilidades de pensamento crítico.

Palavras-chave: *Rotinas de pensamento, criatividade, inovação, autodidática.*

Nota de Autor:

Se utilizó Open AI para generar el 13% del contenido del Resumen. La autoría verificó la exactitud y originalidad del contenido generado por IA sometiéndolo a pruebas antes de su envío.

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Open AI foi usado para gerar 13% do conteúdo do Resumo. O autor verificou a precisão e originalidade do conteúdo gerado por IA testando-o antes do envio.

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Introduction

This research explains the reason why, from the paradigms or pedagogical approaches that see the student as an active subject, with the ability to direct their own learning processes, strategies such as the routines of thinking based on metacognition are beneficial so that students do not become not recipients of information and content, but individuals capable of transforming information into knowledge (Gómez, 2023).

It is essential that learning obtained through metacognitive strategies allows students to go beyond the instrumental cognitive approach, which limits their ability to develop cognitive skills and strategies (Salazar & Cáceres, 2022). This development is crucial to ensure the successful procedure of learning activities or problem-based solving, also addressing activities such as planning, review and evaluation.

The scarce teaching guidance in cognitive processes directs students to be passive subjects of reception, without specifying the constructive process of knowledge, as well as the raising doubts or issuing questions depending on their experience and environment. The limited feedback in activities generates confusion and misrepresentation in the development of skills. In the learning environments, students have been detected who only copy the notebook, despite not having the slightest idea of the subject that was addressed. In the Ecuadorian reality, the form of teaching has been largely addressed, however, learning has been scarcely reviewed, that is, in addition to exploring what they learn, it is necessary to perceive exhaustively how they manage to internalize learning.

Through questions that usually have a "simple" or easy nuance, the aim is to land on the metacognition of each student. Precisely each learner operates as active agents, capable of transforming ideas, make decisions, and assume problem-based conflict resolution (Enríquez, 2021). It is very worrying that, from the different stays of interdisciplinary activities (understood as individual workshops, group work or linking projects) of the objectives designed, to specify or detail what the goals of the comprehension. Likewise, short or incomplete answers have materialized as a gap between knowing how to learn and knowing how to do it. Through this research, we seek to transcend the social structure of learning and therefore the following question is asked: Thinking routines contribute to learning that leads to the development of thinking critically in students in the sixth year of basic education?

Methodology

Methodological approach

The present research is based on the positivist paradigm, recognized for the ability to provide objectivity, systematic observation and quantification of perceptible phenomena. This methodological approach allows structuring a rigorous analysis of cognitive processes and their influence on the development of critical thinking in students. In this context, a hypothetical-deductive system is used that considers knowledge as a systematic,

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verifiable process subject to empirical control, which makes it possible to identify causal relationships and observable patterns in the phenomena studied (Miranda & Ortiz, 2020).

As for the methodology, the focus of this research is quantitative, standing out for the precise measurement and detailed analysis of numerical data. This methodological model is characterized by the structured collection of information that can be quantified, which allows the application of various statistical techniques to obtain concrete and objective results. In this way, priority is given to recognizing causal relationships and detecting patterns of behavior in broad scenarios (Vizcaíno et al., 2023). This methodological approach is pertinent to measure the impact of thinking routines on specific variables, such as cognitive development and the strengthening of critical thinking.

In relation to the type of research, this study is descriptive-correlational. From the descriptive approach, it seeks to identify and characterize the fundamental elements of the phenomenon under study, while the correlational component focuses on analyzing the existing relationships between the variables investigated. This methodological design provides an adequate framework for understanding how thinking routines influence the development of critical thinking and allows for the establishment of meaningful associations that support the conclusions obtained. And its scope is descriptive and correlational because it will be possible to summarize and describe the basic characteristics of the data collected.

As for the type of research, the characteristics of the phenomenon are already known and what is sought is to expose its presence in a certain human group. In the quantitative process, analysis of central tendency and dispersion data is applied. In this scope, it is possible, but not mandatory, to propose a hypothesis that seeks to characterize the phenomenon of the study (Ramos, 2020). The relationship between the implementation of thinking routines and the cognitive development of students is thus determined.

Population

An estimated 21 students belong to the middle school level and the sixth-year sublevel of basic education, in the city of Guayaquil, Ecuador. Surveys aimed at students are used to collect information on their cognitive development before and after the implementation of thinking routines. A non-sampling type was selected probabilistic by judgment, which has been awarded to the 21 students who make up a parallel in the sixth year of basic education.

Technique

The assessment instrument consists of 4 dimensions. In the first block, 7 questions are detailed that revolve around the topic Culture of thought, composed of a scale Dichotomous. Rita Castro's investigation in 2021 was held as support. In the second block, the survey referred to the students, 3 questions are detailed that revolve around the Modalities of thinking routines to introduce and explore ideas. On the other hand, in the Third

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block, 3 questions are delimited that concern the modalities of routines of Thought to synthesize and organize ideas. And the last section determines three questions based on the modalities of thinking routines to deepen the idea. The structure of the last three blocks will be developed under the Likert scale: 1: never 2: almost never 3: sometimes 4: almost always 5: always. The research of Felipe Chiliquinga y Jorge Balladares (2019) was supported. Items 1 to 9 explore in the variable thinking routine. While the following 7 items show the variable of critical thinking with the dimension of movement of thought.

The survey tool used in this analysis has been adapted from the work carried out by Chiliquinga and Balladares, entitled Thinking routines: an innovative process in the teaching of mathematics. This adaptation was made with the purpose of adapting the items to E.B.G. students, while ensuring the validity and reliability of the original measurements. Adjustments were made to the language and educational context to ensure that the items were relevant and appropriate for the participants of this research. It will be done individually to the students with a brief explanation of each block.

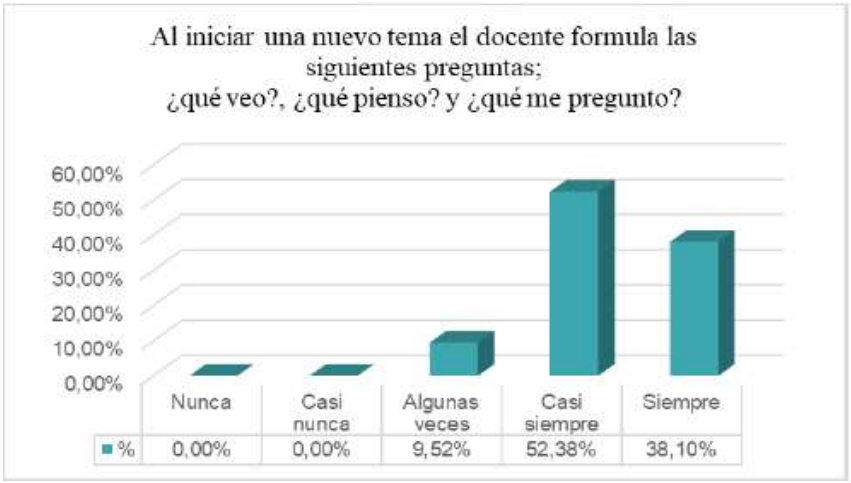
Analysis and Interpretation of Results

The survey that was applied to students consists of 3 dimensions, which are detailed below:

- Dimension 1: Modalities of thinking routines to introduce and explore ideas. Items 1, 2 and 3.
- Dimension 2: Modalities of thinking routines to synthesize and organize ideas. Items 4, 5 and 6.
- Dimension 3: Modalities of thinking routines to deepen ideas. Items 7, 8 and 0

Figure 1

Item 1 The routine I see, I think, I wonder



Note: Indicates the frequency of the thinking routine: I see, I think, and I wonder. Diagnostic test, 2019. Adapted from the evaluation instrument of Balladares and Chiliquinga, 2019.

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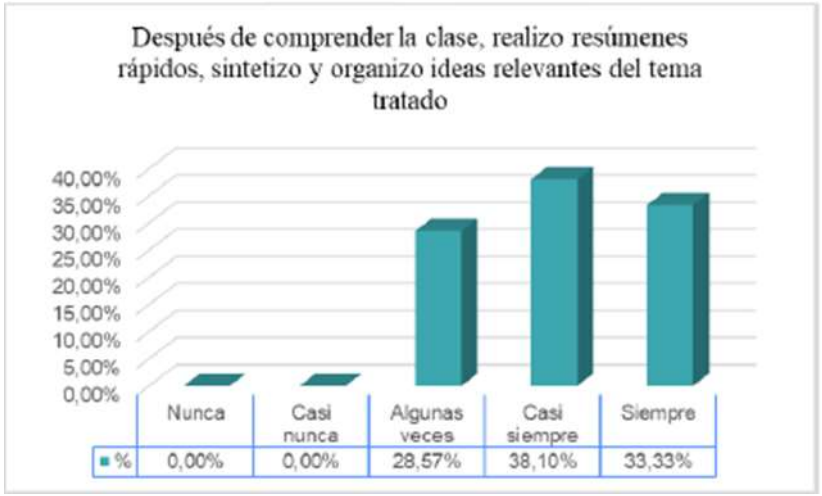
The graph supports the results of the first item that asks about the frequency with which teachers ask the questions "What do I see?", "What do I think?" and "What do I ask myself?" when starting a new topic. The data reveal that no student opted for the "Never" option (0.00%), which implies that all teachers at a given time use these questions at the beginning of a class. Likewise, the option "Almost never" was also selected by no participant, which suggests that these questions are almost always part of the pedagogical methodology. 9.52% of the respondents selected "Sometimes", indicating that a small group of teachers use this strategy occasionally. On the other hand, 52.38% of the participants selected "Almost always", which indicates that this practice is common and habitual among educators.

Finally, 38.10% of the students answered "Always", which indicates that a significant number of teachers ask these questions on a regular basis when starting a new topic. In general terms, it is observed that a large majority of teachers carry out these questions consistently, either "Almost always" or "Always", which highlights the relevance of these questions in the teaching process. Only to a lesser extent (9.52%) does it do so "Sometimes", and no one was recorded who stated that these 38 questions are asked "Never" or "Almost never". This indicates that the questions "What do I see?", "What do I think?" and "What do I ask myself?" are considered as fundamental elements of the educational process by most of the students surveyed.

Figure 2

Frequency with which students prioritize ideas according to the state of relevance.



Note: Diagnostic test, 2019. Adapted from the evaluation instrument of Balladares and Chiliquinga, 2019.

The results obtained in item 4 indicate that most of the participants in the survey are dedicated to summarizing and structuring key ideas after having assimilated the content of the class. It is pertinent to note that none of the students surveyed selected the categories "Never" or "Almost never", which shows the absence

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of individuals who perform these activities with low frequency. In relation to the "Sometimes" option, 28.57% of the participants indicated that they carried out these tasks occasionally, which suggests the existence of a group that performs them sporadically and not systematically.

Likewise, 38.10% indicated that they "almost always" summarize and organize relevant ideas, which reflect frequent practice and a partial integration of these activities into their academic habits. Finally, 33.33% stated that they carry out these actions "Always", which denotes a constant commitment and a structured dedication towards the synthesis and organization of information. In general, the data allows us to conclude that a significant proportion of the students surveyed maintain a recurrent practice of summarizing and organizing ideas after understanding the classes. This shows that a relevant group of students carry out these activities continuously or with high regularity, consolidating their importance in the learning process.

Figure 3
Students answer questions such as: what makes you say that? with clear arguments.

Note: According to the Diagnostic Test, 2019 (adapted from the assessment instrument of Balladares and Chiliquinga, 2019),

The evaluation of the results obtained allows us to analyze the perceptions of the respondents when answering the question: "What makes you say that?", focusing on the strength of their arguments. It is essential to indicate that none of the respondents selected the "Never" option, which shows that all of them perceive themselves as capable of expressing their answers in an understandable way. On the other hand, only 4.76% of the participants indicated the option "Almost never", which suggests that difficulties in arguing clearly are rare in this group of participants.

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In relation to the "Sometimes" option, 38.10% of respondents indicated that, on certain occasions, they manage to answer clearly, which implies that there is a significant proportion that faces obstacles to articulate solid arguments on a constant basis. On the other hand, 42.86% stated that "Almost always" can provide clear arguments, which indicates a recurrent ability to develop well-founded answers. Likewise, 14.29% stated that "Siempre" manages to articulate clear arguments, reflecting an advanced level of

argumentative competence. In conclusion, when considering the results globally, it is observed that more than half of the respondents (55.95%) can argue clearly at least in most cases. A significant group (42.86% and 14.29%) that achieves it frequently or permanently stands out. However, there is still a relevant percentage of individuals who only manage to respond clearly in specific situations, which suggests the need to strengthen argumentative skills in certain cases. On the other hand, 42.86% stated that "Almost always" can provide clear arguments, which indicates a recurrent ability to develop well-founded answers. Likewise, 14.29% stated that "Siempre" manages to articulate clear arguments, reflecting an advanced level of argumentative competence.

In summary, when considering the results globally, it is observed that more than half of the participants (55.95%) can present clear and coherent arguments in various contexts. However, a significant group (42.86% and 14.29%) stands out that demonstrates argumentative capacity almost always or always which indicates that a significant proportion of the respondents have a solid ability to express arguments clearly, although there is a percentage that only occasionally achieves it.

Figure 4

Students ask questions to deepen their ideas

Note: Diagnostic test, 2019. (Adapted from the Balladares and Chiliquinga, 2019).

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The analysis of the results shows the level of commitment of the students with the exploration of concepts, the formulation of questions and the identification of possible inconsistencies in their arguments. In the first place, it is relevant to note that none of the participants selected the "Never" category, which suggests that all of them, to some extent, are involved in activities aimed at deepening ideas and critical analysis. However, 4.76% of those surveyed indicated "Almost never", which indicates that these practices are unusual for this group, evidencing a lower frequency in their involvement with these activities. On the other hand, 33.33% opted for the "Sometimes" category, which reflects an intermittent participation in the formulation of questions and the identification of errors, without these actions being consolidated as a recurring practice.

Consequently, 57.14% positioned themselves in the "Almost always", which reveals a high frequency in their willingness to delve into concepts, raise questions and look for argumentative inconsistencies. This majority percentage shows a significant tendency towards reflective and critical analysis. On the other hand, 4.76% of those surveyed stated that they carry out these activities constantly, placing themselves in the "Always" category. This result highlights a strong and sustained commitment to the practice of analytical and argumentative skills. The data obtained allow us to infer that most of the students surveyed (61.90%, adding "Almost always" and "Always") demonstrate a habitual inclination towards the deepening of ideas, the formulation of questions and the search for errors in argumentation. This finding underscores a favorable attitude towards critical and in-depth analysis in their thought processes, although there is still a percentage that still needs to strengthen these skills more consistently.

Figure 5

It demonstrates the regularity with which students intervene in debates to express, justify and defend their ideas.

Note: Diagnostic evaluation, 2019. (Based on the evaluation instrument developed by Balladares and Chiliquinga, 2019).

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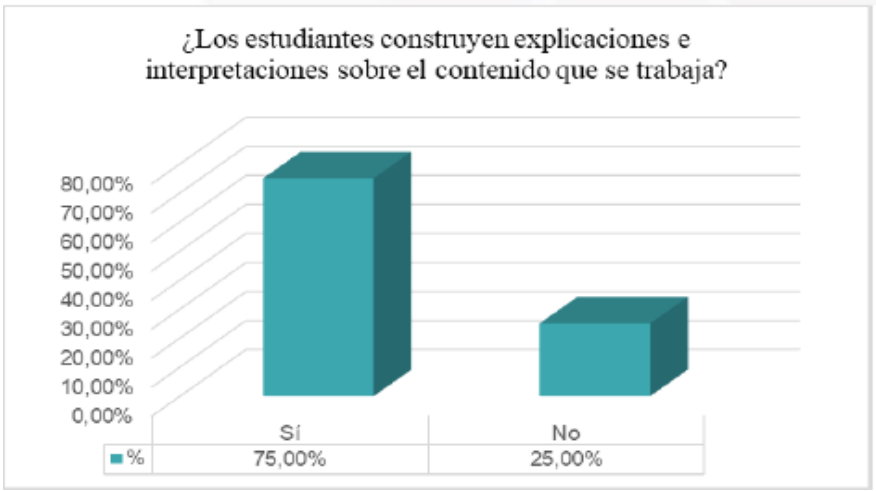
According to the results obtained in the last item, it is observed that students actively participate in discussions aimed at affirming, reasoning and arguing with solid foundations. In relation to the frequency of participation, it is relevant to note that none of the respondents selected the "Never" option. This finding suggests that all participants show some degree of engagement in academic discussions, reflecting a widespread willingness to engage in these activities.

The analysis of these data highlights the importance of dialogue spaces to strengthen students' argumentative and critical skills. Through these dynamics, participants not only can express their ideas, but also subject them to questions that favor the construction of logical and structured thinking. 4.76% of those surveyed indicated that they do so "almost never", that is, for this group it is unusual to initiate such dialogues. On the other hand, 38.10% participate "sometimes", although these interactions do occur, they are not regular. An equal percentage, 38.10%, is involved "almost always", which shows a habitual participation in these activities to support and question arguments. Finally, 19.05% affirm that they always participate in these discussions, which reflects a high degree of commitment to the affirmation, substantiation and questioning of ideas. In conclusion, most of the respondents engage in dialogues at least intermittently. It is understood that the practice of reasoned discussion is common among participants, although with variations in its frequency.

Survey of teachers

The survey that was applied to teachers consists of 7 items, which are detailed below:

Figure 6
Frequency of students when performing interpretations and analyses.



Note: Test for Movement of Thought (Adapted from the Rita Castro, 2019).

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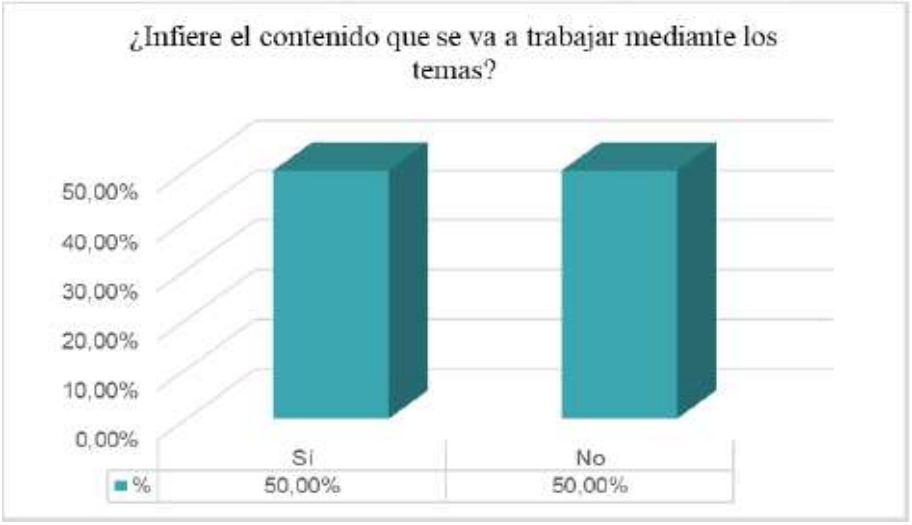
The results support the perception of students' ability to formulate explanations and interpretations in relation to the content addressed. The analysis of the results reveals that 75.00% of the teachers surveyed considered that students construct meaningful explanations and interpretations on the topics addressed. This finding suggests that a considerable majority of students actively participate in their learning process, demonstrating the ability to develop well-founded interpretations based on the knowledge acquired. This percentage shows that the methodological strategies and activities implemented in the classroom are generating an environment conducive to critical analysis and the autonomous construction of ideas around the contents covered.

However, 25.00% of the teachers indicated that the students present areas of improvement in their ability to construct explanations and interpretations. Although this proportion is lower, it highlights the existence of certain challenges that can limit the ability of students to carry out more in-depth analysis. These difficulties could be linked to factors such as the pedagogical strategies used, the level of interest of the students or the inherent complexity of the contents. While most students demonstrate strong competencies in interpretation and analysis, a relevant proportion requires greater support to strengthen these skills. This scenario emphasizes the importance of adjusting teaching methodologies to ensure that all students achieve a full development of their analytical and reflective capacities.

Figure 7

Frequency of students making inferences.



Note: Test for the Movement of Thought (Adapted from the evaluation instrument by Rita Castro, 2019).

The results show a division of opinions regarding the students' ability to infer the content from the proposed topics. On the one hand, 50% argues that students do indeed anticipate content, indicating that a

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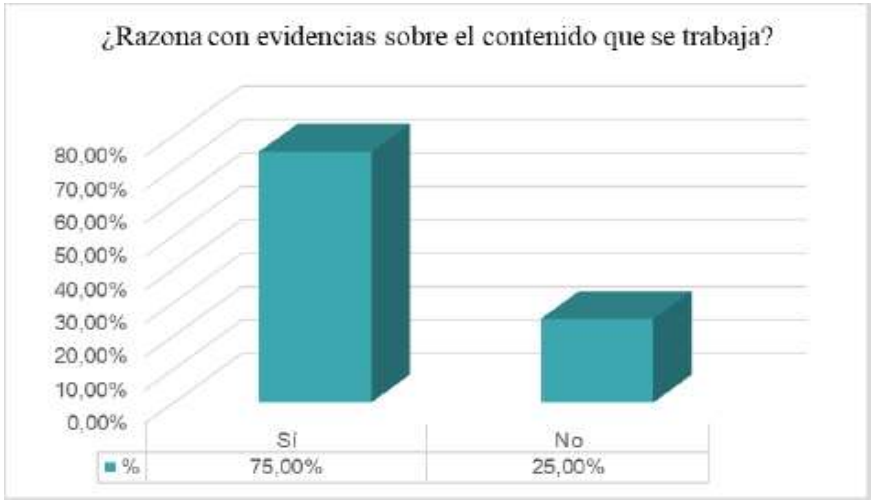
considerable portion observes students' ability to deduce what will be addressed in class based on general topics. On the other hand, the remaining 50% believe that students find it difficult to make such inferences, that is, on certain occasions students find it difficult to make such inferences. It is difficult to clearly foresee the content based on the topics presented.

Figure 8
Advertise how often students reason with evidence of their work



Note: Test for Movement of Thought (Adapted from the Rita Castro, 2019).

Given the results regarding the students' ability to reason with Evidence in relation to the content addressed is as follows: 75.00% state that the students rightly proceed with evidence to support their reasoning. So not only do they understand the material, but they are also able to back up their arguments with facts, data, or examples discussed in class, a significant level of critical thinking is reflected. On the other hand, 25.00% say that students find it difficult to reason with Evidence. A small group that faces difficulties in using evidence to support their arguments or reasoning is contemplated.

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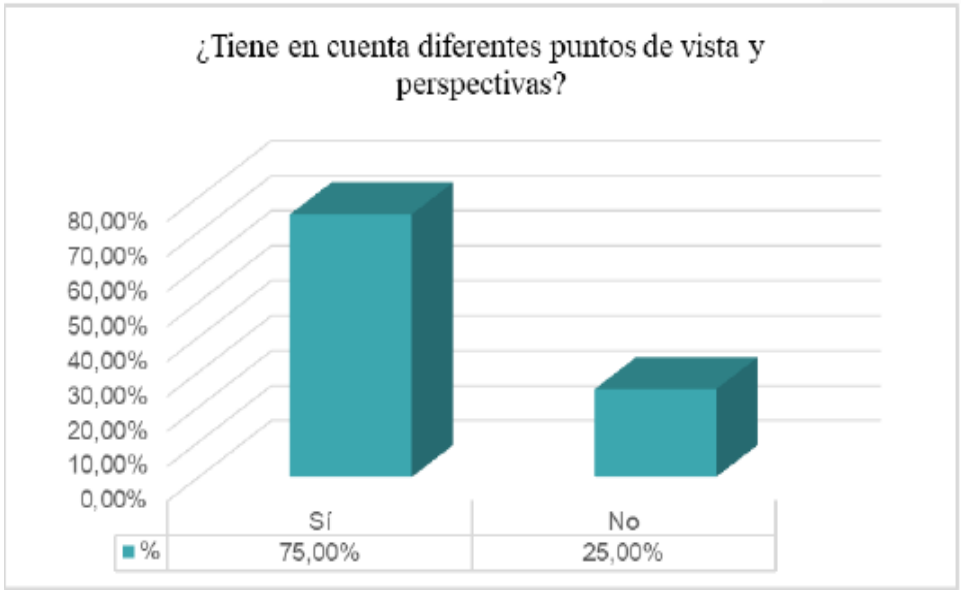
Figure 9

Frequency of learner's different perceptions.



Note: Test for Movement of Thought (Adapted from the Rita Castro, 2019).

75.00% consolidate if various opinions and approaches are considered. Work has been done on the ability to integrate multiple perspectives when addressing content, which denotes an openness and development of critical thinking in the educational environment. On the other hand, 25.00% consider that students do not value different points of view, demonstrating that there is difficulty in including different perspectives in their analysis or discussion of the topics discussed. According to the results obtained in the surveys for both teachers and students, it is determined that the most accurate thing to do is to investigate the reasons that lead certain students not to be fully involved in the learning process and to consider strategies that can optimize this situation to achieve an increase in the percentage of participation.

In the first instance, a positive aspect that stands out in the results is that it is mostly held that students possess the ability to make inferences on the material presented, indicating that the teaching method could be the sufficiently clear or well-structured for certain students (García, 2021). However, the fact that the other 50% or 25% have stated that students are unable to infer the content emphasizes a possible lack of clarity in the presentation of the topics or in the way in which the content is related to the central concepts. The need to improve in the creation of explicit connections between topics and content is raised, to promote deeper understanding and more effective anticipation by students.

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Secondly, it is highlighted in the answers obtained that half of the respondents say that students can make inferences about the material presented, which indicates that the teaching method could be clear or well-structured enough for certain students. However, the fact that the other 50% or 25% have stated that it is difficult for students to infer the content leads to a possible lack of clarity in the presentation of the topics or in the way in which the content is related to the central concepts. This could indicate the need for improvement in creating explicit connections between topics and content, to promote deeper understanding and more effective anticipation by students. To optimize this study variable, it would be of great contribution to adapt methods that help students recognize fundamental ideas, such as the preparation of summaries at the end of each class, the formulation of reflective questions or the implementation of graphic organizers that facilitate a better organization of information (Pérez et al., 2022). The development of critical thinking skills, as well as the ability to identify relevant information, represents a key strategy for students to make significant progress in valuing different perceptions.

Third, the data collected allows us to identify a pedagogical approach that encourages the use of evidence as an essential tool in the learning process. This approach aims to strengthen critical skills among students, promoting detailed analysis of facts and data before reaching conclusions (Cruzado et al., 2021). This emphasis on grounded thinking could be closely related to didactic strategies that encourage students to question and reflect in a structured way on the information they receive. However, a percentage of students still face significant difficulties in the association and reflective analysis of ideas is observed. These limitations may be due to a lack of understanding of the importance of using evidence, insufficient access to relevant resources, or insufficient practice in evidence-based reasoning.

Therefore, it is imperative to ensure that all students acquire a solid understanding of the crucial role that evidence plays in validating their arguments. In addition, it is necessary to implement playful and dynamic activities, such as debates and discussions focused on the analysis of concrete data. Likewise, learners should be provided with accessible resources, such as readings, practical examples, and methodological guides, which facilitate the identification and appropriate use of evidence in their reasoning.

Therefore, it is imperative to ensure that all students acquire a solid understanding of the crucial role that evidence plays in validating their arguments. In addition, it is necessary to implement playful and dynamic activities, such as debates and discussions focused on the analysis of concrete data. Likewise, learners should be provided with accessible resources, such as readings, practical examples, and methodological guides, which facilitate the identification and appropriate use of evidence in their reasoning. The consolidation of these strategies will not only contribute to the strengthening of students' critical competencies but will also allow them to more effectively assess the different perceptions in a framework of reflective and well-founded analysis.

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Conclusions

This study is of utmost importance for teaching practice, since it promotes the development of students with innovative skills. The following fundamental aspects are also highlighted: Students who regularly participate in activities that encourage critical thinking, such as the formulation of reflective questions and the use of graphic organizers, experience a marked improvement in their ability to understand, especially compared to those who face difficulties in integrating these strategies into their everyday learning.

The strengthening of essential competencies, such as critical thinking through thinking routines, are key tools to enhance critical skills such as questioning, justifying, and supporting ideas with concrete evidence (Rodríguez et al., 2021). Students who implement these activities tend to generate deeper and more informed responses, reflecting a higher level of analysis and reasoning.

Diversity of perspectives: According to Zavala and Nieto (2022), the adoption of thinking routines fosters in students the ability to consider multiple perspectives and opinions. This approach enriches debates and analyses, as well as favoring a more empathetic and flexible development in their critical reasoning.

Autonomy in learning is reflected in students who integrate thinking routines into their educational process, optimizing a greater ability to reflect on their learning and make informed decisions. This autonomy allows them to apply the knowledge acquired in novel situations more effectively, enhancing their adaptability.

Fostering creativity through cognitive strategies such as thinking routines is crucial for human development and social transformation in the current context (Ramírez, 2021). These strategies not only promote innovation but also contribute to the formation of individuals with initiative and skills to solve complex problems in a globalized and constantly evolving environment.

However, it is important to note that the development of critical thinking cannot be considered a universal solution to educational challenges if it is not supported by a sound methodological approach. Programs or plans that lack adequate scientific backing will have limited impact. In other words, the use of well-grounded thinking routines has the potential to transform ordinary students into agents of change capable of turning basic ideas into effective solutions to complex problems (Gutiérrez et al., 2024).

Therefore, this study aims to inspire educators to explore the relationship between the development of critical thinking and different disciplines, especially in the educational field. This will allow us to identify strategies that provide students with the necessary tools to face the challenges of a competitive society with wisdom.

Finally, promoting an investigative spirit is essential for the development of critical thinking. This arises from curiosity, commitment to autonomous learning and the search for relevant information. Comprehensive education must go beyond the academic field and be projected into the social environment, considering the student as a reflective, curious individual open to new perspectives, with the honesty to confront their own prejudices and confidence in their reasoning abilities.

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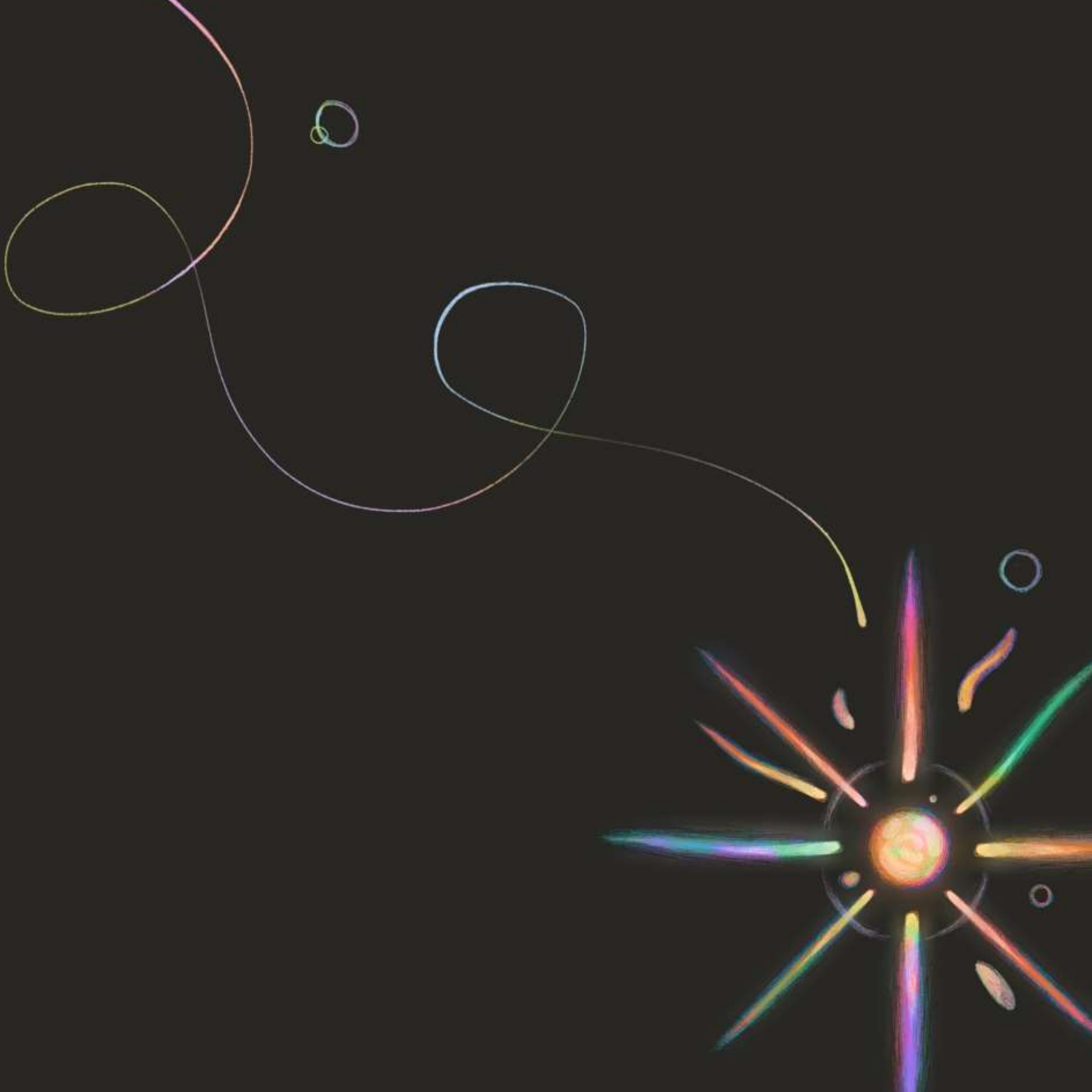

Periodicidad. -

Volumen Secuencial [A]:

1. **Número 1: Abril - Junio**: Publicación del 20 al 30 de abril.
2. **Número 2: Julio - Septiembre**: Publicación del 20 al 30 de julio.

Volumen Secuencial [B]:

1. **Número 1: Octubre - Diciembre**: Publicación del 20 al 30 de octubre.
2. **Número 2: Enero - Marzo**: Publicación del 20 al 30 de enero.

Actualización 24 de marzo de 2024.
Resolución JLA-ED-REV-YUYAY-2024-007

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Google Scholar, agregador de contenido enfocado y especializado en la búsqueda de contenido científico-académico y otros servicios (Biblioteca, Rankig de revistas, Alertas, Perfil de investigador) de GOOGLE y gestionada desde los Estados Unidos de Norte América.

Crossref, base de datos, directorio y catálogo especializado en *Digital Object Identifier* (DOI, Identificador de Objeto Digital). A diferencia Crossref selecciona los DOI (identificadores persistentes), como una referencia de por vida, que se apega al contenido de un objeto en línea, no a la ubicación, por lo que permanece asociado con el trabajo, independientemente de los cambios en la dirección web del trabajo y garantiza su indexación en otros catálogos, además de proporcionar los metadatos necesarios para su detección académica

Biblat Bibliografía Latinoamericana es el conjunto de bases de datos y servicios de información basados en revistas científicas de América Latina y el Caribe que ha venido produciendo la Universidad Nacional Autónoma de México desde la década de los setenta.

LivRe del Centro de Información Nuclear (CIN) CNEN es el punto de contacto en Brasil para encontrar información específica sobre el área nuclear a través del acceso a los servicios automatizados y la base de datos bibliográfica. El CIN fue creado con la misión de representar a Brasil en el Sistema Internacional de Información Nuclear (INIS). El objetivo de este sistema, establecido en 1970 por la Agencia Internacional de Energía Atómica (OIEA), en colaboración con sus países miembros, es la promoción de los usos pacíficos de la ciencia y la tecnología nucleares a través de la difusión de la literatura producida internacionalmente en esta área.

AURA es el espacio desde el cual AmeliCA pretende reflejar el estado general de las revistas científicas respecto a las políticas de apertura y derechos de explotación de la publicación científica. El objetivo de AURA es conocer las políticas editoriales de las revistas científicas respecto al acceso a sus archivos, los derechos de explotación y licencias de publicación y cómo éstos pueden afectar a su posterior auto-archivo en repositorios institucionales o temáticos. Las revistas se clasifican por colores siguiendo la taxonomía de DULCINEA y SHERPA/ROMEO.

DRJI brinda acceso rápido a la literatura educativa para apoyar el uso de la investigación y la información educativa para mejorar la práctica en el aprendizaje, la enseñanza, la toma de decisiones educativas y la investigación. Es un servicio en línea gratuito que lo ayuda a encontrar recursos web para sus artículos e investigaciones.

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EZB es un servicio para el uso efectivo de revistas científicas de texto completo en Internet. Ofrece acceso rápido, estructurado y uniforme a revistas científicas a texto completo. Comprende 113.297 títulos, 27.607 de los cuales son revistas puramente en línea, que cubren todas las áreas temáticas. Además, 134.707 revistas están listadas por agregadores. 76794 revistas son de libre acceso en texto completo.

La Biblioteca Nacional de Francia (BnF) se suma a la Red Mir@bel como miembro de seguimiento. Esta asociación sigue a acciones ya implementadas con el Centro ISSN Francia para mejorar conjuntamente la presentación de informes de publicaciones periódicas.

ISI es un servicio que brinda acceso a revistas de acceso abierto con calidad controlada. El ISI pretende ser integral y cubrir todas las revistas científicas y académicas de acceso abierto que utilizan un sistema de control de calidad apropiado, y no se limitará a idiomas o áreas temáticas particulares.

Bibliotecas y/o Repositorios Bibliotecarios:

Red de Bibliotecas Universitarias y Científicas Españolas

REBIUN está formada por las bibliotecas de las 76 universidades miembros de la CRUE (49 de ámbito universitario público y 27 de ámbito universitario privado) y el CSIC (Consejo Superior de Investigaciones Científicas).

WorldCat, catálogo mundial gestionado por el Online Computer Library Center, considerado el mayor catálogo en línea del mundo. Reino Unido (Unit Kingdom)

Harvard Library es la red de bibliotecas y servicios de la Universidad de Harvard. Es el sistema bibliotecario más antiguo de los Estados Unidos, tanto la biblioteca académica más grande como la biblioteca privada más grande del mundo. Su colección contiene más de 20 millones de volúmenes, 400 millones de manuscritos, 10 millones de fotografías y un millón de mapas

Berkeley Library repositorio de la Biblioteca de la Universidad de California, Estados Unidos.

MAKTABA repositorio y biblioteca digital unificada del plan de desarrollo del Departamento de Gestión de Bibliotecas "Dar Al Kutub" del Departamento de Cultura y Turismo – Abu Dhabi, responsable de la administración de las bibliotecas públicas en Abu Dhabi.

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Stanford Libraries de la Biblioteca de la Universidad de Stanford, Estados Unidos; desde la misma fundación de Stanford, las colecciones de su biblioteca se han formado y enriquecido enormemente con investigaciones y productos de todo el mundo.

La Biblioteca Estatal y Universitaria de Hamburgo (SUB) constituye con sus casi 4 millones de medios y cerca de 6.300 revistas en constante actualización la biblioteca científica general más grande de Hamburgo. Una de sus tareas más destacadas es la tutela y gestión de la colección especial "España/Portugal", dependiente de la asociación Deutsche Forschungsgemeinschaft.

Bases de datos, motores de búsqueda y preservación:

ROAD proporciona un acceso gratuito a un conjunto de registros bibliográficos del ISSN de acceso abierto: revistas, series monográficas, actas de conferencias, repositorios académicos. Estos registros, creados por la Red ISSN (93 Centros Nacionales más el Centro Internacional del ISSN). ROAD está vinculado con las acciones realizadas por la UNESCO para promover el acceso público a los recursos científicos. ROAD es un complemento de GOAP (Global Open Access Portal), desarrollado por la UNESCO. Este portal presenta el estado de la información científica en acceso abierto (libre y gratuito) en todo el mundo.

Refseek, motor de búsqueda que tiene como objetivo hacer que la información académica sea de fácil acceso. Refseek busca en más de mil millones de documentos, incluyendo páginas web, libros, enciclopedias, revistas y periódicos. Estados Unidos de Norte América.

JURN es una herramienta de búsqueda única que le ayuda a encontrar artículos y libros académicos gratuitos. JURN aprovecha todo el poder de Google, pero centra su búsqueda a través de un índice elaborado y seleccionado a mano. Establecida en 2009 para cubrir de manera integral las artes y las humanidades, en 2014 JURN amplió su alcance. JURN ahora también cubre repositorios de texto completo de universidades seleccionadas y muchas revistas adicionales sobre ciencia, biomedicina, negocios y derecho. En 2015/6 JURN se expandió nuevamente, agregando más de 600 revistas sobre aspectos del mundo natural.

LENS.ORG también conocido como The Lens, es un buscador lanzado el año 2000 que ofrece información sobre patentes y artículos publicados en revistas académicas reconocido por LATINDEX.

Scilit utiliza componentes de las palabras "científico" y "literatura". Esta base de datos de trabajos académicos es desarrollada y mantenida por la editorial de acceso abierto MDPI. Scilit es una base de datos completa y gratuita para científicos que utiliza un nuevo método para recopilar datos e indexar material científico. Sus rastreadores extraen los datos más recientes de CrossRef y PubMed a diario. Esto significa que los artículos recién publicados se agregan a Scilit inmediatamente.

Zeitschriftendatenbank (ZDB) es una de las bases de datos más grandes del mundo para la indexación de revistas, periódicos, publicaciones seriadas y otras publicaciones periódicas de todos los países, en todos los idiomas, sin restricción de tiempo, en formato impreso, electrónico o de otro tipo. Identificador persistente https://nbn-resolving.org/10.59343/yuyay

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scite_ es una plataforma galardonada para descubrir y evaluar artículos científicos a través de Smart Citations basado en inteligencia artificial (IA).

OAI, Open Archives Initiative, es una iniciativa de Andrew W. Mellon Foundation, Coalition for Networked Information, Digital Library Federation, National Science Foundation y de Alfred P. Sloan Foundation en colaboración con Cornell University y sus datos tecnicos se verifican con un click aqui. Estados Unidos de Norte América & Reino Unido (Unit Kingdom).

EuroPub Publishing Company LTD, es una corporación constituida y existente bajo las leyes de Inglaterra con el No., 13127935. La base de datos EuroPub inició su actividad científica en 2015 que ahora incluye más de 27,000 revistas y al menos 700,000 artículos, los otros sitios web que están encubiertos de EuroPub puede llamarse Euroacadamia para los certificados de revistas y Sjournals).

ResearchGate es una red y motor de búsqueda semántica que navega por los recursos internos y externos de investigación de las principales bases de datos, incluyendo PubMed, CiteSeer, arXiv y la Biblioteca de la NASA, entre otros, para encontrar los mejores resultados en trabajos de investigación. Este motor de búsqueda permite hallar resultados más precisos procesando resúmenes científicos mediante el análisis de una mayor cantidad de términos utilizados en la búsqueda de palabras clave (la búsqueda se realiza por artículo o DOI)

Dimensions (ORG privada) proporciona un conjunto de productos de datos y soluciones que ahorran tiempo y que conectan los puntos en todo el ecosistema de investigación.

Dimensions hace que los datos de investigación globales sean accesibles, aplicables y verificables para hacerlo rápidamente. Se requiere usuario activo para ingresar y clasificar los datos.

Semantic Scholar es una herramienta de investigación de literatura científica impulsada por inteligencia artificial. Está desarrollado en el Instituto Allen de IA y se lanzó públicamente en noviembre de 2015.

Sudoc - Système Universitaire de Documentation - es el sistema nacional de catalogación compartida derecursos documentales a disposición de todas las bibliotecas universitarias y de investigación. *Identifiant pérenne de la notice*: https://www.sudoc.fr/269076069

ASCI "Asian Science Citation Index es una base de datos que proporciona información autorizada, confiable y esencial a sus lectores mediante la indexación de revistas académicas de alta calidad para satisfacer las necesidades y demandas de la comunidad científica global.

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AccessON una plataforma nacional (Korea) que apoya el acceso abierto y la transformación digital de todo el ciclo de publicación académica, desde el descubrimiento hasta la difusión de artículos. Los investigadores, las organizaciones académicas, las bibliotecas y todo el público pueden utilizar las funciones principales proporcionadas por AccessON para explorar artículos, escribir, revisar presentaciones, verificar información sobre revistas y eventos académicos, publicar y difundir en línea y compartir resultados de investigaciones.

Redes, Asociaciones, Declaraciones:

Platform for Responsible Editorial Policies (PREP) es una plataforma en línea que contribuye a la organización responsable de los procedimientos editoriales de las revistas académicas. Facilita que los editores de revistas se vuelvan transparentes sobre sus procedimientos editoriales, asesora a los editores y editores de revistas sobre posibles mejoras de sus procedimientos de revisión por pares y presenta información integrada sobre la variedad de procedimientos de revisión actualmente en uso. PREP también mantiene una base de datos de los formatos actuales de revisión por pares de las revistas y proporciona información y herramientas para que las revistas utilicen las métricas de las revistas de manera responsable.

LATINOAMERICANA. Asociación de revistas académicas de humanidades y ciencias sociales, incluye entre sus adherentes a toda publicación académica cuyo espacio de atención sea América Latina y el Caribe, tenga o no domicilio editorial en esta región. Actualmente es gestionada por investigadores de la Pontificia Universidad Católica de Chile, Santiago de Chile.

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