Chapter 8 / Capítulo 8

Emerging pedagogies: AI, territory, and situated knowledges (English Version)
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Artificial intelligence and scientific dissemination in the faculty of economic sciences at the Central University "Marta Abreu" of Las Villas

La inteligencia artificial y la divulgación científica en la facultad de ciencias económicas de La Universidad Central "Marta Abreu" de Las Villas

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ABSTRACT

The use of artificial intelligence for scientific dissemination in universities presents challenges such as the transformation of institutional regulations, curriculum evaluation, and the development of skills among faculty. This research aims to design an elective course, "Infotechnology," utilizing Artificial Intelligence for the Accounting and Finance programs at the Central University "Marta Abreu" of Las Villas in Cuba. The study employs a participatory action research approach to identify and overcome existing barriers and limitations in scientific dissemination. The following methods and techniques were used: document analysis, participant observation, source triangulation, researcher's journal, informal discussion groups, and bibliometric analysis using the software Bibliometrix, Perplexity, Datawrapper, and VOSviewer to interpret data obtained from the Dimensions database. The research consisted of three stages: a bibliometric analysis; a diagnosis of AI use at the Faculty of Economic Sciences in 2018; and a third stage (2019-2024) involving the design of the "Infotechnology" course. This course used AI for scientific dissemination for Accounting and Finance students. The course trained students in scientific dissemination using AI, adopted a practical and ethical approach, and integrated Microsoft tools, reference management software, and bibliometric software. Students managed their digital identity, learned about anti-plagiarism ethics, and prompt engineering. The outcomes included publications, participation in scientific events, and awards, establishing a replicable, high-impact model.

Keywords: Artificial Intelligence; Scientific Disclosure; Accounting Sciences; Infotechnology.

RESUMEN

El uso de la inteligencia artificial para la divulgación científica en las universidades presenta retos como la transformación de las normativas institucionales, evaluación de los currículos y desarrollo de habilidades en los docentes. Esta investigación tiene el objetivo de construir una asignatura optativa de "Infotecnología" con el uso de la Inteligencia artificial para la Carrera de Contabilidad y Finanzas de la Universidad Central "Marta Abreu" de Las Villas de Cuba, a través de una investigación-acción-participativa que permita identificar y superar las barreras y limitaciones existentes en la divulgación científica. Se utilizaron los siguientes métodos y técnicas: análisis de documentos, observación participante, triangulación de fuentes, diario del investigador, grupos informales de discusión; análisis bibliométrico con los softwares:

Bibliometrix, Perplexity, Datawrapper y VOSviewer para interpretar los datos obtenidos de la base de datos Dimensions. Contó con tres etapas: Análisis bibliométrico; diagnóstico del uso de la Inteligencia artificial en la Facultad de Ciencias Económicas de la Universidad Central "Marta Abreu" de Las Villas en el 2018 y Etapa 3 de diseño de la asignatura "Infotecnología" con el uso de la inteligencia artificial para la divulgación científica para estudiantes de la Carrera de Contabilidad y Finanzas del 2019-2024. La asignatura formó a estudiantes en divulgación científica usando Inteligencia artificial, tuvo un enfoque práctico y ético, integró herramientas como el Microsoft, gestores de información y software bibliométrico. Los estudiantes gestionaron su identidad digital, aprendieron ética contra el plagio e ingeniería de prompts. Los resultados incluyeron publicaciones, participación en eventos y premios científicos, estableciendo un modelo replicable de alto impacto.

Palabras clave: Inteligencia Artificial; Divulgación Científica; Ciencias Contables; Infotecnología.

INTRODUCTION

Higher education in accounting faces a significant challenge amid the rapid evolution of artificial intelligence and its integration into teaching and learning. Globally, educational institutions are reevaluating their teaching methods to incorporate emerging technologies that not only optimize teaching but also prepare students for an increasingly digitized work environment. Artificial intelligence has the potential to transform accounting education by facilitating personalized learning, improving administrative efficiency, and providing tools that foster the development of critical skills among future accountants (Quimi et al., 2025). However, the effective implementation of these technologies requires a deep understanding of how they can be integrated into existing curricula and how they can impact learning dynamics in the classroom.

A review of the literature reveals that the use of information technology in accounting education has been studied for several decades, but its effective integration remains a debated topic. According to Boritz and Stoner (2014), the relationship between accounting and technology has historically been complicated, despite the recognition that technological skills are essential for modern accountants. Furthermore, the study by Swick (1961), cited by He (2021), has shown that educational institutions must adapt quickly to these changes to remain relevant and practical in training competent professionals. This involves not only updating curriculum content but also training teachers to use these tools effectively.

Artificial intelligence is radically transforming scientific communication, offering new opportunities to make it more accessible and audience-oriented (Silva et al., 2025). Generative tools such as GPT-4 can quickly translate and summarize large volumes of complex information, potentially revolutionizing how we communicate science (Alvarez et al., 2024). However, this technology also presents significant challenges, including the risk of hallucinations, inaccuracies, and the perpetuation of existing biases (Desmedt et al., 2025). The adoption of artificial intelligence in science communication, therefore, requires a careful balance between harnessing its potential and mitigating its risks, especially in specialized educational contexts where accuracy is essential.

The central problem is that, despite the rapid advancement of artificial intelligence tools for scientific communication, there are critical gaps in their application to accounting and finance education, where technical accuracy, regulatory updates, and conceptual clarity are indispensable. The literature highlights limitations in customization for specialized domains

(Cheng et al., 2024) and a lack of ethical and pedagogical frameworks adapted to technical disciplines (Hendriks et al., 2025; White, 2025).

The literature agrees on the need to develop quality principles for scientific communication with artificial intelligence that include scientific integrity, human-centeredness, ethical responsibility, inclusive impact, and governance (Silva et al., 2025). Recent research emphasizes that scientists must develop "good working habits" for the ethical and practical use of generative artificial intelligence in scientific communication (Hendriks et al., 2025), including content verification and transparency in attribution. However, there remains a notable gap in research on specific domains such as accounting and finance, where conceptual accuracy and regulatory updates are critical but are scarcely explored in current studies.

Therefore, the following general objective is proposed: to develop an elective course on "Infotechnology" using artificial intelligence for the Accounting and Finance programs at the Marta Abreu Central University of Las Villas, through participatory action research that allows for the identification and overcoming of existing barriers and limitations in scientific dissemination.

DEVELOPMENT

The research followed the course of participatory action research, with the purpose of Morales et al. (2020) the "case method, a qualitative research method that should be used if the main intention is to extract knowledge from reality through a comprehensive analysis" (p.17); where the subjectivities of the participants in the contextualized practice and the qualification of the data that emerge from the different moments of the research process itself are taken into account. The research consisted of three stages, each with its own objective, methods, and techniques, units of analysis, needs, and potentialities. It was applied in the scenario described from 2018 to 2024.

Document analysis was applied to assess aspects of the content of accounting and business sciences that facilitate the application of scientific dissemination techniques and procedures, as well as those of artificial intelligence, in the Faculty of Economic Sciences of the Central University "Marta Abreu" of Las Villas.

Participant observation was used throughout the research to collect data, focusing on the stages of inquiry with teachers and students.

In-depth interviews were conducted with students and teachers in the Accounting and Finance program.

Triangulation of sources to determine the content of each of the topics based on the bibliography, specialists, results of studies in this science, historical records of the study of accounting and business sciences, and scientific dissemination and artificial intelligence.

The researcher's diary was used to collect detailed qualitative data at each stage, facilitating subsequent analysis. It was recorded in chronological order: documents, videos, and photos were collected.

Informal discussion groups were used to collect qualitative data on the construction. Teachers, students, and entrepreneurs were trained to effectively link them to the proposed objectives, missions, and actions, taking into account their experiences to identify strengths

and weaknesses and to make suggestions.

Bibliometric analysis was performed using Bibliometrix, Perplexity, Datawrapper, and VOSviewer to interpret data from Dimensions and identify the conceptual nodes of scientific dissemination and artificial intelligence in accounting and business sciences.

Stage 1 of Bibliometric Analysis

Objective: To identify and determine trends in scientific production related to the topic and to determine existing gaps in research on scientific dissemination and artificial intelligence in accounting and business sciences, which will allow guiding the design of scientific results towards areas that require greater attention and development.

Methods and techniques: A documentary analysis was conducted using Bibliometrix, Perplexity, Datawrapper, and VOSviewer to interpret data from the Dimensions database.

Units of analysis: scientific productivity, number of publications per country and year, areas of interest, journals, thematic map, and semantic network.

A search was conducted in the Dimensions database on December 12, 2024, using the canonical equation: ("science communication" OR "scientific dissemination") AND ("artificial intelligence").

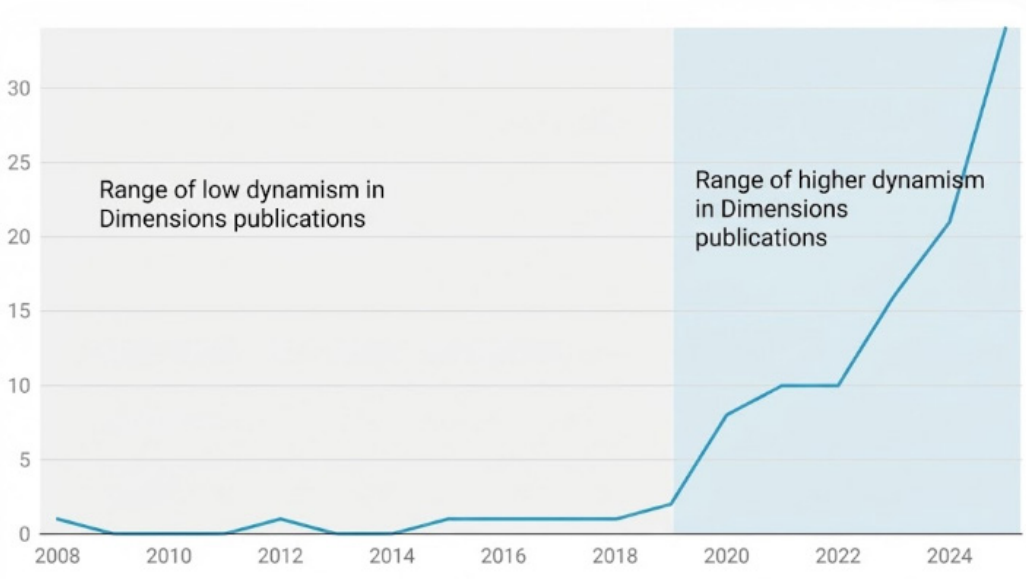
This bibliometric analysis covers the period 2008-2025 and examines 107 documents from 71 sources, including articles, chapters, and books on scientific dissemination supported by artificial intelligence. During this period, research in this field has shown an average annual growth rate of 23,05 %, indicating growing interest and rapid expansion.

The analysis reveals an average of 6 869 citations per document, reflecting the relevance and dissemination of the knowledge generated. However, no direct references were recorded, which could indicate limitations in the citation structure or databases. In terms of authorship, 274 authors participated, 28 of whom contributed single-authored documents; a single author wrote the majority of documents (47), and the average collaboration between authors was almost 3 (2,93) per document. However, only 9,3 % of collaborations are international, suggesting a predominance of local or regional cooperation.

Analysis of the data shows exponential growth in the production of scientific articles on artificial intelligence and scientific communication over the years. Between 2008 and 2015, the publication of articles was sporadic, with only 1 or 2 articles per year. However, starting in 2020, there was a significant increase, going from 8 articles that year to 34 in 2024. This increase reflects the growing interest in the intersection between artificial intelligence and scientific communication, as well as the relevance of these topics in contemporary academic research. The upward trend suggests that artificial intelligence is transforming how science is communicated, as evidenced by the diversity of approaches analyzed in the articles, ranging from the generation of summaries for the general public to the evaluation of equity in the communication of complex scientific topics.

Analysis of the most productive authors in the field of artificial intelligence and scientific communication reveals diversity in terms of impact and trajectory (figure 8.2). Schäfer MS shows a higher m-index (0,667), indicating recent and sustained productivity since 2023. Authors such as Aguiar M, Ahrweiler P, and Alexander N have a more limited presence, with few publications

but initial impact indicators. Overall, the table shows that the field is growing, with emerging and established researchers contributing to the literature, albeit with varying levels of impact and academic longevity.



Time ranges classified by dynamism in Dimensions publications. Presents data from the years 2008 to 2024

Note: Figure created with metadata extracted from Dimensions, indicators processed in Bibliometrix, and presented using Datawrapper

Figure 8.1 Annual evolution of publications

Author	h_index	g_index	m_index	TC	NP	PY_start
SCHÄFER MS	2	4	0,7	36	4	2023
ASKARI H	1	1	0,3	72	1	2022
ARAÚJO S	1	1	0,3	10	1	2023
AMARO D. NETO B	1	1	0,5	1	1	2024
ALVAREZ A	1	1	0,5	20	1	2024
ALEXANDER N	1	1	1,0	1	2	2025
AHRWEILER P	1	1	1,0	1	1	2025
AGUIAR M	1	1	0,3	10	1	2023

Note: Table created with metadata extracted from Dimensions, indicators processed in Bibliometrix, and presented using Datawrapper

Figure 8.2. Productivity of the most important authors in the collection

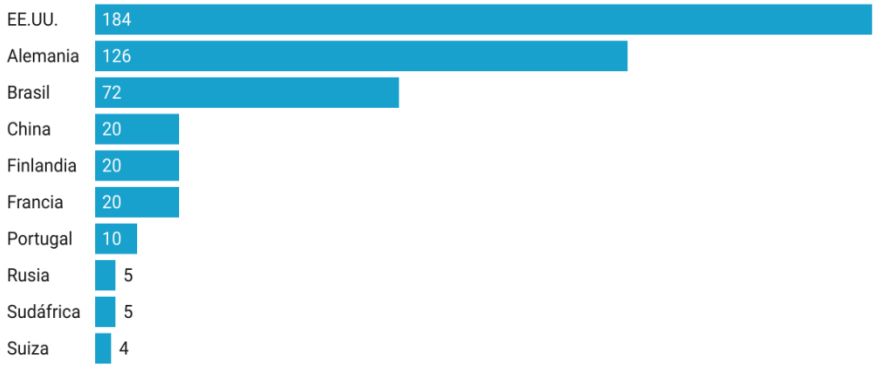
Figure 8.3 shows the impact of different academic sources in the field of artificial intelligence and scientific communication, evaluated through metrics such as the h-index, g-index, m-index, total citations (TC), number of publications (NP), and start year (PY_start). The Journal of Science Communication stands out with the highest h-index (3) and the highest number of citations (66), reflecting its influence and relevance in the area since 2017. Other sources, such as Lecture Notes in Electrical Engineering and Communications in Computer and Information Science, also show significant contributions, albeit with a more moderate impact. More recent sources, such as AI & Society (2021) and arXiv (2021), have high citation counts (89 and 46, respectively) in a few publications, suggesting that key works in AI are rapidly gaining visibility. On the other hand, conferences such as ICIDDT 2020 and journals such as Chinese Science Bulletin have a more limited presence but still contribute to the field's growth.

Source	h_index	g_index	m_index	TC	NP	PY_start
JOURNAL OF SCIENCE COMMUNICATION	3	8	0,3	66	10	2017
LECTURE NOTES IN ELECTRICAL ENGINEERING	3	4	0,5	18	4	2020
COMMUNICATIONS IN COMPUTER AND INFORMATION SCIENCE	2	2	0,3	5	5	2020
LECTURE NOTES IN COMPUTER SCIENCE	2	3	0,2	16	3	2015
2020 INTERNATIONAL CONFERENCE ON INNOVATION DESIGN AND DIGITAL TECHNOLOGY (ICIDDT)	1	1	0,2	4	1	2020
AI & SOCIETY	1	2	0,2	89	2	2021
ARTIFICIAL INTELLIGENCE, SIMULATION AND SOCIETY	1	1	1,0	1	1	2025
ARXIV	1	3	0,2	46	3	2021
CHINESE SCIENCE BULLETIN (CHINESE VERSION)	1	1	0,3	1	1	2023

Note: Table created with metadata extracted from Dimensions, indicators processed in Bibliometrix, and presented using Datawrapper.

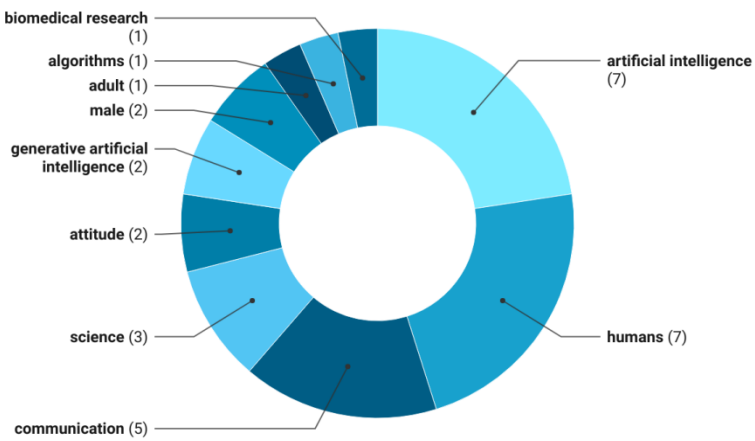
Figure 8.3. Productivity of the best journals related to the collection

Figure 8.4 shows the impact of scientific production by country in the field of artificial intelligence and scientific communication, measured by total citations and average citations per article. The United States leads with 184 total citations and an average of 23 citations per article, highlighting its influence and research quality. Germany ranks second with 126 citations and an average of 15,8, reinforcing its key role in the academic field. Brazil stands out with 72 total citations and an exceptional average of 72 citations per article, suggesting that, although its output may be lower, it includes highly influential works. China, Finland, and France present more modest figures but with respectable averages, especially Finland, with 20 citations in a single article. Countries such as Portugal, Russia, South Africa, and Switzerland have a more limited presence but contribute to the global landscape through specific, cited research. Overall, the data reflects the predominance of the US and Europe in this field, with notable cases such as Brazil demonstrating a disproportionate impact relative to its publication volume.



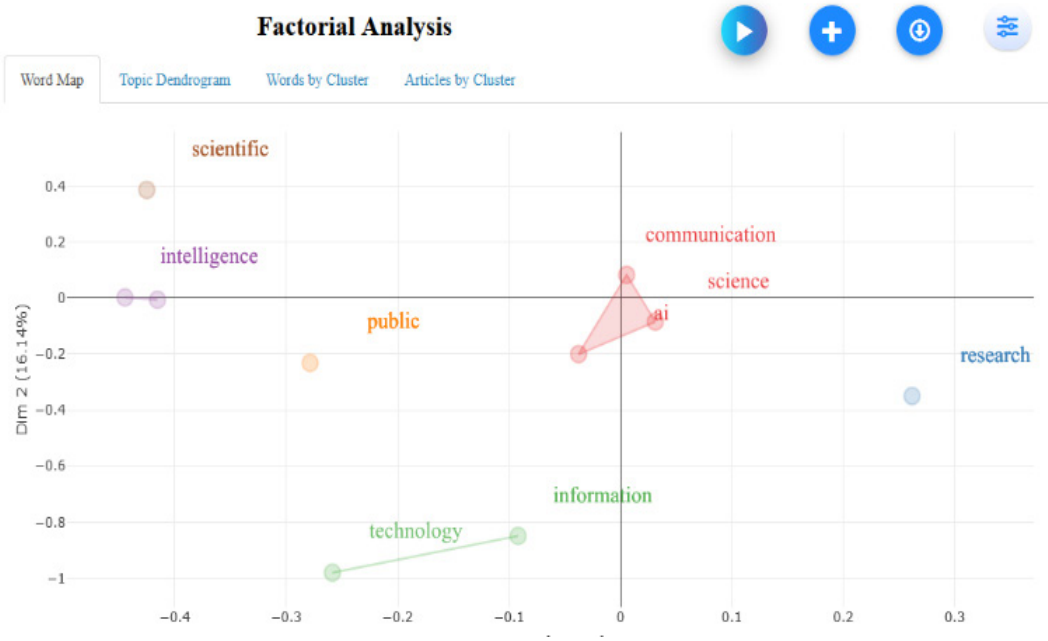
Source: own elaboration based on metadata extracted from Dimensions, indicators processed in Bibliometrix presented with Datawrapper
Figure 8.4. The most representative countries

Figure 8.5 shows the areas of knowledge that are addressed, revealing the key concepts in research on artificial intelligence and scientific communication. The most recurrent terms are "artificial intelligence" and "humans" (7 mentions each), highlighting the central focus on the interaction between artificial intelligence and people. This is followed by "communication" (5 mentions), reinforcing the importance of communication processes in this field. Terms such as "science" (3 mentions) and "generative artificial intelligence" (2 mentions) reflect interest in specific applications, such as generative models in science communication. Concepts such as "attitude" (2 mentions), suggesting studies on public perceptions, also appear, as well as more technical terms such as "algorithms" (1 mention) and contextual terms such as "biomedical research" (1 mention). This distribution shows that research focuses on the human-AI relationship, mechanisms of scientific communication, and the social impact of these technologies, with an interdisciplinary approach spanning technical aspects to perception studies and health applications.



Note: Table created with metadata extracted from Dimensions, presented using Datawrapper
Figure 8.5. Areas of knowledge that scientifically address artificial intelligence and scientific productivity

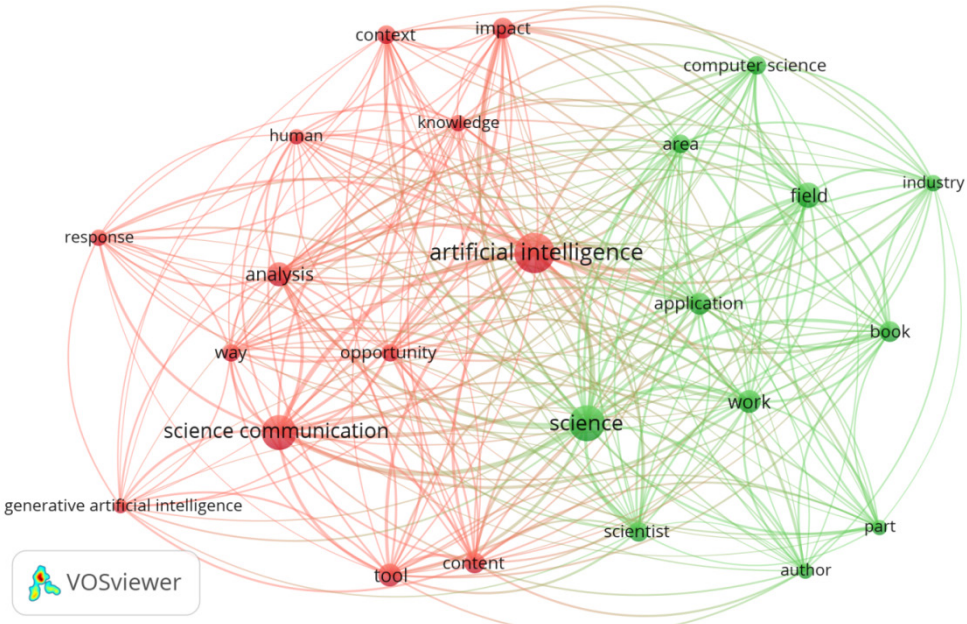
The bibliometric image in figure 8.6 reveals a complex thematic structure around scientific dissemination mediated by artificial intelligence, organized into five clusters that reflect different research approaches. The red cluster, centered on terms such as "communication," "science," and "AI," suggests a conceptual core where artificial intelligence is directly integrated into the communicative processes of scientific knowledge. The green cluster, with words such as "information" and "technology," points to a more technical and structural dimension of the digital ecosystem. For its part, the purple cluster, which includes "intelligence" and "scientific," seems to link artificial cognitive capacity with the profile of the communicator or researcher. The orange cluster, with "public," highlights the audience as an active recipient, while the blue cluster, with "research," connects outreach practice with scientific production. Taken together, the map suggests an interdisciplinary convergence in which artificial intelligence not only transforms communication channels but also redefines the relationships among science, technology, and society.



Note: Figure created with metadata extracted from Dimensions, indicators processed in Bibliometrix

Figure 8.6. Thematic map

The bibliometric image generated by VOSviewer on the topic "Scientific dissemination using artificial intelligence" reveals a thematic network centered on the node "artificial intelligence," which connects to key concepts such as "science communication," "impact," "application," and "computer science." This configuration suggests that research in this field is structured around the application of AI as a tool to enhance scientific communication, with its impact evaluated across different contexts and disciplines. The color clusters highlight different subtopics, including technical analysis, public interaction, and interdisciplinary integration, indicating a growing convergence between computer technology and outreach strategies. Taken together, the map reflects a dynamic research ecosystem in which artificial intelligence not only facilitates access to knowledge but also redefines how science is communicated and perceived socially.



Note: Figure created with metadata extracted from Dimensions, processed in Vosviewer, duplicate clusters curated using the thesaurus technique

Figure 8.7. Semantic network

Stage 2. Diagnosis of the use of artificial intelligence in the Faculty of Economic Sciences of the Central University "Marta Abreu" of Las Villas. 2018

Objective: to diagnose the use of artificial intelligence through participatory action research, which allows for the identification and overcoming of existing barriers and limitations in the implementation of advanced educational technologies in the Faculty of Economic Sciences.

Methods and techniques: informal discussion groups, researcher's diary.

Units of analysis: teachers, students, programs, and methodological guidelines, Chat Gp4.

Needs arising from the stage:

- Teachers lack sufficient mastery of artificial intelligence, which limits their ability to integrate these tools into the teaching and learning process and affects educational quality. According to Vieriu and Petrea (2025), "one of the main barriers to the effective implementation of artificial intelligence in the classroom is the lack of competence and preparation on the part of educational staff to use and guide students in the use of these technologies" (p.3).
- The Faculty of Economic Sciences uses obsolete technology that has been in place for more than 15 years; connectivity can be affected at various times of day, and the electricity supply is unstable. According to Villagomez (2025), pre-existing inequalities generate digital exclusion and discrimination through biased algorithms.
- The vast majority of ChatGPTs are paid services, and others are restricted to certain countries and are unavailable. This situation coincides with Nanshuo et al. (2025), "commercial artificial intelligence solutions are often subject to restrictive licensing and limited availability in developing regions" (p. 1032).
- Students misuse artificial intelligence because they are unaware of how it works

and lack free access to these technologies, leading to inappropriate practices such as plagiarism. This problem was referenced by Grant (2025), "students demonstrate inappropriate use of artificial intelligence tools, mainly due to an insufficient understanding of their operating mechanisms and the availability of open access alternatives. This knowledge gap often leads to inappropriate practices, including unintentional plagiarism and academic misconduct" (p. 8).

- Limitations are evident in academic programs, which underutilize artificial intelligence in the Faculty of Economic Sciences' degree programs, hindering up-to-date, relevant training. This problem is not foreign to the international higher education landscape. According to the integration of artificial intelligence into management and training within universities, this remains an under-explored field, preventing up-to-date, relevant training for students.
- Current methodological guidelines are insufficient to guide teachers in effectively implementing artificial intelligence, leading to confusion and cognitive biases in its application.
- There are shortcomings in institutional policies governing the use of artificial intelligence in education, creating an environment where unethical practices can proliferate without clear consequences or adequate guidance for students and teachers.

Potential arising from this stage:

- Artificial intelligence can analyze student performance and tailor educational content to individual needs, facilitating more effective, personalized learning.
- Teachers can use artificial intelligence tools to generate teaching materials, such as presentations and infographics, saving them time and allowing them to focus on more creative and interactive aspects of teaching.
- Artificial intelligence can process large volumes of information on academic performance, helping to identify patterns and trends that teachers can use to improve their teaching strategies and make informed decisions.
- The integration of artificial intelligence in the classroom can encourage students to develop critical skills in using these technologies, promoting an ethical approach to their application and responsible use.

The use of artificial intelligence at the Faculty of Economic Sciences of the Marta Abreu Central University of Las Villas has been the subject of participatory action research aimed at identifying and overcoming limitations in the implementation of advanced educational technologies, thereby facilitating the exchange of ideas between students and teachers. This interaction has enriched the educational process, highlighting the need to adapt content to new digital tools and documenting learning dynamics and reactions to the introduction of artificial intelligence in the classroom. Teachers played a crucial role in transforming the curriculum. Their active participation in informal groups allowed them to share their knowledge of research methodologies and their experience with artificial intelligence. Students brought new perspectives on how they perceive artificial intelligence and its potential impact on their professional training. Their participation in informal groups enabled them to express their educational expectations and needs, leading to a more student-centered pedagogical approach. In addition, an increase in their motivation and commitment was observed when they saw that their opinions were valued and considered in improving the curriculum.

The research led to a significant transformation of academic programs, developing new methodological guidelines that integrate artificial intelligence as an essential educational tool and promoting more interactive learning through resources such as ChatGPT. The Accounting and

Finance program and a group of fourth-year students were selected because they are required to defend their undergraduate thesis and can write and publish a scientific article.

Stage 3 of the design of the Infotechnology course with the use of artificial intelligence for scientific dissemination for students of the Accounting and Finance program at the Central University 'Marta Abreu' in Las Villas, Cuba. 2019-2024

Objective: development of the course Infotechnology with the use of artificial intelligence for scientific dissemination, for fourth-year students of the Accounting and Finance program at the Marta Abreu Central University of Las Villas.

Methods and techniques: informal discussion groups, researcher's diary.

Units of analysis: fourth-year students, tutors, Chat Gp4; bibliometric analysis of each of the undergraduate thesis topics in terms of scientific productivity, number of publications by country, year, and areas of interest.

Needs arising from the stage:

- Students use artificial intelligence without declaring it and in an unethical manner, rarely declaring it, using it in tasks and assignments that involve human construction in teaching tasks that should develop analysis and synthesis.
- The verification and evaluation of results generated by artificial intelligence are lacking, as they are not adequately contrasted with academic publications, which limits their validity and usefulness in the educational context.
- The construction of prompts is complex; few students and tutors have sufficient computer skills to develop prompts according to their needs. A prompt is the instruction or indication that a user provides to an artificial intelligence system to perform a specific task. It is the way humans communicate with artificial intelligence to guide its responses and obtain more accurate information (Gonzales, 2025).
- Current resolutions do not adequately determine how Cuba views artificial intelligence in the context of plagiarism. The validity of using artificial intelligence is not defined.
- Students do not have sufficient mastery of the structure and scope of an undergraduate thesis.
- There is insufficient clarity in the interpretation of the ministerial resolution at the undergraduate level, although this is not the case for doctoral theses.
- Few students write and publish scientific articles.
- Teachers and students have insufficient mastery of the standards of journals indexed in databases according to their teaching category and cognitive stage.

Course content: Information Technology

- Digital information management for scientific dissemination, an undergraduate thesis using artificial intelligence.
- Microsoft Word configuration for thesis work, including indexes, tables, page numbering, and page breaks.
- Microsoft Excel: Formats, data validation, functions, and graphs. Slide design in Microsoft PowerPoint and SPSS .Databases for searching scientific information: Scielo, Scopus, and Clase. Certified and non-indexed bibliographies. Google Scholar. Data retrieval using artificial intelligence.
- Bibliographic citation manager utility and applicability. ENDNOTE, Zotero; applicability of Microsoft Word. APA standards and their importance.
- Creation of ORCID code and Google Scholar for students.

- Digital identity management, plagiarism, and artificial intelligence.
- Bibliometric map VOSviewer software. Network visualization. Creation of a map and map analysis for these using artificial intelligence.

The students grasped the basic concepts of bibliometrics using artificial intelligence. They extracted data from databases and developed their own canonical search equations based on their undergraduate thesis topic. They created their own prompts for each research project and part of the thesis. They created their predecessor identifiers and made maps in VOSviewer, which they interpreted using artificial intelligence. All of this content was used in their undergraduate theses. This group was followed up through their Master's degree in "Management" (figure 8.8).

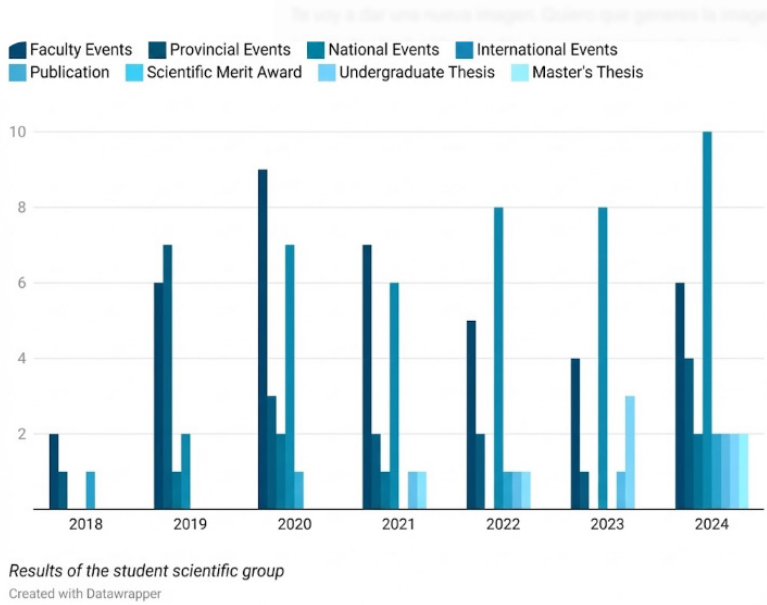


Figure 8.8. Results of scientific productivity in the Faculty of Economic Sciences. Marta Abreu Central University of Las Villas

The students were motivated by the research and transformed their perception of the use of artificial intelligence. The teachers carried out interdisciplinary work across the disciplines. There has been a significant increase in participation in international events, reaching 10 in 2024, indicating the group's growing visibility and recognition at the global level. Academic production has been increasing, with a cumulative total of 5 publications by 2024, reflecting a commitment to disseminating knowledge. Four scientific merit awards have been received, which "is an award given by the Rector of the Higher Education Institution to students who have actively participated in scientific research and innovation, publications, and other scientific activities" (MES, 2018), highlighting their contribution to scientific research.

CONCLUSIONS

The bibliometric analysis revealed scientific productivity in artificial intelligence and in scientific dissemination. These findings confirm the emergence of a dynamic, rapidly growing field of study with an annual growth rate of 23,05 % and outline the research gaps that need to be addressed. The United States, Europe, and Brazil lead in citation volume and impact. This stage allowed us to orient the design of scientific results toward areas that require greater attention.

Stage 2, which involved assessing the use of artificial intelligence in the Faculty of Economic Sciences at the Marta Abreu Central University of Las Villas, identified the barriers and limitations to implementing advanced educational technologies in the faculty. It is a complex scenario, driven by faculty digital skills, obsolete infrastructure, and limited access to artificial intelligence tools due to geopolitical restrictions. At the same time, there is no institutional regulatory framework or methodological guidelines to guide the integration of artificial intelligence. This stage identified potential, as teachers were agents of change in the curriculum, and students showed increasing motivation through their participation in the construction of their own educational process.

In Stage 3, the Infotechnology course was designed using artificial intelligence for scientific dissemination among fourth-year students in the Accounting and Finance program at the Marta Abreu Central University of Las Villas for the 2019-2024 period. It had a practical, interdisciplinary, and ethical approach; the content covered elements of computer science with the Microsoft package, information managers, and bibliometric software, all using artificial intelligence. Students managed their digital identities for scientific dissemination, addressed ethical issues related to plagiarism, and applied prompt engineering to undergraduate theses. Scientific productivity was measured by participation in national and international events, student publications, and the awarding of scientific merit prizes.

The Infotechnology course is a replicable model that has not only equipped future accountants and financiers with digital skills, but also set an institutional precedent for overcoming technological barriers and promoting scientific research that is visible and recognized nationally and internationally through the use of artificial intelligence.

REFERENCES

Ahrweiler, P., Späth, E., Siqueiros, J., Capellas, B., y Wurster, D. (2025). Inclusive Technology Co-design for Participatory AI. In Participatory Artificial Intelligence in Public Social Services (pp. 35-62). https://doi.org/10.1007/978-3-031-71678-2_2

Alvarez, A., Caliskan, A., Crockett, M., Shirley, H., Messeri, L., y West, J. (2024). Science communication with generative AI. Nature Human Behaviour, 8(4), 625-627. https://doi.org/10.1038/s41562-024-01846-3

Araújo, S., y Aguiar, M. (2023). Simplifying Specialized Texts with AI: A ChatGPT-Based Learning Scenario. In Perspectives and Trends in Education and Technology (pp. 599-609). https://doi.org/10.1007/978-981-99-5414-8_55

Boritz, J. E., y Stoner, G. N. (2014). Technology in accounting education. http://www.routledge.com/books/details/9780415697330/

Cheng, X., Dunn, R., Holt, T., Inger, K., Jenkins, J. G., Jones, J., Long, J. H., Loraas, T., Mathis, M., Stanley, J., y Wood, D. A. (2024). Artificial Intelligence's Capabilities, Limitations, and Impact on Accounting Education: Investigating ChatGPT's Performance on Educational Accounting Cases. ISSUES IN ACCOUNTING EDUCATION, 39(2), 23-47. https://doi.org/10.2308/ISSUES-2023-032

Desmedt, C., Budts, W., Vos, M. D., y Moons, P. (2025). Artificial intelligence-generated podcasts open new doors to make science accessible: a mixed-method evaluation of quality and

the potential for science communication. European Journal of Cardiovascular Nursing, zvaf074. https://doi.org/10.1093/eurjcn/zvaf074

Gonzales, C. (2025). Aplicación de la IA en la elaboración de artículos científicos. Horizonte Médico (Lima), 25(2). https://doi.org/10.24265/horizmed.2025.v25n2.00

Grant, J. (2025). Undergraduates perceive differences in helpfulness and thoroughness of responses of ChatGPT 3.0, Gemini 1.5, and copilot responses about drug interactions. Discover Artificial Intelligence, 5(1), 260. https://doi.org/10.1007/s44163-025-00527-y

He, F. (2021). Research on the Challenges and Countermeasures of Accounting Education in Universities under the Background of Digital Economy. Frontiers in Economics and Management, 2(6). https://doi.org/10.6981/FEM.202106_2(6).0002

Hendriks, F., Barel-Ben, D., Banse, L., y Fick, J. (2025). Generative AI in Science Communication: Fostering Scientists' Good Working Habits for Ethical and Effective Use. Science Communication. https://doi.org/10.1177/10755470251343486

Kessler, S. H., Mahl, D., Schäfer, M. S., y Volk, S. C. (2025). All Eyez on AI: A Roadmap for Science Communication Research in the Age of Artificial Intelligence. Journal of Science Communication, 24(2). https://doi.org/10.22323/2.24020401

Mahade, A., Abdalla, A., y Alomari, K. (2025). Leveraging AI-driven insights to enhance sustainable human resource management performance: moderated mediation model: evidence from UAE higher education. Discover Sustainability, 6(1), 1-22. https://doi.org/10.1007/s43621-025-01114-y

MES. (2018). Resolución No. 116/2018" Premio al Mérito Científico Estudiantil". 3. https://www.uclv.edu.cu/wp-content/uploads/2019/06/Resoluci %C3 %B3n-No.116-2018-Premio-al-M %C3 %A9rito-Cient %C3 %ADfico.pdf

Morales, D., Campo, S., y Maestre, L. (2020). Métodos de investigación cualitativa. 358. https://doi.org/10.21676/9789587463033

Nanshuo, M., Yijun, X., Yuxin, Y., Houwei, F., y Sinan, Y. (2025). AI-based Digital Documentation as Sensors of Heritage Morphological Value: Recording Plane Forms of Historical Rural Settlements Hierarchically. The International Archives of Photogrammetry, Remote Sensing and Spatial Information Sciences, 48, 1029-1036. https://doi.org/10.5194/isprs-archives-xlviii-m-9-2025-1029-2025

Quimi, W., Quimi, D., Flores, E., y García, A. (2025). Uso de inteligencia artificial y su relación con el proceso aprendizaje estudiantil de los Estados de Resultados Contables. Revista Universidad y Sociedad, 17(3). http://scielo.sld.cu/pdf/rus/v17n3/2218-3620-rus-17-03-e5220.pdf

Rowe, S., y Alexander, N. (2025). Communicating Nutrition and Health Science. Nutrition Today. https://doi.org/10.1097/nt.0000000000000769

Silva, D., Broer, I., Bilandzic, H., y Taddicken, M. (2025). Quality in science communication with communicative artificial intelligence: A principle-based framework. Public

understanding of science (Bristol, England), 9636625251328854. https://doi.org/10.1177/09636625251328854

Vieriu, A. M., y Petrea, G. (2025). The impact of artificial intelligence (AI) on students' academic development. Education Sciences, 15(3), 343. https://doi.org/10.3390/educsci15030343

Villagomez, A. (2025). El impacto de la Inteligencia Artificial en la Sociedad: Una Revisión Sistemática de su Influencia en Ámbitos Sociales, Económicos y Tecnológicos. Ciencia Latina Revista Científica Multidisciplinar, 9(1), 8150-8172. https://doi.org/10.37811/cl_rcm.v9i1.16468

White, R. (2025). Generative artificial intelligence tools in journal article preparation: A preliminary catalog of ethical considerations, opportunities, and pitfalls. JDS Communications, 6(3), 452-457. https://doi.org/10.3168/jdsc.2024-0707

CONFLICT OF INTEREST

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DECLARATION OF USE OF ARTIFICIAL INTELLIGENCE

Perplexity was used for data processing; Datawrapper was used to generate figures and tables for the bibliometric analysis, and this was declared in the article.

ETHICS COMMITTEE APPROVAL

The research described in the article involved students and teachers from the Faculty of Economic Sciences of the Central University "Marta Abreu" of Las Villas. It was carried out in accordance with current ethical principles and with the consent of the faculty's Scientific Council, as it is a line of research. The information was collected for strictly academic and research purposes.

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