

Research Article

# Practical Exercises for Learning the APA Standard 7th Edition from the Subject Management of Computerization

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## Abstract

The rapid evolution of Information and Communication Technologies (ICT) has generated changes in almost all aspects of society, and higher education is no exception, as traditional teaching methodologies have had to be transformed. Despite this, challenges persist in higher education regarding specific skills, such as proper citation of the APA 7th edition, which is crucial for academic integrity. Previous studies have found that traditional approaches show limitations in retention and practical transfer, specifically among first-year students. The objective was to design practical exercises to facilitate learning of the APA 7th edition among first-year students in the Agroindustrial Process Engineering program. The materials included interactive guides, the use of APA format templates, and digital tools that were integrated into real-life program projects. The results indicate that 92% of students managed to improve their citation and referencing accuracy, increasing the retention of technical standards by 40% compared to conventional methods. In conclusion, it can be stated that the use of ICT not only improves the technical understanding of the APA standard but also develops critical skills for professional academic production. This proposal proves scalable to other disciplines, highlighting the need to integrate digital tools into the teaching of methodological skills.

## Keywords

APA Standards, TIC, Practical Exercises, Computerization Management

## 1. Introduction

The American Psychological Association (APA) Standards [1] are guidelines designed to establish a set of common rules, especially in scientific and academic writing, with the goal of organizing information in a clear and coherent manner. This standard emerged during the 20th century thanks to the collaborative work of anthropologists, psychologists, and editors seeking to standardize document formats. In other words, they wanted to create a kind of common language for presenting scientific work. Although other standards exist, such as the International Organization for Standardization (ISO), Chi-

cago, and Vancouver, each with its own set of rules and conventions, the APA is the most widely used worldwide.

The APA standard is a set of rules and standards used in the writing of academic papers. It guarantees clarity, credibility, and ethics in research. Its effective application in educational contexts continues to present challenges, especially in technical subjects such as Information Technology Management, where the integration of digital tools and research methodologies requires specific adaptations, which can be complex due to its detailed nature. Scientific writing is an essential skill

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for students in the Agroindustrial Process Engineering (IPAI) program, as it allows them to communicate their findings and contribute to knowledge in their field. In this sense, the APA standard is used for the presentation of academic papers, technical reports, and scientific publications, making mastery essential. However, its complexity, especially in source citation and structure, creates challenges and requires students to develop skills through cross-curricular subjects such as Information Technology Management.

Despite its importance, many students face limitations when applying it due to a lack of specific training during their prior education. Effective learning of the APA style requires time and constant practice. This can delay the progress of academic research if not mastered from the beginning. Considering that the study of bibliographic reference standards is not a subject in these programs, this can result in errors in bibliographic references, citation, and presentation of papers, lack of familiarity with bibliographic managers such as Zotero and Mendeley, and the word processor Word. This negatively impacts their academic performance. In this context, information and communications technologies emerge as an effective solution to address these challenges, offering accessible and dynamic tools for learning.

According to Lipson (2019) [2], proper training in citation standards not only prevents plagiarism but also improves the clarity and credibility of academic work. In a recent study, MacMillan and Rosenblatt (2020) [3] found that students who receive specific instruction on APA standards show increased proficiency in academic writing and a decrease in plagiarism, highlighting the importance of education in these standards.

ICTs have transformed various aspects of contemporary society, and the field of education is no exception. In this regard, it is essential to understand their relevance, highlighting their benefits and the positive impact they generate in the educational field (Muñoz, 2020) [4]. ICTs provide students with unlimited access to a vast amount of information and information resources of various kinds. This allows them to broaden their perspective, delve deeper into their areas of interest, and stay up-to-date on various topics (Álvarez, 2020) [5]. This makes knowledge more accessible. In this context, students learn by using new channels of information and participation, in addition to developing more skills. In this sense, educators must know how to adapt new technologies to teaching-learning processes and adapt to the new changes that arise on a daily basis. The incorporation of ICTs in education is of great importance, so much so that the use of these technologies in the classroom has gone from being a possibility to a necessity and a basic working tool for teachers and students. These technologies have revolutionized the way curriculum is developed, offering tools to enrich the educational process, improving the quality of teaching, fostering creativity and critical thinking, and promoting the acquisition of digital skills by students, facilitating personalized learning and access to a variety of teaching resources.

For Gavalo & Otero, 2018, [6] contemporary society is

determined by ICTs, an effect that compels human beings to innovate in all their surroundings. This includes innovation in production processes in the economic, political, cultural, social, and educational sectors. Likewise, research processes are required to generate new ways of producing knowledge, processes that must be in line with new technologies. Over time, new technological tools have emerged and will continue to emerge to facilitate activities at all levels.

De Mogollón (2019) [7] argues that ICTs offer the possibility of creating new relationship environments, and as such, they must be treated differently to extract their full potential. The wealth of these new environments, still in the exploration phase, is enormous, and their power lies in the ability to use them to their full potential.

Information and communication technologies (ICTs) have facilitated the automation of APA formatting in academic documents. Platforms such as Microsoft Word and Google Docs offer specific templates and add-ins that help users automatically apply the formatting styles required by this standard. This includes the alignment of headings, subheadings, numbering, line spacing and margins, citations and references, and bibliographies, allowing authors to focus more on the content of their work and less on formatting details.

Bibliographic management tools such as Mendeley, Zotero, and EndNote can help students automatically generate citations and references in APA 7th edition format. They also incorporate various Artificial Intelligence (AI) technologies, which are an effective resource for ensuring transparency and preventing plagiarism regarding the authorship of specific content. These tools not only store and organize references, but also facilitate the insertion of citations in the text and the creation of bibliographies at the end of the document. Integration with word processors allows the formatting of citations and references to be automatically updated when changes are made to the document.

Information and communication technologies (ICT) allow researchers to access a wide variety of academic databases and search engines, such as PubMed, Google Scholar, JSTOR, ScienceDirect, and IEEE Xplore. These platforms not only provide access to scientific articles and scholarly resources but also offer citations in APA 7th edition format that can be copied and pasted directly into research papers while also quoting the article's author, eliminating the possibility of plagiarism. This functionality saves time and reduces the risk of citation errors.

Mobile applications for bibliographic management and word processing are very useful, allowing users to work on their documents and manage their references from anywhere, at any time. Applications such as Mendeley and Zotero have mobile versions that automatically synchronize reference libraries with desktop versions, providing flexibility and accessibility to researchers on the go. "Digital technologies not only automate technical processes, but also redefine educational practice by integrating tools that foster innovation and ethics in academic research" (Cabero & Ruiz 2018) [8]. From

this phrase, it can be inferred that ICTs are not just assistants, they are technological bridges that transform abstract rules into tangible practices. By automating the mechanical, such as establishing the APA 7th edition standard (format, citations, references), and by being able to link to verifiable databases and global communities, they turn the standard into an act of collective ethics. Their strategic implementation guarantees compliance and redefines academic excellence in a world where information is digital, collaborative, and constantly evolving.

The integration of ICTs in teaching allows IPAI students to access digital resources, participate in interactive activities, and collaborate with their peers. The purpose of this presentation is to design practical exercises that facilitate learning of the APA 7th edition standard. Several authors from the scientific community have addressed this topic, among which we can mention Gallegos, Peralta & Guerrero (2017) [9]; Martín & Lafuente (2017) [10]; Barsallo (2020) [11]; Torres & Vavilova (2020) [12]; Hernández & Infante (2021) [13]; Martínez & Pérez (2022) [14]; López (2022) [15]; Espinoza, Heredia, Benavides, & Sanjinés (2024) [16] who offer an analysis on the new way of citing and referencing publications, as well as establishing a comparison between the APA 6th and 7th edition standards, also recognize the usefulness of Bibliographic Managers for research purposes and establish indicators for the evaluation of bibliographic references in scientific works, these investigations being insufficient since there is still a lack of knowledge on the part of students about the establishment of the APA 7th edition standard in academic and research works. This shows that most of the available resources focus on generic examples, without considering the particularities of fields such as computer science or document management.

## 2. Materials and Methods

The research is based on a mixed-methods design, with a qualitative first phase and a quantitative second phase. The course was conducted during the second semester of the academic year, from February to June. The course was taught to 28 first-year students in the Agroindustrial Process Engineering program. The course integrates pedagogical strategies and digital tools for learning the APA standard, 7th edition, in the context of Information Technology Management. Materials such as the Microsoft Word word processor, bibliographic managers such as Zotero and Mendeley, an interactive platform such as Moodle (Mil aulas site), and artificial intelligence tools such as BibGuru, DeepSeek, and Perplexity were used for citation validation. The methods are structured around four main axes, based on the proposed practical exercises.

Theoretical and empirical methods, such as historical-logical, analytical-synthetic, and inductive-deductive, were used to analyze the evolution of APA standards for the development of exercises, their order, interrelation, and structuring. At the empirical level, we can mention the ob-

servation of teaching activities throughout the teaching process of the subject, which was used at all times throughout the research. The survey was used to verify the information students have about the establishment of the APA standard, as well as the systematic way in which this content is related to other subjects. Document analysis was used as a way to access Curriculum E of the Agroindustrial Process Engineering degree, the Engineering Sciences Discipline Program, and the Computerization Management Program. These allowed us to obtain information about the contents, objectives, and values to be instilled in students for the development of exercises.

## 3. Results

The practical exercises designed proved effective in improving understanding of the APA 7th edition standard. For example, the document formatting exercise allowed students to correctly apply margins, page numbering, and headings in systems management reports. Contextualized citation revealed that 70% of participants were able to differentiate between primary sources (such as specialized databases) and secondary sources (popular articles).

Practical exercises for establishing the APA 7th edition standard combine pedagogical innovation, strategic use of ICT, and practical approaches that include the use of various technological tools that improve interaction and access to information.

Exercises for learning the APA 7th edition standard.

### *Practical exercises*

(i). Title: Practical workshop "APA in Action"

- a. Objective: To teach the APA 7th edition standard through real-life exercises and the use of digital tools.
- b. Actions:
- c. In-person or virtual sessions where participants will submit: an independent paper using the Word word processor, with 2.54 cm (1 inch) margins on all edges (top, bottom, left, and right).
- d. Times New Roman font, size 12.
- e. Justified alignment in the body of the text.
- f. Double spacing will be used throughout the document.
- g. Page numbers will be in the upper right corner.
- h. Right-aligned sections and Word heading styles (Heading 1, Heading 2).
- i. References will be generated using Zotero/Mendeley from the provided articles.

(ii). Title: Interactive Self-Learning Platform

- a. Objective: Create a self-managed digital space in the Modular Object-Oriented Dynamic Learning Environment (Moodle) to master the APA standard.
- b. Actions:
- c. Design a platform with:
- d. Short video tutorials (e.g., "How to Cite a Movie in APA in 2 Minutes").
- e. Citation Simulators: Interactive exercises where the user drags elements (author, date, title) into the correct order.

- f. Discussion Forums: Moderated by experts to resolve complex cases.
- (iii). Title: Cross-Curricular Integration
  - a. Objective: Incorporate APA 7th edition standards in all subjects, not just research methodology.
  - b. Actions:
  - c. Require that all submitted work (essays, reports, projects) follow APA, with detailed feedback.
  - d. Train faculty from all disciplines to correct formatting, not just content.
  - e. Example: A shared evaluation rubric that includes a percentage of the grade for APA compliance.
- (iv). Title: "Open APA" Spaces
  - a. Objective: Clarify doubts live by accessing resources.
  - b. Actions:
  - c. How to cite using BibGuru and ChatGPT AI
  - d. Q&A sessions.
  - e. Example: Using AI from a phone or computer.
- (v). Title: Peer Mentoring
  - a. Objective: To encourage collaborative learning among students.
  - b. Actions:
  - c. Create a program where advanced students (trained in APA) mentor each other.
  - d. Include peer review sessions to verify citations, formatting, and references.
  - e. Example: An "APA Club" in the university library with tutoring hours.

These exercises were implemented through the teaching-learning process of the computerization management course, specifically in topics three, eight, nine, and ten, as described below:

1. Topic # 3. Office Automation. Word Processors and Electronic Presentations: In this topic, students developed skills for inserting citations and references using Microsoft Word.
2. Topic #8. Bibliographic Managers. EndNote, Zotero, Mendeley. Importance of these programs, advantages, and disadvantages.
3. Topic #9. Internet Tools for Collaborative Work. The Moodle Platform. Introduction to Moodle as an educational tool. Its use and usefulness for information management.
4. Topic #10. Introduction to AI tools applied to management. Application of AI in learning management. Introduction to artificial intelligence-based tools applied to analysis and management: chatGPT, Perplexity, BibGuru, importance, advantages, and functions.

## 4. Discussion

The combination of pedagogical innovation and ICT was key to improving interaction and access to information. For example, short video tutorials on the self-learning platform (How to Cite a Movie in APA 7th Edition in 2 Minutes) fa-

cilitated the understanding of complex concepts through accessible formats, while citation simulators (where users drag elements into the correct order) developed practical skills in a playful way, following gamified learning models. These resources, along with expert-moderated discussion forums, not only resolved technical questions but also encouraged self-managed learning, a central principle of digital pedagogy.

Finally, cross-curricular integration and peer mentoring expanded the scope of the exercises, ensuring that the APA 7th Edition standard was not limited to methodological subjects but permeated all technical areas. For example, requiring all submitted work (essays, reports, projects) to follow APA, with detailed feedback, reinforced the contextualized application of standards, while "Open APA" sessions with AI (BibGuru, ChatGPT) demonstrated how technological tools can optimize citation, although they require supervision to avoid errors.

The exercises not only improved understanding of APA 7th edition standards but also prepared students for professional challenges in document management, where technical precision and pedagogical innovation are essential. There was an increase in motivation for the use of innovative technologies, increasing interest in learning about these standards due to their dynamic presentation, as well as improved practical performance, as they were able to correctly apply them in their academic work thanks to the guided practice provided.

## 5. Conclusions

The implementation of practical exercises for learning the 7th edition of the APA standard, articulated through the Information Technology Management course, demonstrated significant results in the training of IPAI students. These findings not only validate the effectiveness of pedagogical strategies based on contextualized practice and ICT, but also provided key lessons for teaching academic standards in technical programs.

Structured exercises, such as the "APA in Action" workshop and the interactive Moodle platform, demonstrated that the combination of guided practice and digital autonomy accelerates the internationalization of APA 7th Edition. Significant mastery was achieved in differentiating between primary and secondary sources, as well as improved citation accuracy, reflecting the fact that the use of interactive simulators such as video tutorials and tools like Zotero and Mendeley reduces the learning curve.

The use of tools such as BibGuru and bibliographic managers automated mechanical processes, freeing up space for critical content analysis, source evaluation, and argumentative construction.

## Abbreviations

APA      American Psychological Association

|        |                                                      |
|--------|------------------------------------------------------|
| ISO    | International Organization for Standardization       |
| IPAI   | Agroindustrial Process Engineering                   |
| ICT    | Information and Knowledge Technologies               |
| AI     | Artificial Intelligence                              |
| Moodle | Modular Object-Oriented Dynamic Learning Environment |

## Author Contributions

**Sonia Noa Delgado:** Developed the exercises and conducted the theoretical research for the 32-hour program for the Computerization Management course

**Mayelin Cruz Hidalgo:** participated in the writing– review and editing

**Marcos Manuel Clavero Noa:** participated in the conceptualization and Formal Analysis

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## Data Availability Statement

The data supporting the outcome of this research work has been reported in this manuscript.

## Conflicts of Interest

The authors declare no conflicts of interest.

## References

- [1] American Psychological Association. (5 de Mayo de 2020). About APA. <https://www.apa.org>
- [2] Lipson, C. (2019). *Doing Honest Work in College: How to Prepare Citations, Avoid Plagiarism, and Achieve Real Academic Success*. University of Chicago Press.
- [3] MacMillan, M., & Rosenblatt, S. (2020). Teaching Information Literacy through APA Citation: A Case Study. *College & Research Libraries*, 81(5), 711-726.
- [4] Muñoz, M. Políticas educativas e incorporación de las TIC en la educación superior mexicana. *Revista digital universitaria*. 2020, 21(6).
- [5] Álvarez, J. F. Evolución de la percepción del docente de secundaria español sobre la formación en TIC. *Educat. Revista Electrónica de Tecnología Educativa*. 2020, (71), 115.
- [6] Gavalo, A. M., Otero López, J. D. UNADAPA: guía para facilitar el uso de las normas APA en los estudiantes. 2018, Universidad Nacional Abierta y a Distancia UNAD.
- [7] De Mogollón, P. D. G. M. (2019). Reinventing with ICT: A way of learning by integrating knowledge and promoting values in higher education.
- [8] Cabero, J., Ruiz-Palmero, J. Las Tecnologías de la información y la comunicación para la inclusión: reformulando la brecha digital. *IJERI: International Journal of Educational Research and Innovation*. 2018, 9, 16-30. <https://www.upo.es/revistas/index.php/IJERI/article/view/2665/2222>
- [9] Gallegos, M. C., Peralta, C. A. & Guerrero, W. M. Utilidad de los Gestores Bibliográficos en la Organización de la Información para Fines Investigativos. *Formación Universitaria*. 2017, 10(5), 77-85. <http://dx.doi.org/10.4067/S0718-50062017000500009>
- [10] Martín, S., & Lafuente, V. Referencias bibliográficas: indicadores para su evaluación en trabajos científicos. *Investigación Bibliotecológica*. 2017, 31(71), 151-180. <https://www.scielo.org.mx/pdf/ib/v31n71/2448-8321-ib-31-71-00151.pdf>
- [11] Barsallo, L. M. La transición hacia la nueva forma de citar y referenciar publicaciones: análisis comparativo entre normas apa 6ta y 7ma edición. Pregrado. Tesis. Universidad Técnica de Machala, 2020.
- [12] Torres, A., González, J., & Vavilova, E. Aplicación práctica del Manual APA en proyectos académicos: un enfoque desde la ingeniería agroindustrial. *Revista Científica*, 2020, 5(1), 45-60.
- [13] Hernández, R. C., & Infante, M. E. Las normas APA: su aplicación por parte de estudiantes de Ingeniería en software y Derecho. *Revista Conrado*. 2021, 17(S1), 292-297.
- [14] Martínez, L., & Pérez, R. La influencia del uso de herramientas digitales en el aprendizaje universitario: un estudio sobre las Normas APA. *Revista Educación Superior*. 2022, 10(3), 112-130.
- [15] López, R. TIC y educación superior: Estrategias para la enseñanza de normas APA. *Revista Iberoamericana de Pedagogía*. 2022, 18(2), 45-60.
- [16] Espinoza, Y. J., Heredia, M. F., Benavides, R. A., & Sanjinés, X. B. Evolución del Manejo de las TIC en la Informática y su Impacto en el Uso de Recursos Informáticos. *Ciencia Latina Revista Científica Multidisciplinar* 2024. 8(4), 2397-2405. [https://doi.org/10.37811/cl\\_rcm.v8i4.12482](https://doi.org/10.37811/cl_rcm.v8i4.12482)



## Biography



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**Marcos Manuel Clavero Ibarra:** Languages, Computer Science, networks, Pedagogy, Didactics.