

Undergraduate thesis manual: techniques and skills for achieving success

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Abstract: This manual provides a structured guide for writing undergraduate theses, covering everything from topic selection to the final document presentation. Its purpose is to create a manual containing practical examples for writing undergraduate theses, based on the institutional protocol of the Yahualica University College. The introduction emphasizes the importance of following an organized process, while the body of the manual details key elements such as the theoretical and methodological frameworks and the analysis of results, adaptable to qualitative, quantitative, or mixed-methods approaches.

The methodology section focuses on research designs and data collection techniques (surveys, interviews, observation), supported by practical examples and up-to-date references. The conclusions underscore the manual's relevance in standardizing the quality of theses, preventing common errors, and optimizing researchers' time. It also includes evaluation rubrics and templates to ensure coherence and originality. This resource is essential for students seeking solid and applicable academic contributions in their disciplines.

Keywords: Bachelor's thesis, Manual, Research skills

Introduction

Writing an undergraduate thesis is a rigorous process that demands attention to methodological, formal, and academic aspects to guarantee its quality and contribution to knowledge (Hernández Sampieri et al., 2018). However, students face recurring challenges, such as selecting viable topics, delimiting research problems, and applying adequate methodologies, which can lead to delays or unsatisfactory results (Creswell and Creswell, 2018). This article addresses these difficulties, focusing on the importance of having a structured guide that directs each stage of the research process, from problem formulation to the final presentation.

The central problem lies in the lack of clarity about the academic and methodological criteria that must be followed when developing a thesis. According to the United Nations Educational, Scientific and Cultural Organization [UNESCO] (2023), 60% of students in higher education experience uncertainty when defining their object of study or justifying its relevance. This situation is aggravated in contexts with limited access to bibliographic resources or specialized advising (National Institute of Statistics and Geography [INEGI], 2023). Furthermore, previous studies such as that of Mishra and Koehler (2006) highlight that, without a solid theoretical foundation and a coherent methodological framework, research lacks scientific or practical impact.

The relevance of this work lies in its triple contribution: academically, it synthesizes international standards (American Psychological Association [APA], 2020) adapted to local contexts; practically, it proposes strategies to overcome common obstacles; and socially, it promotes research with the potential to solve current problems, such as the digital divide or educational inclusion (Organization for Economic Cooperation and Development [OECD], 2022). Following Strauss and Corbin (2002), the need to link methodological rigor with originality is emphasized, avoiding redundancies in the existing literature.

In the following sections, these topics will be developed, starting with the theoretical foundation and culminating with recommendations for the oral defense. This article will not only serve as a guide for students but also as input for institutions interested in strengthening their research protocols.

The objective of this article is to analyze the key elements for developing a manual containing practical examples for writing the undergraduate thesis, taking as a reference the institutional protocol of the Yahualica University College, which provides specific guidelines for each section **of the work**. It focuses on three fundamental aspects: (1) topic selection and problem statement, (2) construction of the theoretical and methodological framework, and (3) presentation of results and conclusions. Through examples and quotes from recognized authors, it seeks to offer a practical tool that reduces ambiguity and optimizes the time of novice researchers.

Materials and methods

This study was developed under a mixed methodological approach (Creswell and Creswell, 2018; Hernández Sampieri et al., 2018), to address the stated problem with rigor and depth. The process was structured in three main phases: (1) theoretical review and diagnosis, (2) fieldwork and data collection, and (3) analysis and interpretation of results. A systematic review of academic literature, institutional regulations, and previous studies related to the topic was carried out, using databases such as Scopus, SciELO, and university repositories. This allowed for the identification of knowledge gaps and the foundation of the theoretical framework.

Data collection instruments adapted to the study context were applied. 20 semi-structured interviews were conducted with experts in digital education and focus groups with students, whose responses were transcribed and analyzed using thematic coding with the support of NVivo software, following the principles of grounded theory (Strauss and Corbin, 2002).

Consequently, the adopted methodology allowed the problem to be addressed from multiple perspectives, ensuring internal and external validity, while the active participation of educational actors guaranteed the social and academic relevance of the study

Participantes y contexto

150 teachers were included as participants, from the Yhualica University College, an institution located in San Francisco del Rincón, Guanajuato, Mexico. The fieldwork considered variables such as teaching experience, level of technological training, and socioeconomic conditions of the students. Using intentional non-probabilistic sampling (or convenience

since teachers who teach research subjects were specifically selected..

Results

The results of the diagnosis applied to the teachers of the Yhualica University College who teach research subjects revealed three main problems:

- **Lack of specific methodological training**

68% of the surveyed teachers (n=45) report deficiencies in their specialized training for teaching research methodologies, which coincides with what was indicated by Hernández Sampieri et al. (2018) regarding the need for teacher preparation in this area. Participants highlighted difficulties in explaining concepts such as "theoretical framework" (72% of cases) and "methodological designs" (65%), generating confusion among students.

- **Academic and administrative overload**

82% of teachers reported dedicating less than 5 hours per week to preparing their research classes due to multiple institutional responsibilities. As one interviewee stated: "We must attend committees, tutorials, and bureaucratic processes that limit the time to update our materials" (Teacher 7). This situation agrees with the findings of the OECD (2022) on teacher burnout in higher education.

- **Lack of adequate teaching resources**

It was identified that:

75% do not have updated manuals (last 5 years)
63% use exclusively PowerPoint presentations
Only 28% incorporate local case studies

These results reflect what was stated by Creswell (2018) about the importance of contextualized materials for teaching research.

Improvement Proposal

As a solution, it is proposed: To implement a Manual for Thesis Writing, with the objective of providing teachers and students with strategies to make research viable and provide them with resources on the main concepts for research.

Structure and Content of the Manual for the Elaboration of Undergraduate Theses

The Manual for the Elaboration of the Undergraduate Thesis is designed as a comprehensive guide that directs students in each stage of the research process, from topic selection to the final document presentation. Its systematic and detailed structure guarantees methodological coherence and compliance with academic standards. Below, its organization and key contents are described:

1. Foundation and General Structure

The manual begins with a justification of the importance of the thesis as a rigorous work that contributes to academic, social, or professional knowledge. It highlights the need to attend to methodological, formal, and evaluative aspects. The structure is divided into preliminary sections (cover page, abstract, table of contents), central chapters (theoretical framework, methodological framework, analysis of results) and final elements (conclusions, references, appendices). Each part serves a specific function: the introduction presents the problem and objectives; the theoretical framework collects background and conceptual bases; the methodological framework details the design and techniques; and the analysis of results interprets the findings.

2. Topic Selection and Problem Statement

The manual dedicates an essential section to topic selection, emphasizing criteria such as personal interest, academic relevance (feasibility, and originality). It guides the student to delimit the scientific problem through research questions and theoretical-practical justification. It includes concrete examples that illustrate the correlation between problematic situation, object of study, and field of action, facilitating clarity in project formulation.

3. Development of the Central Chapters

Theoretical Framework: Requires a review of specialized literature, organized into background, theoretical bases, and conceptual framework. It is recommended to cite key authors and contrast approaches to identify gaps.

Methodological Framework: Describes the paradigm (positivist, interpretative, mixed), type of study (exploratory, descriptive, experimental), population/sample, and methods (qualitative, quantitative, or mixed). Includes comparative tables for choosing appropriate designs.

Analysis of Results: Proposes presenting data with visual tools (tables, graphs) and linking them with the objectives. Emphasizes critical discussion of findings and limitations.

4. Formal and Presentation Aspects

The manual specifies detailed technical standards: paper format (letter size), typography (Times New Roman 12 or Arial 11), margins (2.5 cm), spacing (1.5 between lines) and pagination. Furthermore, it indicates binding requirements (navy blue color, gold letters) and digital delivery (PDF). The length per section is also regulated: introduction (5-7 pages), theoretical framework (30-35), methodology (20-25), results (25-30) and conclusions (1-3), totaling 80-100 pages.

5. Evaluation Instruments and Appendices

It incorporates a rubric to evaluate the thesis, with criteria such as structure, academic content, originality, and oral defense, assigning scores from 1 to 4. The appendices allow for the inclusion of complementary material (data collection instruments, ethical documents) without saturating the body of the text. Correct citation (APA or other styles) is emphasized to avoid plagiarism

6. Conclusions and Contributions

The manual concludes by highlighting its usefulness for standardizing processes, guaranteeing quality, and reducing common errors. Its disciplinary focus makes it adaptable, through examples and practical advice that make it an accessible tool. The referenced bibliography supports its academic rigor.

In summary, this manual combines precise instructions, theoretical foundation, and practical resources to facilitate the elaboration of a coherent, viable, and academically solid thesis, aligned with the institutional requirements of the Yahualica University College.

Discussion

This study allowed for the identification of the main problems faced by teachers of the Yahualica University College in teaching research methodologies, highlighting three critical aspects: the lack of specialized training, the academic-administrative overload, and the lack of updated teaching resources. These findings coincide with those reported by authors such as Hernández Sampieri et al. (2018) and the OECD (2022), who point out that, without

continuous training and adequate working conditions, the quality of research teaching is compromised. The results revealed that 68% of teachers lack specific training in methodology, which generates difficulties in explaining key concepts to students, while 82% face time limitations due to administrative tasks. These conditions hinder the development of research competencies in students and reflect the need to implement institutional strategies that prioritize teacher updating and the optimization of workloads.

The proposal of a Manual for Thesis Writing emerges as a viable solution to address these problems, by offering teachers and students a structured guide that facilitates the research process. This manual would not only provide updated and contextualized teaching resources, such as local case studies and protocols for tutorials, but would also serve as a training tool for teachers, thus reducing the identified training gap. As Creswell (2018) and Mishra and Koehler (2006) maintain, the availability of pedagogical materials adapted to the real needs of the educational context is fundamental for improving learning outcomes.

Furthermore, the standardization of methodological and formal criteria, in line with international standards such as APA (2020), would ensure the academic quality of theses. However, it is essential to complement this manual with institutional policies that alleviate the administrative burden on teachers, allowing them to dedicate more time to preparing their classes and tutoring student research.

Conclusion

In conclusion, this study evidences the urgency of strengthening teaching capabilities in research methodology through practical tools and institutional support. The implementation of the manual, together with support strategies and periodic review of its contents, could signify a significant advance in the quality of undergraduate theses produced at the Yahualica University College. Future research could evaluate the impact of this intervention and expand the sample to include part-time teachers, who also face particular challenges in teaching research.

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Declaration of conflicts of interest

The authors of this manual declare that they have no financial, academic, or personal conflicts of interest that could influence the results or interpretations presented in this work. The development of this methodological guide responds exclusively to academic objectives and educational improvement for the Yahualica University College. None of the authors have received external funding, economic benefits,

nor maintain institutional or personal links with entities that could compromise the integrity of this manual. The contents expressed here are based on scientific evidence and documented pedagogical experiences, without commercial biases or particular interests. It is also confirmed that there are no collaborative relationships with publishers, technological platforms, or other organizations mentioned in the text that could generate any conflict.

Declaration of author participation:

In the elaboration of this manual, each author has contributed significantly from their area of specialization. Dr. Nayalis Nápoles Neyra, an expert in Physical Culture Sciences, led the methodological design and general structuring of the manual, contributing her experience in qualitative research and academic processes. Mtra. Aleyda Neyra Colares, a specialist in Education Sciences, developed the contents related to the teaching of research methodologies and the pedagogical adaptation of the materials. For her part, Dr. Adnery Lozada Ortiz, with her extensive trajectory in educational research, contributed to the theoretical foundation, critical analysis of results, and validation of the proposed instruments. All authors actively participated in the bibliographic review, content writing, discussion of findings, and approval of the final version of the manuscript, thus guaranteeing the academic integrity and methodological coherence of the work.