

FRAMEWORK FOR TEACHING OF RESEARCH IN POSTGRADUATE COURSES IN EDUCATION

FRAMEWORK PARA O ENSINO DA PESQUISA NAS PÓS-GRADUAÇÕES EM EDUCAÇÃO

FRAMEWORK PARA LA ENSEÑANZA DE LA INVESTIGACIÓN EN LOS POSGRADOS DE EDUCACIÓN

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ABSTRACT: The autonomy of teaching in the University is fundamental for the growth of academia and research. Nevertheless, this singularity can become an obstacle for students' exchanges, degrees homologation and in general, for the adequate participation among students-researchers-teachers of different universities (inside and outside the country). The strengthening of educational programs arises mainly from the research processes. Today, in a globalized society, it is increasingly common to find students and teachers who seek academic and research exchanges to expand their academic and professional profile. However, there are few who manage to find universities with similar interest and homogeneous and teaching processes. This article describes in detail, after two years of collecting qualitative and quantitative information, a common framework on the teaching of research in graduate programs in education. This framework seeks to open the discussion among academics about how valuable and rigorous the research process in graduate programs should be in the University. This will allow new strategies, to promote research and academic exchange within graduate academic programs.

KEYWORDS: Research in Education. Research framework. Postgraduate and research.

RESUMO: *A autonomia da cátedra da Universidade é essencial para o crescimento da academia e da pesquisa. No entanto, essa singularidade pode se tornar um obstáculo para o intercâmbio de alunos, homologação de cursos e, em geral, para a interação adequada entre alunos-pesquisadores-professores de diferentes universidades (dentro e fora do país). O fortalecimento dos programas educacionais decorre fundamentalmente dos processos de pesquisa. Hoje, em uma sociedade globalizada, é cada vez mais comum encontrar alunos e professores em busca de intercâmbios acadêmicos e de pesquisa para ampliar seu perfil acadêmico e profissional. No entanto, poucos são capazes de encontrar Universidades relacionadas aos seus atuais processos de formação e ensino. Este artigo descreve em detalhes,*

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após dois anos de coleta de informações qualitativas e quantitativas, um framework comum para o ensino da pesquisa em programas de pós-graduação em educação. Este framework busca iniciar a discussão, a partir das Ciências Sociais e Humanas, sobre quão valioso e rigoroso deve ser o processo de pesquisa em seus programas de pós-graduação para as universidades. Isso permitirá a criação de estratégias de intercâmbio e fortalecimento, com base na pesquisa, de programas acadêmicos.

PALAVRAS-CHAVE: *Pesquisa em Educação. Framework da pesquisa. Pós-graduação e pesquisa.*

RESUMEN: *La autonomía de la cátedra en la Universidad es fundamental para el crecimiento de la academia y la investigación. No obstante, esa singularidad puede convertirse en un obstáculo para el intercambio de estudiantes, homologación de títulos y en general, para la adecuada interacción entre estudiantes-investigadores-docentes de diferentes universidades (dentro y fuera del país). El fortalecimiento de los programas educativos surge fundamentalmente de los procesos de investigación. Hoy, en una sociedad globalizada, cada vez es más común encontrar estudiantes y docentes que buscan intercambios académicos y de investigación con el fin de ampliar su perfil académico y profesional. Sin embargo, son pocos los que logran encontrar Universidades afines a sus actuales procesos de formación y de enseñanza. Este artículo describe de manera detallada, después de dos años de recolección de información cualitativa y cuantitativa, un framework común sobre la enseñanza de la investigación en programas de posgrado en educación. Este framework busca iniciar la discusión, desde las Ciencias Sociales y Humanas, sobre lo valioso y riguroso que debe ser para las universidades el proceso de investigación en sus posgrados. Esto permitirá crear estrategias de intercambio y fortalecimiento, desde la investigación, de los programas académicos.*

PALABRAS CLAVE: *Investigación en Educación. Framework de investigación. Posgrados e investigación.*

Introduction

The teaching of research becomes a fundamental component within curricula - and especially in graduate studies, since through this it is sought that students approach reality, knowledge and information, especially when these aspects are the most valuable capital of people, companies and, in general, society. However, Higher Education continues to face the dilemma among training scientists or training professionals, who today fall at the graduate level, thanks to its remarkable growth in recent decades (DÁVILA, 2012).

As the graduate offer grows, the dynamics against them in different countries also grow, together with public policies, national educational regulations, among others, which is reflected in different or common modalities and interests, training of highly qualified human resources, use of Information and Communication Technologies (ICT), linking the postgraduate course

with research, high-quality evaluation, accreditation and internationalization processes (DÁVILA, 2012).

At the general level, each country has legislation and regulations on postgraduate courses. However, one of the most complex components of education is research. The contradiction of perspectives and dynamics within each graduate program increases the difficulty of finding new knowledge, producing it, evaluating it and, therefore, applying it. This paradoxically contradicts the mission, vision and curricula of most universities, since research is described as one of its main institutional pillars of training.

In Colombia, more than 90% of undergraduate graduates do not manage the research process, that is: they do not know how to formulate a research project, execute it and integrate the knowledge they collect. Therefore, when reaching the graduate level, the student brings a series of gaps that, added to a reduced number of weekly hours of dedication, the little preparation of teachers and the limited work spaces around them, have as a consequence bad results that are hardly oriented to the resolution of real problems (CARVAJAL, 2000).

Taking into account the above, it is possible to think about the need for a *framework* that articulates the ways of teaching research, its products and its true scope. This would allow the training of students/graduates with research skills according to the needs of society. The quality, relevance and impact of the research resulting from these graduate-level training processes would be focused on the internationalization not only of their results, but, in the same way, of the students/graduates and, therefore, of the academic programs themselves. This would be aligned with the provisions of Colombian Law No. 30 of 1992, Articles 10, 11, 12 and 13 in relation to the role expected to play postgraduate research, understood as the search and generation of knowledge.

Currently, graduate students, due to their research activity, submit a monograph, thesis or undergraduate work. But what are the resources offered by universities to follow this process of knowledge building?, who are the people who follow this process?, what should a graduate student know to bring their research practice to a successful conclusion?, what should be taught when graduating in research?; these are some of the research questions that the study solved and are presented in this article, in such a way that the proposed framework allows to mark a guide to what, how and who should teach research in postgraduate courses in Social and Human Sciences.

This research exercise is mixed. Although a sample of 69 professors and 250 graduate students in social sciences and Humanities was defined, distributed in the 5 participating universities in different countries of Ibero-America; This article focuses on the results obtained

at the Autonomous University of Bucaramanga UNAB, and the products proposed for the Master's degree in Education, based on them.

Goals

The initial intention of this article is to share with the academic community a framework that supports the teaching processes of research in graduate school. For the above, the results that enabled the construction of this and its different applications are presented.

Within the scope of the research carried out, the general objective was to design a teaching framework for the approach and implementation of research projects in postgraduate courses in Education. For the development of this it was necessary to establish criteria for information collection in four moments:

- 1) Diagnose the knowledge and skills of graduate students for the design and implementation of research projects in Education,
- 2) Identify the training and experience of teachers who participate in the teaching process and monitoring of research in postgraduate courses in Education,
- 3) To characterize the teaching process of the research, through the review of curricula of programs of this level in different universities,
- 4) Identify the most researched topics by graduate students in Education.

Although the initial intention of the study is clear, it is important to clarify that in addition to successfully completing its objectives and presenting them in an articulated and coherent way in this writing, it seeks to contribute significantly to the discussion about the role of research in the processes of training and internationalization of graduate courses.

Development

Methodology

The methodology used was mixed, because to achieve all the proposed objectives it was necessary to analyze instruments based on qualitative and quantitative. Triangulation (HERNÁNDEZ; FERNANDEZ; BAPTISTA, 2000) sought information through the use of questionnaires with open questions (for teachers and students) and content analysis (chair guides, area plans, curriculum structure, program master document, among others).

This allowed us to establish: (1) a baseline on teachers' perceptions about what should be taught in research, (2) the ideal in terms of postgraduate teaching research, proposed by educational institutions, (3) the imaginaries, on the part of students, about what should be taught to reach a happy conclusion in their research project and (4) the actual level of income of students and teachers before the competencies and content of the search modules.

Thus, from the triangulation of these sources, the true state of the research processes in the graduate programs analyzed was established. The quantitative analysis was similarly implemented in a transversal way in the development of each proposed objective. Initially, a descriptive quantitative analysis was performed on the level of knowledge of students and teachers in the research area, entry profiles of students with special emphasis on their research skills were created, and in the case of the teacher a similar exercise in addition to the academic titles that the teacher has.

This study is mixed, given the design that was sought to be implemented for the collection of information, it was not experimental, to the extent that it was studied, in its natural state, without alterations or control by the researchers a particular situation. There was no manipulation of variables intentionally, but, on the contrary, the research modules, professors and students of graduate programs were studied in their natural context. This allowed for further analysis. Finally, it is conceived as a transient study, since the final scope of the research was descriptive; for this, the data were collected in a single moment, seeking to know how each of the variables and categories limited in the document or that could emerge from the same study becomes evident (HERNÁNDEZ; FERNANDEZ; BAPTISTA, 2010).

Although the population object of the initial study of the research was students who studied in the past or who were attending postgraduate studies in Social and Human Sciences at participating universities and who in their curriculum plan were taking the research course as part of their training at the different participating universities: Cristóbal Colón University (Mexico), São Paulo State University Júlio de Mesquita Filho (Brazil), Granada University (Spain), War Academy University of Chile (Chile) and Autonomous University of Bucaramanga (Colombia); This article focuses on the framework designed specifically for the Master's program in Education of the Autonomous University of Bucaramanga. Table 1 presents the description of the selected population and sample and participant of each university.

Table 1 – Distribution of the universe, expected sample and actual sample of participants

University	SIZE OF THE UNIVERSE			EXPECTED SAMPLE			ACTUAL NUMBER OF PARTICIPANTS		
	Students	Graduates	Research Teachers	Students	Graduates	Teachers Research	Students	Graduates	Research Teachers
Academic War (Chile)	11+151=162	31	2	115	29	2	1	2	1
UCC (Mexico)	79	34	3	66	32	3	8	9	1
UNAB (Colombia)	138	138	6	104	104	6	126	85	6
Universidad de Granada (Spain)	30	21	58	28	20	51	3	14	8

Source: Prepared by the authors

After the literature review and the theoretical reflection on the problem, the activities and techniques and instruments used were defined according to each of the defined objectives. As an initial result, it was possible to establish the instruments to be used for the collection and analysis of information. Two ways were designed: (1) one that would allow the collection of information related to the teacher's training and professional experience at the postgraduate level of the social and human sciences area and (2) a questionnaire to detect the research skills of students and/or graduate graduates.

Teacher Form

This form allowed identifying the main characteristics are related to the training and experience of teachers who were part of the research teaching process in the participating universities. The categories used allowed to obtain quantitative data on the profiles of teachers who teach disciplines/research modules in the educational centers involved in the project, the categories that make up this instrument are as follows:

- General university information: data regarding the name of the university, location, type of graduate program to which it belongs.
- General teacher data: sociodemographic information related to age and gender. In addition to the years of seniority in the university and the kind of hiring you have.
- Academic background: Academic training of each teacher. The above to validate that those who teach to investigate and develop projects that have training / specialization in Social Sciences and Humanities.
- Professional experience: tasks performed by teachers.

- Research experience: information corresponding to the research work carried out, workshops, thesis consultancies, functions as directors of final work or bells in professional exams. In addition to participation in events of dissemination and scientific dissemination.
- Collaborative work: information related to the teams, networks, academic committees and editorials of which they are part.
- Publications: experience in the publication of articles in indexed journals or in the area of Social Sciences and Humanities.
- Management: information on the tasks of coordination and participation in the organization of events, forums, presentation of books or research projects that have been carried out by teachers or supported for the dissemination and dissemination of results of studies in the field of disciplines in Social Sciences and Humanities.

Student and Graduate Form

This instrument identified the competencies and perceptions related to the teaching and use of research by students and graduates. Three categories were defined in the instrument:

- General Information: as in the teachers' instrument, it became necessary to collect information related to the University of origin of students and graduates.
- Theoretical Training: information about the courses, modules or research classes you have had throughout your graduate training, the research methods that you recognize in your academic exercise and how from your knowledge, you recognize theoretically fundamental elements in the development of your research process.
- Research Experience: identifies the level of practice of the contents that are taught in the classroom, also establishes the types of projects and methodologies most applied to the real context.

Findings

This section was developed trying to respond to the objectives proposed in the research, but with the products specifically designed for the Master's program in Education of the Autonomous University of Bucaramanga UNAB.

- **Develop a framework that supports the teaching processes of research in graduate school.** It materialized through the proposal of a research protocol for the Master's degree in Education, which provides information about the research process as such, as well as about the participants in it: teachers, students and program coordinators. Similarly, in this document a proposal is made in front of the research modules, which for this case are four (one per semester), in which the student, in addition to receiving theoretical information about the research process, will progressively carry out his final graduation project (see Table 2).
- **To characterize the process of research training in graduate studies, through the review of curricula of programs of this level in different universities.** To develop this goal, the various synchronous work sessions (through BB Collaborate) and asynchrony (THEME forum) were very useful, with the various participating universities (UCC; UNAB, UGR, UNESP and Academic War). This made it possible to share information about the program they chose to be reviewed in the general research exercise. Thus, information was collected from the programs related to: total duration, professional profile of students and graduates, research modules, semesters in which they are taught and the competencies that the student must acquire. This characterization made it possible to find common points among the participating universities that served as the basis for defining the number of hours and research courses, as well as their methodologies, learning and expected products, in the case of UNAB, a research process composed of 4 courses was proposed, each with 3 credits equivalent to 36 hours of direct work in the classroom with a research teacher, more work outside of it, which is performed with the director of undergraduate work (see table 2).

Table 2 – Unab Master Research Process in Education.

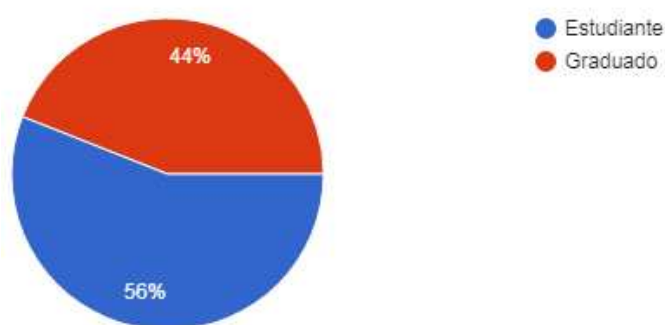
SEMESTER	MODULE	PRODUCTS	EVALUATION- RESPONSIBLE	OBSERVATIONS
First	Grade 1 work	Scheme Chapter 1	Exercises performed in the module sessions (40%)- Teacher of the module Preliminary project (30%)- Module teacher Chapter 1 (30%)- Assigned Director	There will be three consecutive sessions of class. From the principals' database, the student can select two possible teachers to direct their work. Once the Academic Coordinator validates this selection, he will send it to the 1st grade work teacher, who will be responsible for establishing contact between the potential principal and the student, through an e-mail invitation letter to confirm the interest in working together.
Second	Grade 2 work	Chapter 2 Chapter 3	Exercises performed in the module sessions (40%)- Teacher of the module Chapter 2 (30%)- Assigned Director Chapter 3 (30%)- Assigned Director	There will be 4 9-hour lesson sessions each, which will not be consecutive and will be distributed throughout the semester before the start of each of the other modules.
Third	Grade 3 work	Chapter 4	Exercises performed in the module sessions (40%)- Teacher of the module Chapter 4 (60%)- Assigned Director	There will be 4 9-hour lesson sessions each, which will not be consecutive and will be distributed throughout the semester before the start of each of the other modules.

Room	Grade 4 work	<p>Chapter 5</p> <p>Final document</p> <p>Article (search modality)</p> <p>Lift</p>	<p>Final document and article, the latter for the search modality. The director reviews and gives his approval for the work to be sent to reading by an evaluator.</p> <p>If the principal does not give his/her approval, the student must rewrite the Work Module grade 4.</p> <p>If the director gives his endorsement, the final document is sent for reading by an external evaluator who reviews the work and issues his concept to endorse or not the presentation of the support.</p> <p>Support (100%)- Distributed as follows: Evaluator (50%) Professor of Work note 4 (50%)</p> <p>The director participates in the support with voice, but without voting on qualification.</p> <p>To pass the support a minimum qualification of 3.5</p>	<p>There will be 3 class sessions that will not be consecutive and will be distributed throughout the semester before the start of the other modules.</p> <p>The hours corresponding to the fourth session will be used in the support.</p>
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Source: Research Protocol. Master's degree in Education UNAB (2018)

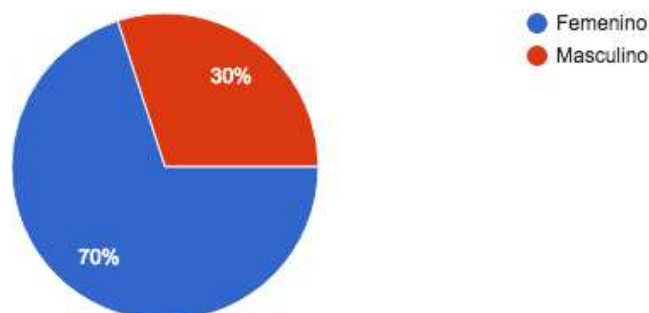
- Diagnose the knowledge and input skills of graduate students for the design and implementation of research projects.** To achieve this goal, information was collected from active students and graduates of graduate programs in Social sciences and Humanities. At the end of this year (January 2017 to July 2018), a total of 250 students were surveyed, including active students (56%) and graduates (44%) (See Figure 1). Thus, the highest concentration of responses in Colombia (84.4%), Spain (7.6%), Mexico (6.8%) and Chile (1.2%). Of the interviewees, 70% are women, 30% men (See Figure 2) and are between 30 and 55 years old.

Figure 1 – Status of survey participants³



Source: Prepared by the authors

³ Blue: student/ Red: graduated

Figure 2 – Gender of survey participants⁴

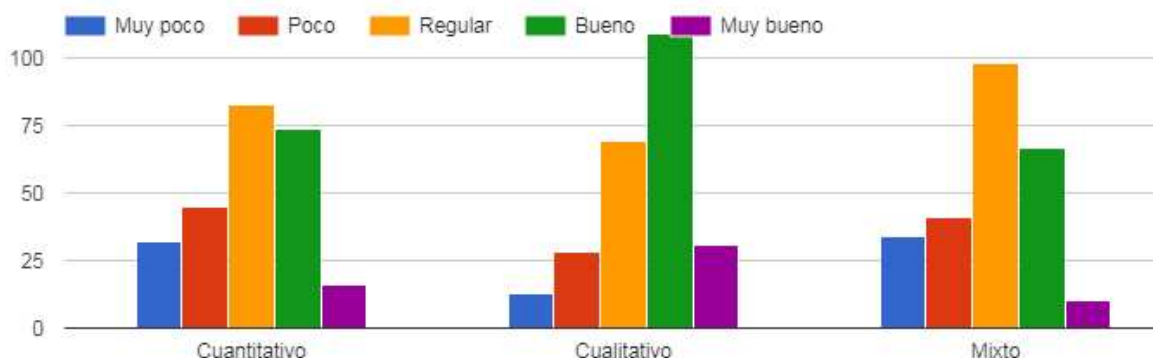
Source: Prepared by the authors

Compared to the current profession of people who have joined to graduate in Social sciences and Humanities, it is very varied. 69.2% of the people surveyed are teachers (173), but it is also possible to find other professions such as: priests, architects, administrators, lawyers, engineers, musicians, sociologists, biologists, social communicators, journalists, stylists, physiotherapists, psychologists, nurses, doctors and social workers.

When students reach the postgraduate level, in this case the master's degree, the vast majority (73.2%) bring from graduation a theoretical training in research. Based on this response, the interviewees were asked to evaluate their knowledge in the different qualitative, quantitative and mixed methods of research. The interviewees indicated that their knowledge about the quantitative method is regular (33.2%), good (29.6%) and only 6.4% classified it as very good. In the case of the qualitative method, 43.6% evaluate their knowledge as good, followed by 27.6% that indicate that it is regular. Finally, in the case of the mixed method, 39.2% classified it as regular, followed by 26.8% that indicate that it is good (see Figure 3).

⁴ Blue: Female/Red: Male

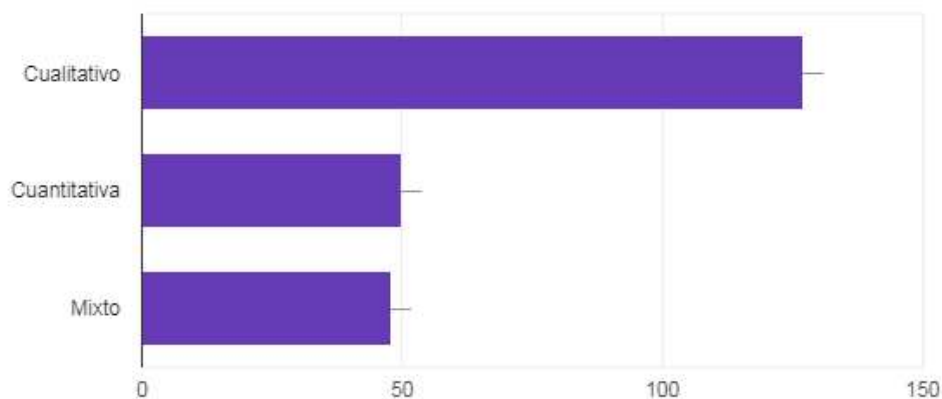
Figure 3 – Knowledge against different research methods⁵



Source: Prepared by the authors

84.4% of the interviewees (209 people) reported having participated in academic studies and research, of which 60.8% did so in qualitative exercises; 23.9% quantitative and 23% mixed. (See Figure 4); in areas such as humanities (48.1%), Social Sciences (28.1%), Natural Sciences (12.4%), Medical and Health Sciences (10%), engineering and technology (5.2%), agrarian sciences (1.4%), education (1.9%) and other areas the remaining percentage.

Figure 4 – Types of studies or academic research in which they participated⁶



Source: Prepared by the authors

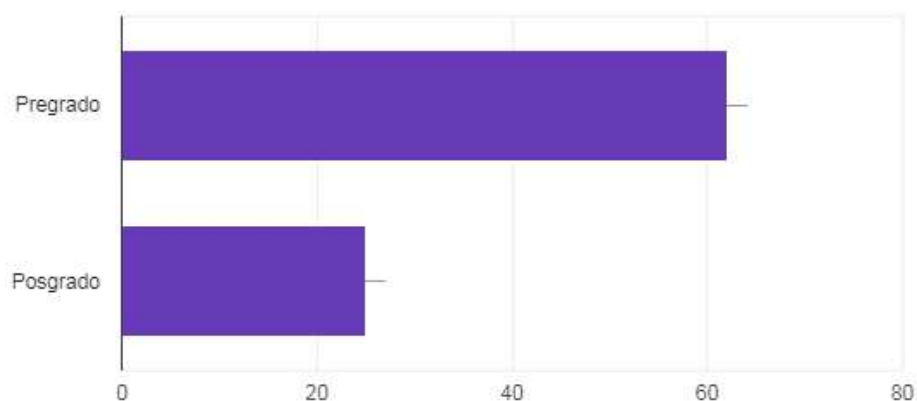
The 250 people interviewed were also asked about their experience in the direction of theses, monographs and undergraduate projects, noting that the vast majority (72.8%) did not do this work; and those who did so (79 people) were at the undergraduate (78.5%) and graduate

⁵Blue: Very little; Red: Little; Yellow: Regular; Green: Good; Purple: Very Good / Cuantitativo: Quantitative; Cualitativo: Qualitative; Mixto: Mixed

⁶ Cuantitativo: Quantitative; Cualitativo: Qualitative; Mixto: Mixed

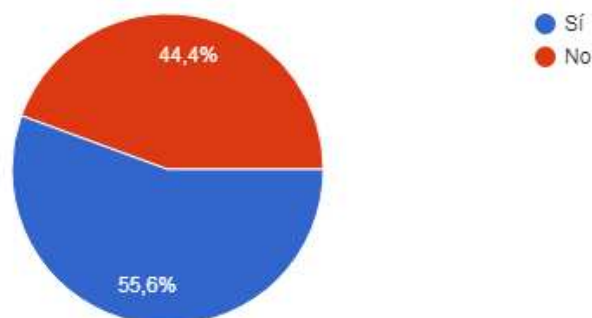
(31.6%) level (see Figure 5). In addition, they were asked if they conducted research in their daily activity, to which 55.6% answered in the statement (see Figure 6).

Figure 5 – Academic level in which they participated: theses, monographs and undergraduate projects⁷



Source: Prepared by the authors

Figure 6 - Do you conduct research on your daily professional activity?⁸



Source: Prepared by the authors

- Identify the training and experience of teachers who participate in the teaching and monitoring process of the research.** The interview with the professors allowed us to collect information from 22 of them (54.5% women and 45.5% men), who worked between 6 and 20 years in the universities that were part of the sample, with a full-time contract (81.8%). 90.9% of the participants had a bachelor's degree and 71.4% had a doctorate. and 24% had between 20 and 21 years of experience as a researcher. 86.4% conducted research in the last 5 years at undergraduate (31.6%), graduate (57.9%) and postdoctoral (57.9) levels, with more than 10 studies carried out during this period (42.1%) (see graph 13), especially in the area of Social Sciences (85%). In addition to the research exercise, teachers have reinforced their experience as researchers through research courses, thesis direction, thesis evaluators, participation in events, among others. Similarly, with participation in academic committees (95.5%), editorial boards (68.2%), formal research (72.7%), organization of academic events (81.8%).
- Identify the topics most commonly investigated by graduate students in Education and related**

⁷ Undergraduate / Graduate

⁸Blue: Yes; Red: No

areas in social sciences and Humanities. The research carried out on the students allowed to define and declare the lines of research in which graduates and students of the program have researched and investigated, respectively. For them it was necessary to group the different themes in broad lines. In Table 3, it is possible to identify the 6 different lines with their respective themes.

Table 3 – Lines of Research in the Master's degree in Education

Lines	Topics
Didactic	Reading writing
	Mathematics
	Statistics
	Basic Sciences and Environment
	Social sciences
	Arts
	Foreign languages
	Literature
Management	Strategic Planning
	Management and Evaluation of Educational Projects
Culture and Citizenship	Comparative Educational Systems
	Culture and Aesthetic Expression
	Citizenship Training
Early Childhood Education	Public Policies in Early Childhood
	Pedagogical and Didactic Strategies in Early Childhood
Technologies in Education	Incorporation of ICT
	Educational Innovation with ICT
	Virtual Environments
Inclusion and Differential Approach	Educational Inclusion
	Diversity, Differential Approach and Gender
	Dropout
	Socioaffective Development

Source: Master Document of the Master's Degree in Education UNAB (2018)

- **Identify the profile of graduate students in Education and related areas in Social and Human Sciences.** As a result of the exercise of diagnosis and characterization performed in students and graduates of the Master's degree in Education, a proposal was made for the professional and occupational profile of the student, taking into account the two modalities of the deepening and research program. The profile proposal was organized as follows:

Professional profile

Research modality: The Master's degree in Education at UNAB will be a highly specialized researcher, with the ability to apply his pedagogical knowledge in the formulation and development of projects aimed at reflection, analysis and generation of new knowledge that can contribute to the educational context. It will be a reflective and critical professional with deep appropriation in the epistemological basis of education that will allow him to establish a

dialogue with the scientific community about his field of training and research and, thus, contribute to the growth of the theoretical body of pedagogical knowledge in the context.

Deepening modality: The Master's degree in Education of UNAB will be a professional sensitive to the social, cultural and educational reality in the local, regional and national contexts in which it operates, with the ability to create innovative proposals for educational intervention that offer an answer to current problems, in which it puts into practice the pedagogical knowledge built.

Occupational profile

Research modality: The Master's degree in Education of UNAB will be a professional sensitive to the social, cultural and educational reality in the local, regional and national contexts in which it operates, with the ability to create innovative proposals for educational intervention that offer an answer to current problems, in which it puts into practice the pedagogical knowledge built.

Consultant in projects related to the educational system, in public, private organizations and NGOs, at regional, national and international level.

Oriented in the design or implementation of research projects in education, in which it applies the epistemological foundations of education for diagnosis, design, development, implementation, evaluation, management, innovation.

Tutor or teacher at different levels of the educational system.

Deepening the modality

Teacher or tutor at different levels of the educational system, in public, private organizations and NGOs, at regional and national level.

Designer and manager of educational proposals, in which he must perform the diagnosis, design, development, implementation, evaluation, management and innovation for the creation and recreation of teaching and learning environments.

Researcher in educational organizations and institutions for problem solving in professional, organizational, community, social and global contexts, emphasizing didactics, management and culture.

Consultant in projects related to the educational system, in public, private organizations and NGOs, at regional, national and international level.

Conclusions

This section shows the conclusions, discussions, and future recommendations related to this topic. In addition, certain theoretical supports will be presented that will allow you to verify what has been expressed.

About the research training process

Research training requires a planned and pre-designed process that ensures that graduate students reach the skills necessary to continue doing research beyond the exercise of undergraduate work. For this, it is necessary that within the program there is a protocol that defines moments, activities and deliveries, as well as the roles of those involved in the process. The research protocol proposed in this research meets the two modalities proposed in the Master's degree in Education of UNAB: deepening and research, courses, schedules and activities necessary for the construction of each chapter. Similarly, and as a result of the collection of information, it is concluded that it is necessary that the research exercise be carried out throughout the graduate program, that is, from the first semester to the last, with the accompaniment of a professor responsible for introducing the student to the methodological, and a research director to guide him in relation to the area of knowledge and content of his research.

Ideally, the research student should achieve autonomy in the construction process, as well as develop his critical thinking, skills related to the search for information, analysis, synthesis, reading and writing.

Although the protocol may not be the same for all universities, it can serve as an indication of the process for both the student and the teacher, as well as for the university for issues of approval, mobility and certification.

About the knowledge and entry skills of graduate students

Although students accessing a graduate program have had some kind of approach to research processes, they are minimal and not as rigorous as expected at the master's level. Therefore, research modules and seminars become the ones that students fear the most, and those who repeat the most, despite being carefully structured in times and activities.

Most of the students interviewed had approaches to qualitative research exercises, with which they feel comfortable, but feel that they do not have enough knowledge to conduct a quantitative or mixed research. This apparently happens, because some currents insist that the

exercise of research in education should be qualitative, eliminating the possibility that students know other research methods that meet their needs and interests. Therefore, the proposal that is made from this research is that students have the possibility to receive information about the different types of research, and select according to their needs to which they will use in their undergraduate work.

About teacher training and experience

In general, it is possible to say that the professors responsible for the research processes in universities have experience at the graduate level as professors and researchers, as well as research experience they have obtained thanks to the publication of articles in indexed journals, participation in presentations, academic committees, scientific events, direction and evaluation of theses and undergraduate work at different levels of training.

However, his experience in teaching research is given more by his actions as a researcher and his learning as an undergraduate, graduate and postdoctoral students. In this order of ideas, it is necessary a training space, which allows the teacher to know some elements related to the didactics of research, besides offering him tools to teach it, facilitating their work and ensuring that students reach throughout their courses, significant learning that motivates them to constantly investigate the needs of the environment, the region and the country, to generate significant changes in it.

About the curriculum

As a result of this exercise, it is possible to show that there is currently a strong tendency for graduate studies in Education programs and specifically in Master's degree in Education, becoming a standard program of universities, in that it allows, in addition, a permanent reflection on the educational exercise within the university.

It is observed that the Masters offered are not only supported by the research groups of the University, but are also these groups that follow the research process within them, contributing with all their knowledge, researchers, lines of work, publication spaces, among other aspects, and thus ensuring the necessary scientific support to articulate academically and conceptually the research exercise within the master's degree with the institutional projection of research.

Another aspect that draws attention as a result of this exercise is the emphasis on the

two paradigms of research: qualitative and quantitative, allowing graduate students in the area of education to have many possibilities, fields of action and ways of doing research according to their interests and needs. The presence of the two paradigms opens the possibility of incorporating technological and educational innovations in the exercise of research, thanks to the fact that "qualitative and quantitative projects complement each other, and do not constitute exclusive approaches at the level of methods" (Escudero, 2004), thus obtaining a solution rich in design and not necessarily in a single method.

Despite the differences between one program and another, there are more common aspects that become a key element for the construction of the research protocol, in order to offer a research exercise within the master's degree, according to what is being done nationally and internationally, and that guarantees students work on research skills that allow generating contributions, share knowledge and facilitate mobility and continuity between programs.

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