

## The Correct Training of a Research Teacher

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### Abstract

The training of a researcher teacher is extremely necessary for the educational system, the amount of scientific material obtained helps to form study strategies and learning methods that are attractive to the student population. Taking into account that the main objective of a researcher teacher is to discover and innovate the theoretical foundations in order to apply them proactively, the initial methodology was documented and then applied as an approach to research in the educational context, the result of this article was very satisfactory for teachers, the process was supported by educational scientific research, with planning, action and reflection in the search for the correct training of a researcher teacher. The intention of this article is to establish results of experiences of educational researchers, in this period, projects were carried out directly linked to educational research, which dealt with verbal interaction, classroom administration and institutional change. The means of the studies regarding building the educational context, interpreting it, simultaneously with the observed students, and the educational actions carried out from the data collected, this article starts by philosophizing about the question: Why is it essential for the teacher to investigate? It highlights how the results of qualitative research contribute to teaching and the training of teachers and emphasizes the deprivation of living, analyzing, understanding, and interpreting the processes of the concrete educational reality.

**Keywords:** learning, science, training, research, foundations

### Introduction

The principle of a teacher-researcher has gained significant relevance in recent times. Currently, a vast network of pedagogical knowledge has been developed around this concept, where various perspectives are presented. In some cases, these constitute agreements, while in others, divergences arise that deserve critical examination. Considering the constant technological advancements, the construction and innovation of scientific material is required, as well as the inquiry carried out to create scientific material, which in turn improves the quality of academic training (Serna, 2021; Suarez et al., 2021).

It is inevitable to highlight some key aspects. Firstly, it is important to address the various modalities that resemble the function assigned to research and teaching, considering that teachers who resort to research as a means of teaching (Tocora and Hernández, 2020; Asis et al., 2022), those who use it as a means to deepen their training and professional development, and those who use it as a skill aimed at the construction of scientific knowledge.

Secondly, considering the teacher-researcher as a factor contributing to the change in teaching practices, it is likely necessary to reconceptualize the understanding of a teacher-researcher (Nessi et al., 2020; Villanueva et al., 2020). This entails the need to verify new liberating practices, fully unfolding their theoretical and practical implications, evolving

the contingency conditions under which these new forms of action can be carried out, and dialectically moderating these two processes in a new argument, which involves research and reflection on educational practices.

In education, a professional teacher is linked to a world of constant updates of educational content, whether related to their field or to implement and acquire innovative knowledge. Therefore, the role of a teacher-researcher is of utmost importance, given that the process of obtaining scientific material will result in the formation of their own knowledge. Their performance in delivering lessons will be proactive, thereby encouraging students to engage in the world of research (Espinoza and Cervantes, 2021; Romani et al., 2022).

The curiosity sparked by research on a specific topic allows for the formation and creation of innovative material, nourishing the intellect of the teacher-researcher. Reflection, questioning, and doubt genuinely support the development of research (Benavides and Ruiz, 2022). Research in education enables both teachers and students to develop new learning methods and, at the same time, ensures that the way information is interpreted is fruitful for their training as educators (Chacín et al., 2020).

Considering the above paragraphs, this research is theoretical in nature. Through the study and verification of various writings referring to the concept of a teacher-researcher, three thematic axes were identified using content analysis. These axes emerge from and underlie this term, representing different ways of understanding the interaction between teaching and research (Fernández et al., 2022).

This article presents some theoretical foundations that align with the application carried out by teacher-researchers during their educational formation. The role of a teacher-researcher is considered a pedagogical promoter to enhance the quality of educators (Lopez, 2021; Palacios et al., 2022). Research should be conducted in an organized manner, as it constitutes an excellent tool to improve the quality of educational organizations.

This research aims to understand the role research plays in the teacher-researcher, highlighting that research plays a transcendental function in the student population. It should proceed with the proper foundations, understanding the facts, causes, and consequences throughout the research process. This must be done with the right sources, with full awareness of each element and factor in order to achieve effectiveness when obtaining results.

## **Theoretical Framework**

### ***Research as a Strategy for Teacher Evolution***

Building the theory of the research field, it was proposed that "Research, progress, and teamwork. Research applied to the student community aims to improve and motivate the interaction between the teacher and the student. It is understood as a social reflection since everyday educational life is often linked to this. The inquiry in these situations is centered on evolution and improvement in reasoning. Professional practice commits the teacher-researcher to ensure and validate the research process" (Vargas et al., 2021).

### ***Characteristics of Teacher Research***

The development of teacher research requires a commitment to the corresponding project or topic as this will help achieve a productive result from a positive and democratic perspective. Teacher-researchers aiming to innovate the scientific context within the field of Early Childhood Education need a proactive work team with a solid foundation and the ability to use scientific tools to obtain innovative material for the field (Moscoso et al., 2022).

There are several characteristics of a teacher-researcher, including interaction and collaboration. The production and resolution of the research must occur in a collaborative environment where all members of the research group consider that any scientific material used must be pre-validated with integral evidence, such as surveys or brief evaluations in the application of teaching practices (Rivera & Aparicio, 2020).

- **Problem Solving:** In every research process, resolving the product to be obtained addresses the issues in this procedure. A wide range of data collection techniques can be used to define the problem: observation and interviews are often the most utilized for a quick and efficient resolution (Munayco & Solís, 2021).

- **Acquisition of Knowledge:** The results proposed are not only for theoretical resolution but also to improve future research progress and its innovation. The acquisition of knowledge will depend on the nature of the problem and its socialization in the research process (Loyola & Loyola, 2020).
- **Theoretical Complementation:** The goal of all teacher research is for the results obtained to contribute to the professional development of the researcher and to innovate scientific production with an optimal and complementary contribution. Based on evidence generated from the research, critical reflection will help establish the foundation of the problem (Salguero & Pérez, 2023).
- **Practical Results:** Theories and results obtained during the research process should be made public to the relevant authorities at the University of Guayaquil, to the teacher-researchers, and also to the student community to foster interest in the research conducted (Santos, 2022).

### **Teacher Research in the Educational Field**

Teacher research is a systematic and self-critical inquiry that stems from curiosity and the desire to analyze and enrich the research topic. Educational research leads to a transformation in teacher training, research, and curriculum evaluation, as well as the acquisition of knowledge during training. The paradigm tends to lean towards changes in the educational system and its constant advancement. Educational research develops from a diagnosis predicted by evaluation and presented through various characteristics (Miranda & Ortiz, 2020).

The analysis of human behavior between parents and students creates experimental social situations for the teacher-researcher. Research is about seeing what everyone else has seen and thinking what no one else has thought (Walker, 2022). Teacher research is closely related to the implementation and development of projects directly influencing the student and their environment.

### **Strategies for Teacher Research**

The primary focus for teacher research should begin with curriculum analysis, taking it as the fundamental method and strategy for creating scientific material. Teachers can devise various ways to guide students in the correct formation of scientific material, utilizing pedagogical tools and instruments. Nothing has the power to expand the mind like the ability to investigate systematically (Romani & Gutiérrez, 2022).

Investigating together with students in pedagogical practices instructs students to understand and comprehend the teacher's work more effectively, thus fostering quality teachers. By guiding the steps to follow, it will determine the activities to be performed and proactively organize the achievement of the objectives (Guisasola et al., 2021).

Training teacher-researchers sets in motion a process that fosters the teacher's capacity for analyzing needs and creating scientific material. Through investigative actions, it promotes solutions in the learning process (Álvarez et al., 2021).

Objectives, contents, methods, and evaluation forms are constructed in the teaching-learning process through the joint participation of teachers and students in an institutional context as the main participants in the educational process (Matos et al., 2021).

The training of participants in the educational process, based on pre-professional practices in which students are involved, takes into account the theoretical experience provided by research. The formation of teacher-researchers includes several phases to complement their training, such as didactic training, which opens the door to learning, and generalized research training, which takes into account the design and project of the research (Márquez et al., 2022; Desantiago, 2024).

Decision-making is an essential condition that considers the institutional structure, shaped by economic, political, and social contexts, to enable research according to the participatory methodology and action research (Díaz, 2022).

Various educational institutions, each with specific characteristics, represent the primary field that researchers must consider, as they significantly influence the development of research projects by providing or denying necessary support. Therefore, aspects such as power structure, inter-institutional relationships, and resources must be considered when initiating projects using the action-research method (Nicolás, 2021).

Decision-making involves several stages, shared by all participants in the research process, such as execution, evaluation, and monitoring of action projects (Lozano et al., 2022). The grassroots organizations arising from institutions must have a broad and clear vision of the limitations of the activities to be carried out, in order to implement actions that have institutional impact in the short, medium, and long term.

### Materials and Methods

The methodology used was the continuous comparative method of grounded theory. Inductive processes allow for the creation of concepts and categories, the establishment of relationships between them, and the formulation of coherent relational propositions. Deductive processes allow for the interpretation of facts, revalidation of the products of inductive processes, and questioning of the existing theoretical references. Through the unification of induction and deduction, grounded theory, or theory resulting from research, emerges.

### Scope of the Research

The University of Guayaquil, specifically the Faculty of Philosophy, Letters, and Educational Sciences, was considered for the application of a survey on the formation of a teacher-researcher. This survey was conducted through an online questionnaire to prevent COVID-19 contamination and to ensure a faster collection of results, with the goal of promoting teacher research and improving teacher training.

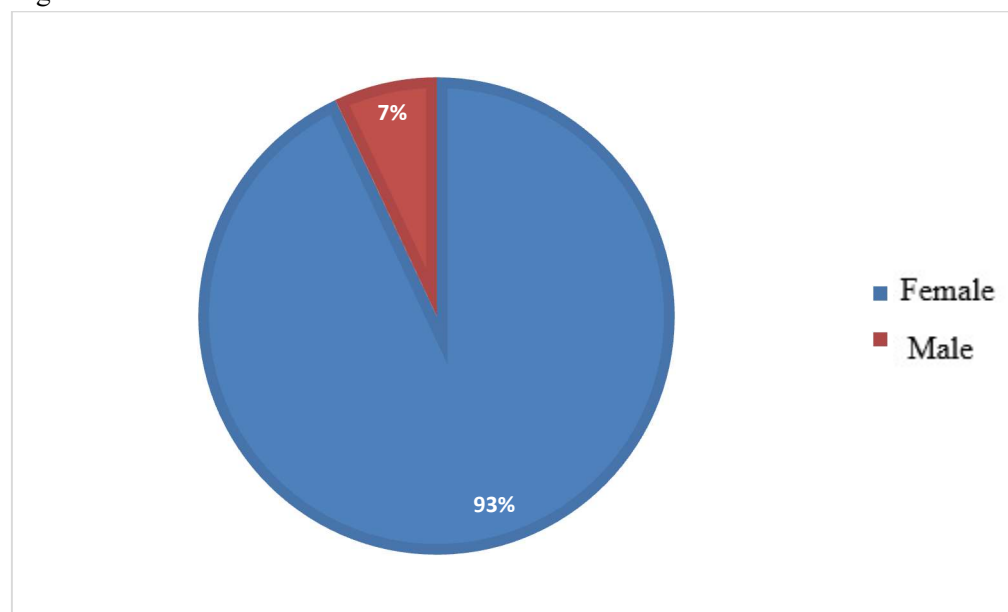
The survey focused on the following aspects: academic background, and the teacher's involvement in research. Its objective was to promote the development of teacher-researcher training and the application of knowledge, to develop new guidelines for teacher training, and to propose a model for proper teacher education.

### Survey Population

The teaching staff of the Faculty of Philosophy, Letters, and Educational Sciences at the University of Guayaquil were surveyed to gather their opinions on the formation of a teacher-researcher. The goal was to promote the proper formation of teacher-researchers through closed-ended questions, using the Likert Scale.

### Survey Participation and Characterization

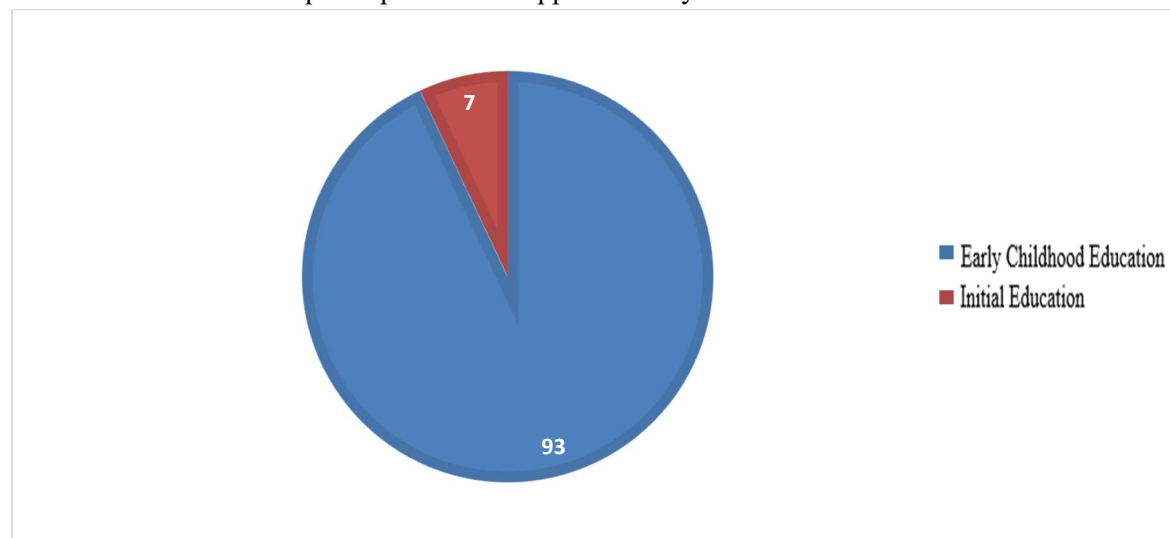
Professors from the Faculty of Philosophy, Letters, and Educational Sciences, with the gender distribution shown in Figure 1.



**Figure 1.** Distribution by gender of Professors from the Faculty of Philosophy, Letters, and Education Sciences who participated in the survey.

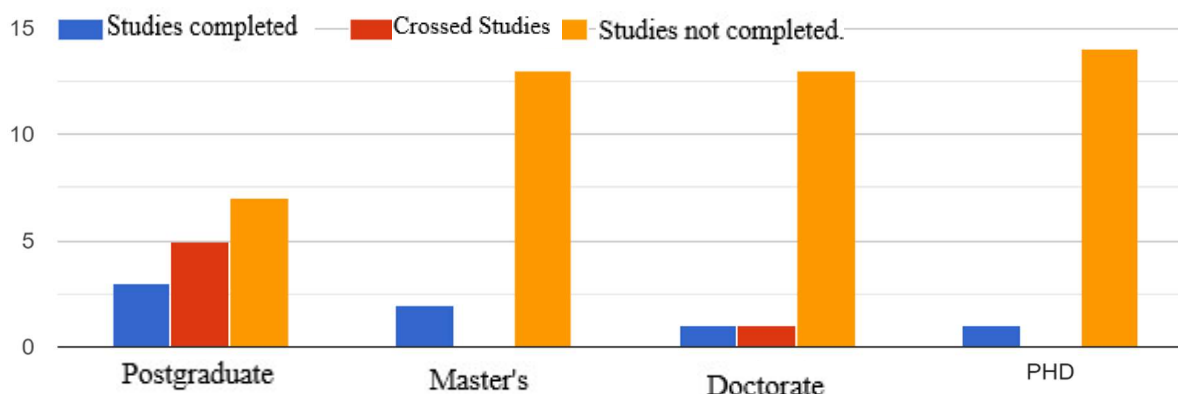
Figure 2 shows the distribution by degree program of the Professors from the Faculty of Philosophy, Letters, and

Education Sciences who participated in the applied survey.



**Figure 2.** Distribution by major of the professors from the Faculty of Philosophy, Letters, and Education Sciences who participated in the applied survey.

Meanwhile, Figure 3 presents the distribution by academic background of the professors from the Faculty of Philosophy, Letters, and Education Sciences who participated in the applied survey.



**Figure 3.** Distribution according to academic background of professors from the Faculty of Philosophy, Letters, and Educational Sciences who participated in the applied survey.

## Data

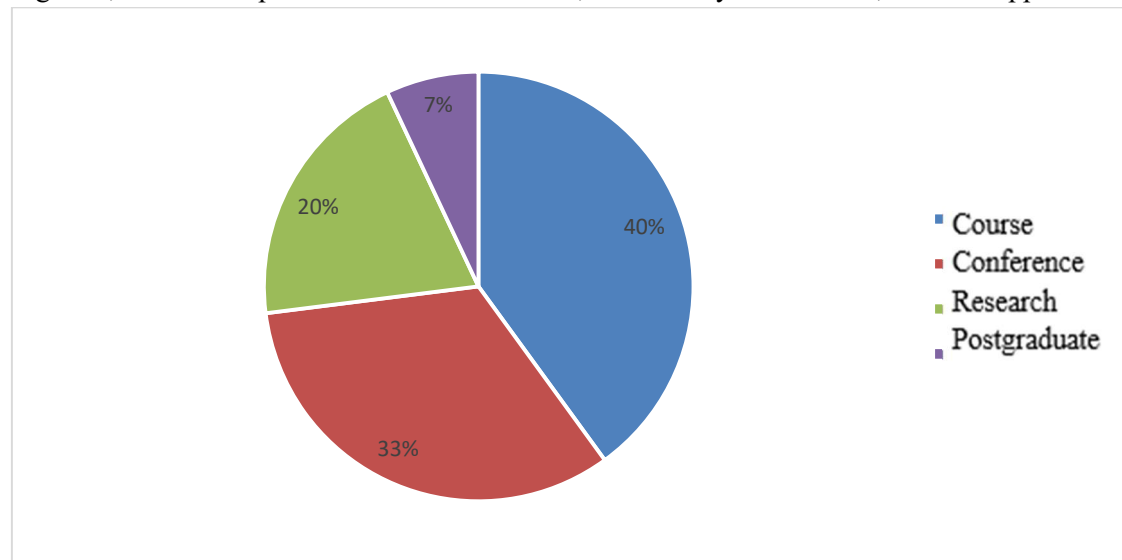
First, the research design was examined, which was documentary in nature, aiming to collect the experiences and knowledge that both teachers and students have regarding the actual research functions in the university and those that have the greatest impact on teaching performance. This was done through the investigation of primary and secondary sources of bibliographic and documentary research. As part of the process, the use of bibliographic cards and the reference manager included in Microsoft Word was incorporated, allowing for the systematic recording and organization of consulted sources such as scientific articles, books, reports, and official publications.

To carry out the comparative analysis, comparative matrices and data tables were used. According to the comparative analysis, the goal was to establish relationships between the experiences and knowledge of students and teachers regarding the actual research functions in the university and those that have the greatest impact on the teaching-learning

process.

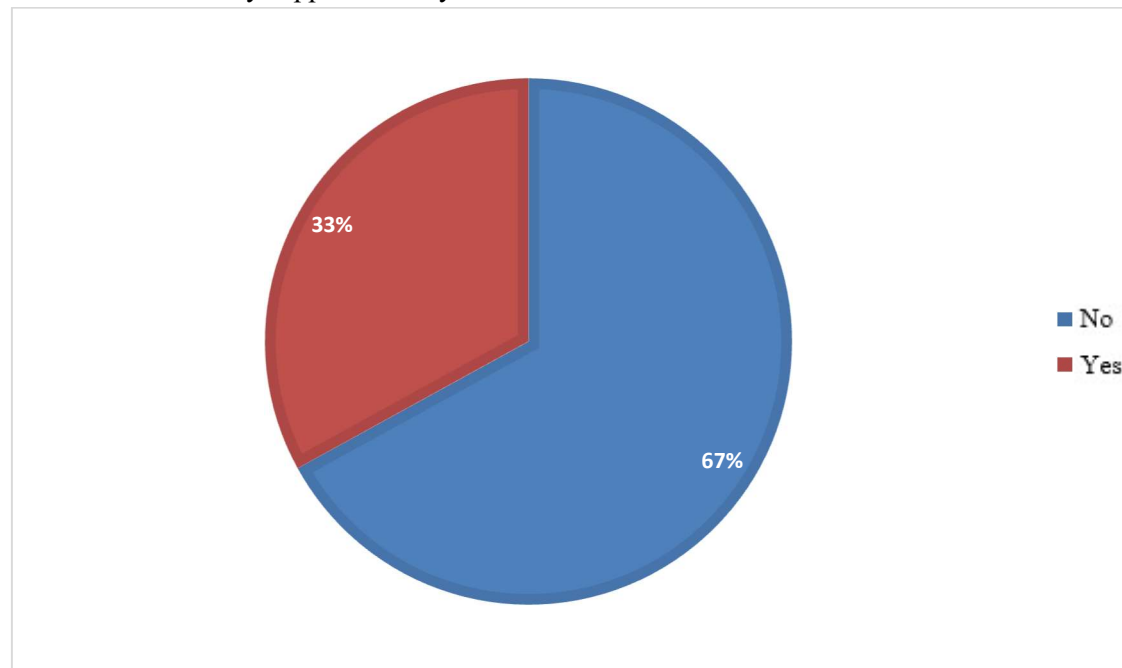
## Results

The data collected from the survey on teaching activity were evaluated, as a result of the constant training in the educational field that helps teachers ground the teaching they apply when shaping students' education. As shown in Figure 4, the most important were online courses, followed by conferences, research opportunities, and degree programs.



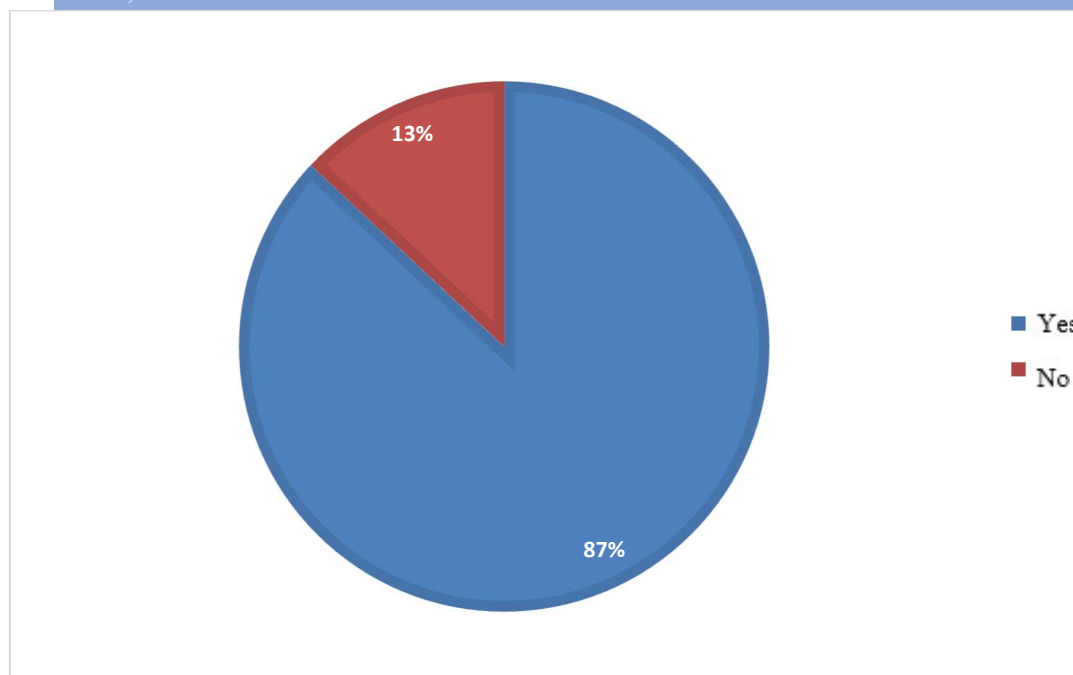
**Figure 4.** Evaluation of Teaching Activity

Often, the lack of resources hinders teacher training. With financial support or the implementation of free courses, proper teacher training would be more accessible. Unfortunately, as shown in Figure 5, 67% of teachers state that they do not receive the necessary support to carry out research activities.



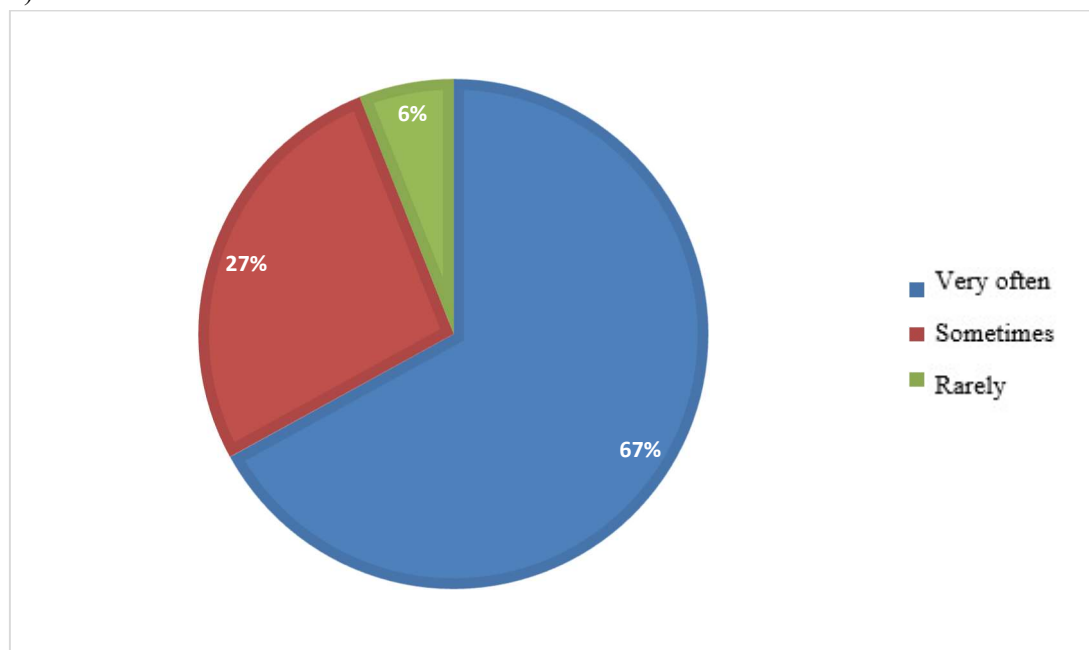
**Figure 5.** Support for conducting research teaching activities

Nevertheless, despite the limited support received, according to 87% of the respondents, the activities carried out had excellent results and a positive impact on both teachers and students, as shown in the results presented in Figure 6.



**Figure 6.** Impact of research teaching activities

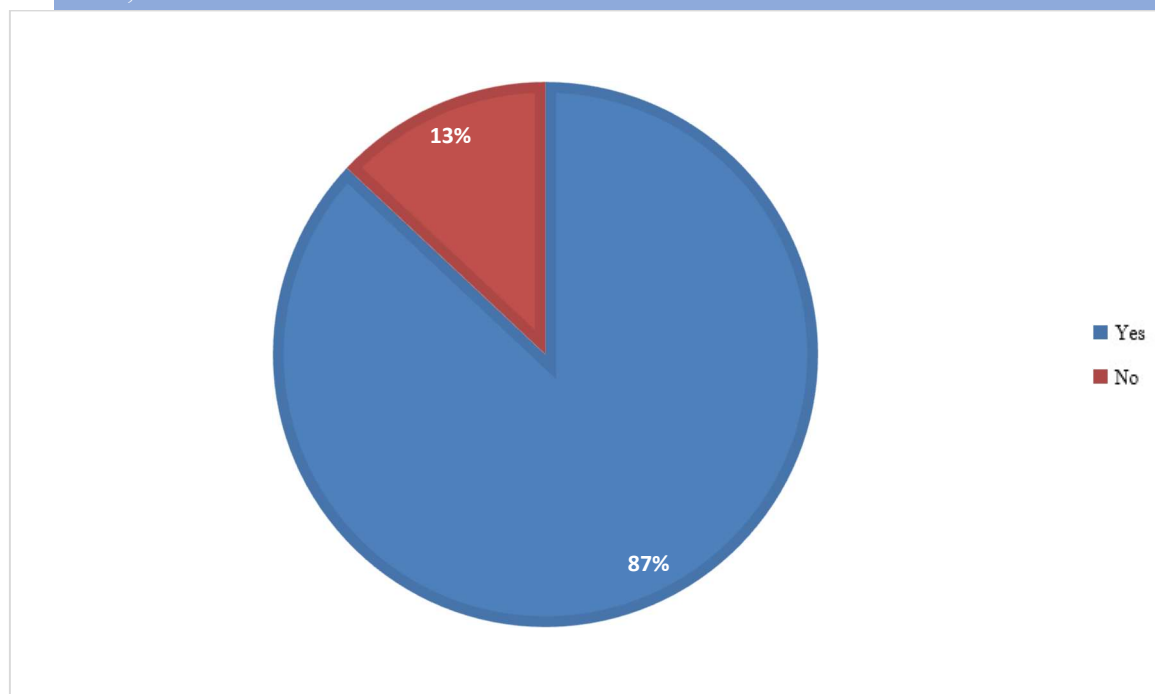
The positive impact of the research support activities is due to the use of innovative methodologies that aid the learning process. Although there has been significant progress, much remains to be done on the path of methodological innovation in the Early Childhood Education and Preschool program, which is positively valued by 67% of the participants (Figure 7).



**Figure 7.** Use of innovative methodologies for carrying out teaching research activities.

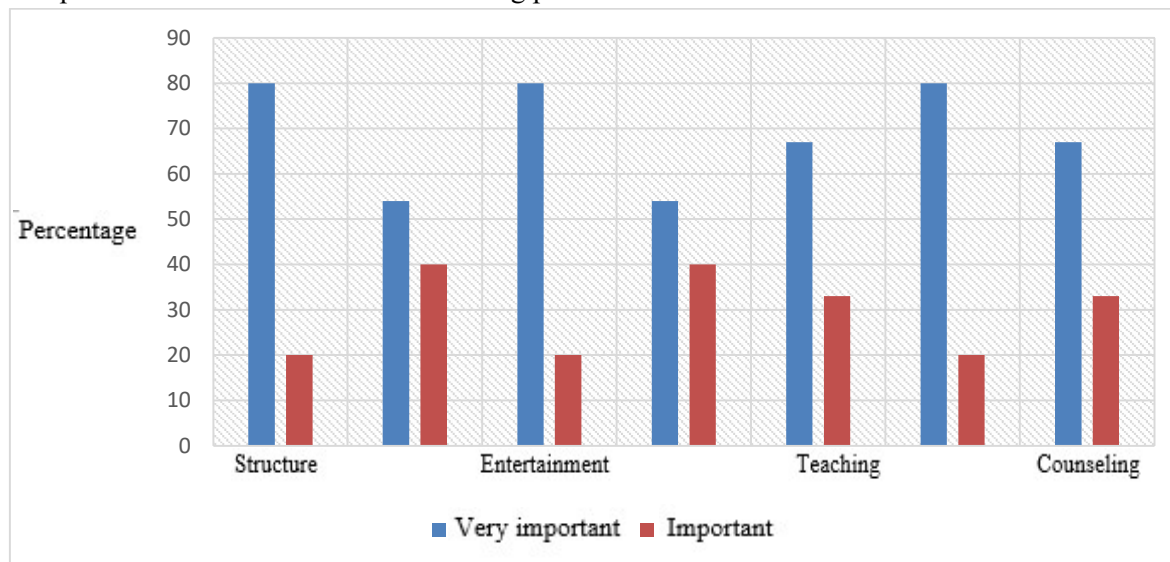
The use of didactic strategies within the classroom has made significant progress in terms of understanding and implementing these tools. According to 87% of the interviewees, the impact of research training not only positively affects the teacher (Figure 8) but also helps optimize the teaching-learning process through higher-quality education.





**Figure 8.** Impact of research teaching activities and their use in the classroom.

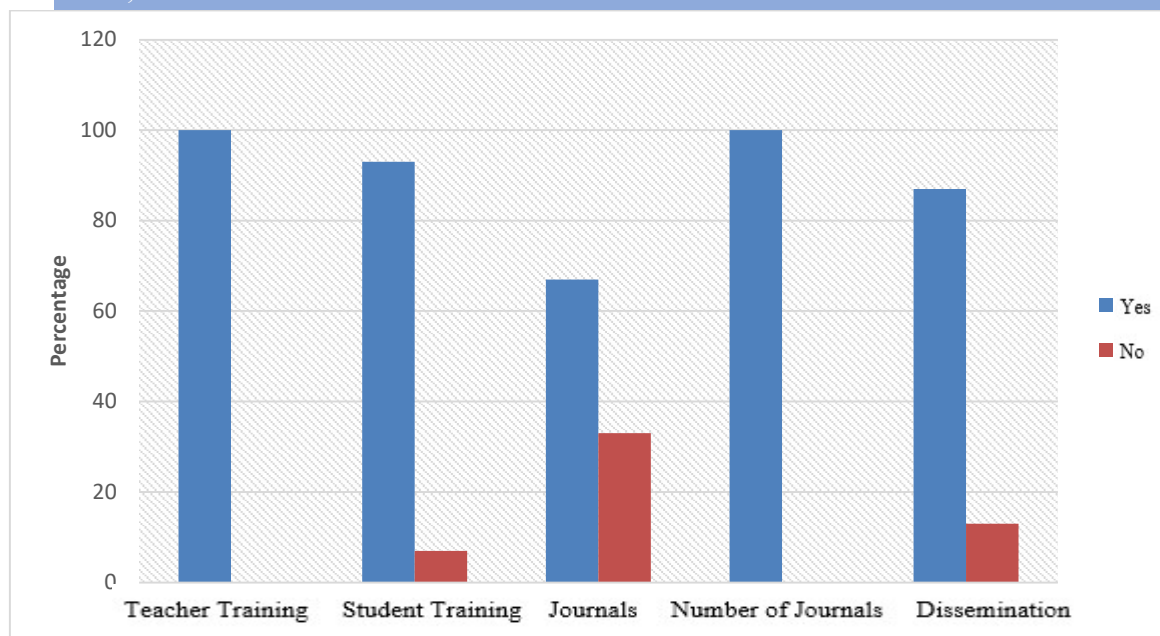
To improve the research teaching activity, teachers must be trained, who, according to what is stated in Figure 9, require competencies in both structural aspects and practical areas, such as training, teaching, voice management, and competencies for their use in the counseling process.



**Figure 9.** Competencies required by teachers to be trained as researchers

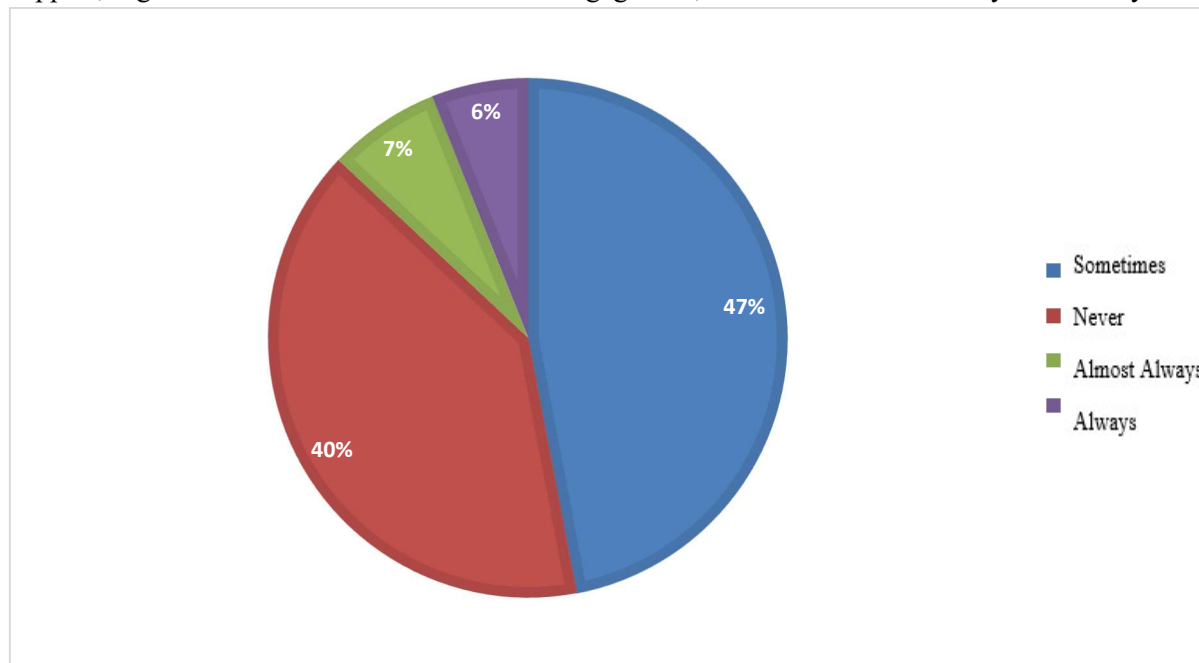
The implementation of a training module for teachers on the process will be one of the foundations upon which we will base the training of teacher researchers. This should be accompanied, as described in Figure 10, by the creation of quality journals and scientific dissemination media that support research activities.





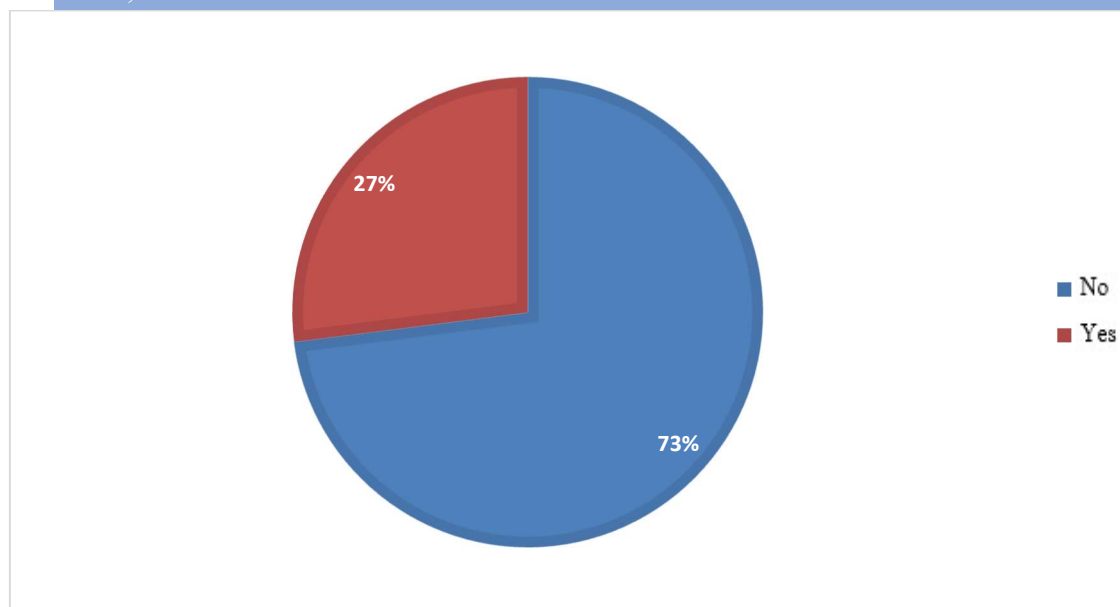
**Figure 10.** Support activities for carrying out teacher research activities

Despite recognizing the importance of research activity as part of the teaching role and having partial institutional support, Figure 11 shows that 47% sometimes engage in it, while 40% state that they never carry it out.



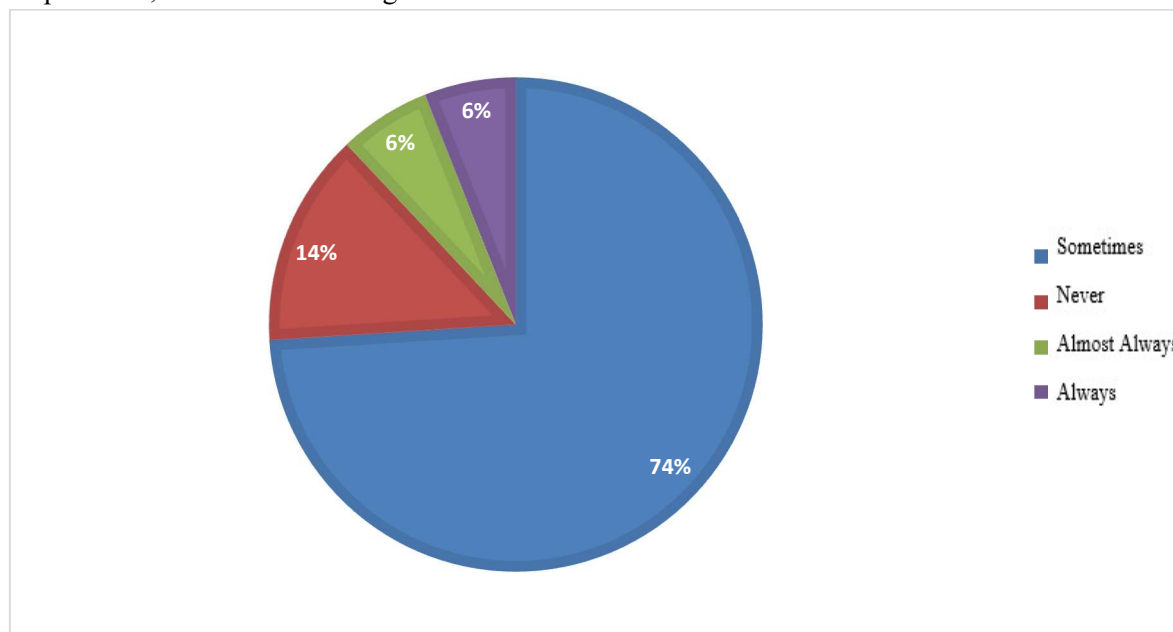
**Figure 11.** Frequency of Conducting Research Teaching Activities

One of the most serious shortcomings detected during research activities as part of the teaching function, as shown in the results presented in Figure 12, is that 73% of teachers do not disseminate their scientific activities, thereby limiting the reach of the knowledge generated.



**Figure 12.** Frequency of dissemination of research activities by teachers.

In accordance with what is shown in Figure 12, when teachers were asked about scientific dissemination and support for research through incentives, Figure 13 shows that although support is received, it is not consistent, as stated by 74% of respondents, with the concerning fact that 14% never receive it.



**Figure 13.** Frequency of support for conducting teaching research activities.

Given the importance of research activity as part of the teaching role, institutional support must be strengthened. This is because the current academic training is not based on the transmission of recognition but on the capacity of higher education institutions to solve societal problems, as part of the social function of university education institutions.

### Discussion

The results reveal a low level of training among professionals, which means they do not have an appropriate profile to carry out research functions. Research is limited to continuous education through courses and workshops; however, most do not have studies at the IV and V levels. This is often constrained by the lack of financial support, especially for

academic degree programs, which are frequently expensive and not accessible to most professionals (Berrio et al., 2022). An alternative to this is to resort to virtualization (Luzbet and Laurencio, 2020).

Despite the limitations in training programs, those that have been conducted have been successful and have improved the performance of teachers. It is noteworthy that the methodologies used during the learning process have, in most cases, contributed to better teaching performance in the Faculty of Education's programs (Berzunza, 2020; González et al., 2021). This is not only reflected in their personal performance but also in the successful application of these learning methodologies in the training of students within the classroom.

Although training has been provided, it needs to be deepened. According to the opinion of the stakeholders in the learning process, the training should focus on improving structural processes, the execution of practical activities, and the development of training programs to enhance the skills and abilities required in teaching practice, leading to better professional performance. This is particularly important during the teaching process, which requires voice training and the development of soft skills to accompany students in the role of a counselor (Sarmiento, 2023; Tovar et al., 2024).

For these competencies to be achieved, a training process is needed that includes both teachers and students. In particular, in the research field, there is a need to strengthen scientific dissemination journals. Although they exist, they must be improved in terms of visibility in order to better position them, leading to better teacher accreditation and a higher quality of articles published. For this, the number of journals indexed in high-impact indexes such as Scopus and Scielo should be increased (Limaymanta et al., 2020; Rojas et al., 2021).

Despite the efforts made within the university, the research actions of the university staff remain limited and are supported only occasionally due to the lack of financial backing as an incentive to promote research activities. There is also limited and sporadic support to promote research projects and, most importantly, to disseminate them (Bolaños and Cruzaty, 2020; Robles, 2022). This dissemination is essential for them to be known not only by the university community but also by Ecuadorian society.

The research function is key within the new perception of the university education system, where the university's social function as a transformer of society is emphasized (Ibarra et al., 2020; Muñoz et al., 2023). To achieve this, the institution must stop being seen as a knowledge transmitter and become one capable of solving the community's problems. For this, research and innovation processes are needed to address these problems, with the ultimate goal of ensuring that these innovations reach the communities that need them to drive changes that lead to economic and social growth and improve the quality of life for their inhabitants.

## Conclusions

Improving teacher training and processes requires developing the professional competencies of teachers at various stages of the Early Childhood Education – Preschool career. Professional competency frameworks can help improve quality standards by specifying the knowledge, skills, and attitudes that teachers, including those in professional training and adult education, should possess or acquire.

Teacher trainers play a crucial role in maintaining and improving the quality of the teaching workforce. It is important to highlight that there are difficulties, problems, and limitations detected during the implementation of this process. To address these, many areas need improvement, such as the implementation of free courses, the creation of educational journals within the career, the acceleration of the graduation process, and providing the necessary tools for students to engage in research, among others.

A fundamentally enigmatic aspect of teaching work is characterizing the observed improvement in student learning and identifying the objective means for measuring this improvement. Fortunately, teachers have expressed their willingness to undergo a systematic transformation, given the need to prioritize teaching practice as an essential aspect for teaching professionals. Therefore, efforts must focus on improving research areas, recognizing the importance of the teacher-researcher as a transversal element for giving new meaning to knowledge and making it a key factor in resolving community problems as part of the university's social function.

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