

Between the university and the school: the role of the pedagogical residency program in the education of mathematics teachers from a systematic literature review

Entre la universidad y la escuela: el papel de la residencia pedagógica en la formación de profesores de matemáticas a partir de una revisión sistemática de la literatura

Entre l'université et l'école : le rôle de la résidence pédagogique dans la formation des professeurs de mathématiques à partir d'une revue systématique de la littérature

Entre a universidade e a escola: o papel do programa residência pedagógica na formação de professores de matemática a partir de uma revisão sistemática da literatura

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Abstract

This article aims to present a systematic review of the literature on the Pedagogical Residency Program (PRP), highlighting its contributions to initial teacher training, with an emphasis on the training of mathematics teachers. The research was guided by the following question: How has the PRP contributed to initial teacher training in general and, specifically, to the training of mathematics teachers? The theoretical framework is based on authors who discuss teacher training and the articulation between theory and

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practice, such as Duarte, Nóvoa, Mizukami, among others. The methodology was based on the selection, reading, and analysis of academic publications found in the CAPES Thesis and Dissertation Catalog and on the SciELO portal, considering the time frame from 2018 to 2023. The studies analyzed reveal that the PRP plays an important role in bringing universities and schools closer together, promoting practical experience from the initial training stage and contributing to the development of pedagogical skills. In addition, the program encourages critical reflection on teaching practice and the use of innovative methodologies, even though challenges remain, such as the gap between academic training and the demands of basic education. It is concluded that the PRP represents an important strategy for strengthening teacher training.

Keywords: Initial training, Teaching residency, Teaching practice, Teaching mathematics.

Resumen

El objetivo de este artículo es presentar una revisión sistemática de la literatura sobre el Programa de Residencia Pedagógica (PRP), destacando sus contribuciones a la formación inicial del profesorado, con énfasis en la formación de profesores de matemáticas. La investigación se orientó por la siguiente pregunta: ¿Cómo ha contribuido el PRP a la formación inicial del profesorado, en general, y, específicamente, a la formación de profesores de matemáticas? El marco teórico se basa en autores que discuten la formación docente y la articulación entre teoría y práctica, como Duarte, Nóvoa, Mizukami, entre otros. La metodología se basó en la selección, lectura y análisis de producciones académicas encontradas en el Catálogo de Tesis y Disertaciones de CAPES y en el portal SciELO, considerando el período temporal de 2018 a 2023. Los estudios analizados revelan que el PRP desempeña un papel relevante en el acercamiento entre la universidad y la escuela, promoviendo la experiencia práctica desde la formación inicial y contribuyendo al desarrollo de competencias pedagógicas. Además, el programa favorece la reflexión crítica sobre la práctica docente y el uso de metodologías innovadoras, aunque persisten retos como la distancia entre la formación académica y las demandas de la educación básica. Se concluye que el PRP representa una estrategia importante para fortalecer la formación de los docentes.

Palabras-clave: Formación inicial, Residencia pedagógica, Práctica docente, Enseñanza de las matemáticas.

Résumé

Cet article a pour objectif de présenter une revue systématique de la littérature sur le Programme de résidence pédagogique (PRP), en soulignant ses contributions à la formation initiale des enseignants, avec un accent particulier sur la formation des professeurs de mathématiques. La recherche a été guidée par la question suivante : comment le PRP a-t-il contribué à la formation initiale des enseignants en général, et plus particulièrement à la formation des professeurs de mathématiques ? Le cadre théorique s'appuie sur des auteurs qui traitent de la formation des enseignants et du lien entre théorie et pratique, tels que Duarte, Nóvoa, Mizukami, entre autres. La méthodologie s'est appuyée sur la sélection, la lecture et l'analyse de productions académiques trouvées dans le catalogue des thèses et mémoires de la CAPES et sur le portail SciELO, en tenant compte de la période 2018-2023. Les études analysées révèlent que le PRP joue un rôle important dans le rapprochement entre l'université et l'école, en favorisant l'expérience pratique dès la formation initiale et en contribuant au développement des compétences pédagogiques. En outre, le programme favorise la réflexion critique sur la pratique enseignante et l'utilisation de méthodologies innovantes, même si des défis persistent, tels que l'écart entre la formation universitaire et les exigences de l'enseignement fondamental. En conclusion, le PRP représente une stratégie importante pour le renforcement de la formation des enseignants.

Mots-clés : Formation initiale, Stage pédagogique, Pratique enseignante, Enseignement des mathématiques.

Resumo

Este artigo tem como objetivo apresentar uma revisão sistemática da literatura sobre o Programa Residência Pedagógica (PRP), destacando suas contribuições para a formação inicial docente, com ênfase na formação de professores de Matemática. A pesquisa foi orientada pela seguinte questão: Como o PRP tem contribuído para a formação inicial docente, de modo geral, e, especificamente, para a formação de professores de Matemática? O referencial teórico apoia-se em autores que discutem a formação docente e a articulação entre teoria e prática, como Vania de Moura Barbosa Duarte, António Nóvoa, Maria das Graças Nicoletti Mizukami, entre outros. A metodologia baseou-se na seleção, leitura e análise de produções acadêmicas encontradas no Catálogo de Teses e Dissertações da Coordenação de Aperfeiçoamento de Pessoa de Nível Superior (CAPES), no portal SciELO e periódicos científicos

considerando o recorte temporal de 2018 a 2023. A delimitação do tempo justifica-se pela implementação da Portaria nº 38/2018 da CAPES, que redefiniu as diretrizes do PRP, orientando as produções acadêmicas mais recentes sobre a temática. Os estudos analisados revelam que o PRP desempenha um papel relevante na aproximação entre universidade e escola, promovendo a vivência prática desde a formação inicial e contribuindo para o desenvolvimento de competências pedagógicas. Além disso, o programa favorece a reflexão crítica sobre a prática docente e o uso de metodologias inovadoras, ainda que persistam desafios como a distância entre a formação acadêmica e as demandas da educação básica. Conclui-se que o PRP representa uma estratégia importante para o fortalecimento da formação de professores.

Palavras-chave: Formação inicial, Residência pedagógica, Prática docente, Ensino de matemática.

Between the university and the school: the role of the pedagogical residency program in the education of mathematics teachers from a systematic literature review

Introduction

Initial teacher education has been the subject of recurring debate among researchers in the field, mainly due to the difficulties that persist in preparing professionals to teach in basic education. One of the main challenges identified in the literature concerns the gap between the theoretical education offered at universities and the practical demands of the classroom (Nóvoa, 2023). Although it cannot be generalized to all undergraduate degrees, we note that, in many institutions, teacher education still lacks a more effective articulation between theory and practice, which compromises the construction of pedagogical knowledge, a fundamental aspect of teaching.

The absence of real-world experience in school settings during undergraduate studies has led many graduates to begin their teaching careers with weaknesses in fundamental areas, such as class planning, room management, and conflict mediation (Leite & Passos, 2020). In addition, many graduates have difficulty applying teaching methodologies and using technological resources in their pedagogical practices, such as digital tools (for example, GeoGebra and Kahoot). Faced with this problem, the Pedagogical Residency Program (PRP) emerges as an institutional response that brings the prospective teacher closer to school reality, favoring a more integrated and meaningful education (Tinti & Silva, 2022).

Implemented in Brazil through CAPED, the PRP aims to provide formative experiences in the school environment, promoting the development of essential teaching skills since higher education (Duarte, 2020). The program seeks to strengthen the links between the formative space (the university) and the professional space (the school), overcoming the historical distance in teacher education. As Nóvoa (2023) points out, these institutions need to walk side by side, not with their backs to each other.

This study presents, as an enrichment, the systematization of academic productions on the PRP from 2018 to 2023, a time frame that encompasses the program's implementation and research development. In this interval, there is still a poorly systematized body of literature on the subject, which highlights the relevance of mapping and organizing these studies, as well as identifying the main publication spaces and the approaches adopted. Thus, the work contributes by gathering and

analyzing research on the initial education of mathematics teachers in relation to the PRP.

In the field of mathematics teaching, the PRP becomes even more relevant, given the historical challenges faced by both basic education students and pre-service teachers (Flores, 2010). Based on this context, the following guiding question was posed: How has the PRP contributed, in general, to initial teacher education, and, specifically, to mathematics teachers' education? Thus, this article aims to present a systematic review of the literature on PRP, highlighting its contributions to initial teacher education, with an emphasis on mathematics teacher education.

This study addresses academic productions that discuss the importance of the PRP in the construction of teaching knowledge, the improvement of pedagogical practices, and the overcoming of didactic difficulties, especially in the teaching of mathematics. From the analysis of these productions, we seek to understand the advances, limitations, and possibilities the program has provided for teacher education.

This article derives from the dissertation entitled "We learn in theory. However, in practice, it is otherwise': Contributions of the Pedagogical Residency Program in strengthening the initial education of teachers for mathematics teaching in basic education", developed under the Postgraduate Program in Science and Mathematics Teaching (PGECEM), with adaptations to the scientific article format.

The article is organized as follows: after this introduction, there is a section on the context of the creation of the PRP and its objectives, followed by a description of the methodology adopted, with emphasis on the selection criteria for the analyzed studies. Subsequently, the selected works are discussed along two thematic axes and, finally, we emphasize that the PRP has been an important initiative in initial teacher education, as it enables a concrete experience of daily school life.

Pedagogical residency program: fundamentals, objectives, and implementation context

Through the Directorate of Basic Education Teacher Education (DEB), CAPES released Notice No. 06/2018 to implement the Institutional Pedagogical Residency Project. The creation of the program aims to contribute to educating undergraduate students, given the distance between theory and practice during their teaching degree courses, as well as between formative spaces (undergraduate courses) and professional spaces (school). Nóvoa (2023) argues for universities and elementary schools walking together, not with their backs to each other. In this context, the program aims to bring

students closer to schools, that is, to guide students to integrate theory and practice in the professional teaching field (Brasil, 2018). In general terms, the program aims to:

I Improve teaching degree students' education by developing projects that strengthen practice and lead the undergraduate student to actively exercise the relationship between theory and professional teaching practice, using data collection and diagnosis on teaching and school learning, among other didactics and methodologies;

II Induce the reformulation of the supervised practicum in teaching degree courses, based on the experience of pedagogical residency;

III Strengthen, expand, and consolidate the relationship between the HEIs and schools, promoting synergy between the entity that confers the degree and the one that receives it, and stimulating the protagonism of education networks in teacher education.

IV Promote the adequacy of curricula and pedagogical proposals of initial education courses for basic education teachers to the guidelines of the National Common Curriculum Base (BNCC) (Brasil, 2018, p. 1).

In these terms, the program aims to support and advance innovative projects in higher education institutions (HEIs), especially in teaching degree courses (Brasil, 2018), given that they have exhibited worrying gaps in teacher education (Mizukami, 2008). Therefore, the PRP aims to stimulate the articulation between theory and practice, bringing universities and schools closer together.

The teaching degree has presented difficulties regarding teacher education. Thus, teaching practice has become a constant challenge due to the search for qualified teachers for basic education, as the teaching and learning processes have experienced intense crises in recent years (Nóvoa, 2023).

Among the many factors that explain this deficiency are not only the systematic devaluation of the teaching profession in the country, but also the structural changes in the education of these professionals. In general, initial education for teaching in basic education has been delivered through higher education courses of dubious quality, often at night, without adequate articulation between theory and practice (Brasil, 2012, p. 2).

In this scenario, there is a persistent distance between theory and practice, as well as between the educational institution and the public school. In addition, the scarcity of effective methodologies in initial education has directly impacted the quality of basic education. Many teachers enter the profession without sufficient mastery of the theoretical and practical foundations that support teaching (Leite & Passos, 2020). The authors highlight: "The teaching degree has as its basic principle to educate teachers, and this implies, as a premise, contemplating the relationship between theory and practice, specific and pedagogical content, and partnership between the

educational institution and the future professional performance space of the undergraduate student” (Leite & Passos, 2020, p. 8). This observation reinforces the need for undergraduate courses to move toward more integrated proposals between the university and the school, so that initial education includes, in a balanced way, pedagogical knowings and the realities of the school floor.

Given the challenges faced in initial education and the need to bring it closer to the real-world context of schools, strategies were developed to reduce the gap between academic knowledge and the practical demands of the classroom. Santos (2005) argues that universities should get closer to basic education schools to understand the school reality, its problems, successes, and challenges. Thus, the PRP:

provides precisely the study of this natural phenomenon, because, when we turn our gaze to the teacher’s practice in the classroom, we are enabling, during an initial formative process, reflections on the way didactic issues are structured before the experience of the practice and during the practice (Duarte, 2020, p. 21).

Therefore, the PRP aims to minimize the challenges and bring prospective teachers closer to the school reality. When entering schools and acting as teachers, they will encounter adverse situations that were not covered during the undergraduate course, not even in the practicums.

Initially, the program was inspired by the Medical Residency Program. The first ideas for building the program began through the Educational Residency Program, started in 2007 by then Senator Marcos Maciel (DEM/PE), PLS 227/07. The debates requested the integration of that project into Law No. 9.394 of December 20, 1996, with the aim of establishing educational residency for basic education teachers.

According to the syllabus established by Bill PLS 227/07, Art. 65, sole paragraph, “[...] Teachers qualified to teach in early childhood education and in the early years of elementary school will be offered educational residency, a subsequent stage of formation, such as a minimum of eight hundred hours of duration, a scholarship, in accordance with the law” (Brasil, 2007, p. 1). Thus, the program would offer 800 hours and a scholarship divided over a period of two years, with a guarantee of a certificate for the participants, that is, those who graduated with a teaching degree, since the program was intended for teachers qualified to teach in early childhood education and in the early years of elementary school. Law No. 9.394 of December 20, 1996, came into force after the addition of article 87-A, which stated that teachers could only

exercise their profession if they held a certificate of approval from the educational residence.

As already mentioned, Bill PLS 227/07 was structured in 2007; however, it was only analyzed in 2009 at a public hearing, by the Senate Education Committee (CE), representatives of the National Council of Education (CNE), the National Confederation of Education Workers (CNTE), and the Ministry of Education (MEC). In the discussion developed by the responsible opinions, they praised the initiative, but decided not to proceed with the project on the National Congress agenda because of the costs involved for scholarships to resident teachers, as well as negotiations between the national formative policy and federative entities such as the Union, states, Federal District, and municipalities. Therefore, the project was filed in 2011 (Silva & Cruz, 2018).

Inspired by medical residency practice, the proposal was discussed at a public hearing before the Committee on Education, Culture, and Sport of the Congress, receiving expressions of support and suggestions for improvement. However, PLS No. 227 of 2007 was not voted on and was filed at the beginning of the new legislature. However, the problems that motivated it remain (Brasil, 2012, p. 2).

Five years later, another project with the same characteristics as PL 227/07 emerged, since the deficit in teaching practice remained. This time, the new Bill 284/12 was proposed by Senator Blairo Maggi. In the discussion of the project, the following summary was evidenced: a proposal to include a single paragraph in Art. 65 of Law No. 9.394/1996, which included the provision of the PRP for the education of qualified teachers for teaching in early childhood education and in the early years of elementary school. Participants would be entitled to 800 hours, scholarships, and a certificate over a period of two years: "Teachers qualified to teach in early childhood education and in the early years of elementary school will be offered pedagogical residency, a subsequent stage of initial formation, with a minimum of eight hundred hours of duration, and a scholarship, in accordance with the law" (Brasil, 2012, p. 1).

Bill 227/07 differs from Bill 284/12, since it does not make its participation in the program a prerequisite for teaching. Licensed teachers can teach freely; however, the PRP requires a current certificate as proof of title in public competitions, and the educator can use it for professional updating (Brasil, 2012).

In order to better serve basic schools in the public network and initial teacher education, six years later, CAPES defined, in accordance with Ordinance No. 38, of February 28, 2018, that the purpose of the PRP would be to support prospective teacher education institutions regarding stimulating the relationship between theory and

practice for those students enrolled in undergraduate courses who took 50% of the subjects.

However, it is important to consider that the implementation of the PRP is part of a broader context of reformulation of public policies for teacher education in Brazil, marked by debates, especially about the relationship with the Institutional Teaching Initiation Scholarship Program (PIBID), which highlights disputes around formative models and government priorities for the area (Duarte, 2020).

This new modality of the program was launched by CAPES Notice 06/2018, defining the categories that should be served by the PRP, among which the following stood out: improving the education of students enrolled in undergraduate courses, introducing activities that make it possible to exercise theory and practice actively, elaborating projects with an emphasis on teaching practice, knowing the educational reality of partner schools, promoting and introducing undergraduates in field schools, expanding reflections on teacher education and career enhancement, etc. (Felipe & Bahia, 2020; Tinti & Silva, 2020).

The possibility of having contact with practice from a program aimed at initial education favors the construction of theoretical bases that strengthen future action. Thus, the present is a kind of compass that guides and provides the theoretical and practical basis for playing different roles within the educational field. The connection between the knowledge learned in the formative process makes this dimension of know-how increasingly efficient (Freitas, Freitas, & Almeida, 2020, pp. 1–12).

In this context, the program's objective is to bring the teacher closer to their profession. Thus, the students who make up the PRP carry out activities in the school environment and actively participate in classroom life. This process occurs in partnership with the preceptor teacher and the advisors, involving actions such as preparing lesson plans, completing documents, participating in school plans and meetings with teachers and guardians, and conducting school visits. Duarte (2020, p. 23) states that the program "highlights the importance of immersion of undergraduates in school by developing activities aimed at teaching, which will include planning and executing activities, lesson plans, and didactic sequences." This statement reinforces the formative character of the PRP, which provides undergraduates with a concrete experience of teaching practice, articulating what is learned at the university with the real dynamics of the school.

The student has the opportunity to know in more depth the context in which teaching occurs, identifying and recognizing aspects of school culture; monitoring

and analyzing the learning processes through which students go through, and raising characteristics of the organization of the pedagogical work of the teacher educator and the school (Silvestre & Valente, 2014, p. 46).

According to Felipe and Bahia (2020), the program seeks to train educators with broad cultural knowledge, enabling them to develop didactic and methodological practices. In line with this perspective, it is worth remembering that the program also offers scholarships to residents during the formative process, allowing them to cover expenses such as travel and registration fees for participating in scientific events (Bastos & Sousa, 2019).

Methodology

The methodology of this article is based on the systematic literature review (SLR) carried out in the dissertation *"We learn in theory. However, in practice, it is otherwise': Contributions of the Pedagogical Residency Program in strengthening the initial education of teachers for mathematics teaching in basic education"*, developed under the Postgraduate Program in Science and Mathematics Teaching (PGECM).

This section is structured in three parts. The concept and relevance of systematic literature reviews in the context of the research are first discussed. Then, the methodological procedures adopted are detailed, including the selection criteria, the databases consulted, and the descriptors used. Finally, the data from the selected studies are presented based on information extracted from the abstracts or introductions of the respective works.

Literature review

At this stage, the results of the developed systematic literature review (SLR) are presented, which we defined as research conducted through primary sources, data collection, selection, literature analysis, and interpretation of specialized studies (Oliveira & Ortigão, 2018; Horta, 2023). "This procedure aims primarily to carry out a survey of the main studies related to the research object" (Horta, 2023, p. 68).

The purpose of the search was to identify studies about PRP and its intervention in the education of mathematics teachers. The selected works focused on undergraduate students, since the program is aimed at students enrolled in undergraduate courses, especially those who have already attended 50% of the course.

LR is an important step in an investigation. In a world where information is constantly moving, analyzing the meeting of literatures that debate similar

themes offers opportunities for studies from a perspective that fosters the growth of research in the studied area (Horta, 2023, p. 68).

In this sense, the decision to make a bibliographic search dedicated to the object of study is fundamental for the delimitation of the investigated proposal. In the given path, the obtained works considered relevant for reflection on the PRP and the education of mathematics teachers will be presented. Thus, the next step traces the procedures used to outline the systematic literature review (SLR) and the studies selected according to the inclusion criteria.

Literature review procedures

Initially, for the selection of the works, the time frame from 2018 to 2023 was delimited, considering that, as of 2018, with the CAPES Ordinance No. 38, the PRP was reformed, directly influencing academic productions on the subject, especially regarding its most recent configuration. Subsequently, the search portals that would be used were defined. Thus, we chose the CAPES Catalog of Theses and Dissertations. It includes information on research defended in postgraduate programs in Brazil, and the Scientific Electronic Library Online (SciELO) portal, a digital library that hosts scientific journal publications. Both aim to democratize access to academic publications and facilitate the dissemination of scientific knowledge.

As PRP was a recent public policy, other search options were journals. Thus, it was possible to raise and analyze productions on PRP, especially in mathematics and its influence on teacher education. Thus, we decided to carry out the searches in journals A1, A2, A3, A4, B1, and B2, whose scopes covered education, science, and mathematics education, considering their relevance, academic expressiveness, and their contributions to the promotion of knowledge. In this sense, the journals chosen were: *Educação Matemática em Revistas* (EMR); *Revista Prática Docente* (RPD); *Revista de Ensino de Ciências e Matemática* (RENCIMA); *Revista Perspectiva da Educação Matemática* (EM); *Rede Amazônica de Educação em Ciências e Matemática* (REAMEC); *Revista Brasileira de Educação em Ciências e Educação Matemática* (REBECM); *Interfaces da Educação*; *Revista Matemática, Ensino e Cultura* (REMATEC); *Revista Ibero-Americana de Estudos em Educação*; *Revista Multidisciplinar em Educação* (EDUCA); *Boletim de Educação Matemática* (BOLEMA); *Educação Matemática Pesquisa* (EMP).

The search process in the journals used strings, which allow a theme to be fractionated by keywords. The words chosen were: “*Residência Pedagógica*” (X) and

"*matemática*" (Y) [Pedagogical Residency (X) and mathematics (Y)]. This first moment of search was divided into three stages. The first search was: "*Residência Pedagógica*," the second search: "*matemática*," and the third search: "*Residência Pedagógica*" and "*matemática*". The keywords were searched separately, then together, to analyze the numbers obtained for each result. Table 1 shows the outcomes for each embodiment.

Table 1

Results obtained from the surveys conducted

Search Sources	Qualis/Education	ISSN	(X)	(Y)	(X) and (Y)
Capes	Portal	-	421	69698	14
Scielo	Portal	-	21	2165	1
EMP	A1	1983-3156	20	500	12
Bolema	A1	1980-4415	4	500	0
EMR	A2	1518-8221	0	346	0
EM	A2	2359-2842	2	499	2
Reencima	A2	2179-426X	4	436	1
IE	A2	2177-7691	0	119	0
RIAEE	A2	1982-5587	26	219	2
Reamec	A4	2318-6674	33	434	29
REMATEC	A4	1980-3141	1	420	1
EDUCA	B1	2359-2087	1	53	1
RPD	B1	2526-2149	5	27	1
Rebecem	B2	2594-9179	6	177	1
Total	14	-	544	75593	64

As can be seen, there is a glaring disparity in the search results. When searching for the keywords "*Residência Pedagógica*" and "*matemática*" in an orderly way, the numbers obtained are extremely lower when matched to the result found in the individual search for the word "*matemática*". In this sense, it should be noted that this difference is natural, since the word mathematics, when searched separately, will compile all results that are related to mathematical subjects. In turn, the combination of the words "*Residência Pedagógica*" and "*matemática*" and the individual research on the term "*Residência Pedagógica*" did not show significant unevenness when paired, indicating that there are few productions about the program. In short, the total was 64 studies using the keywords "*Residência Pedagógica*" and "*matemática*". However, this was not yet the result, since the material was evaluated and did not meet the inclusion criteria established for the research focus.

Table 2

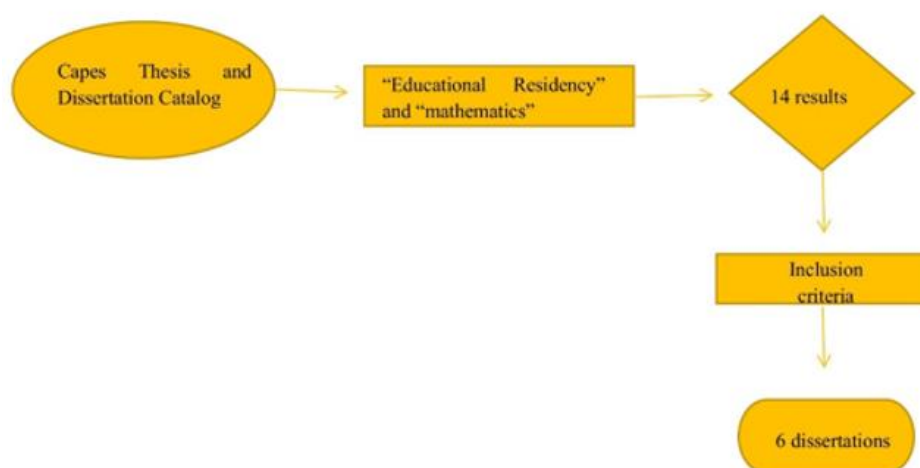
Criteria established for the exclusion and inclusion of selected materials.

Criteria	
Inclusion	Exclusion
The term "Residência Pedagógica" must be included in the work	The term "Residência Pedagógica" does not appear in the work
Articles in Portuguese	Articles written in a language other than the proposed criterion
The narrative of the text should present a discussion that relates PRP to the education of mathematics teachers	There is no discussion about PRP and mathematics teacher education

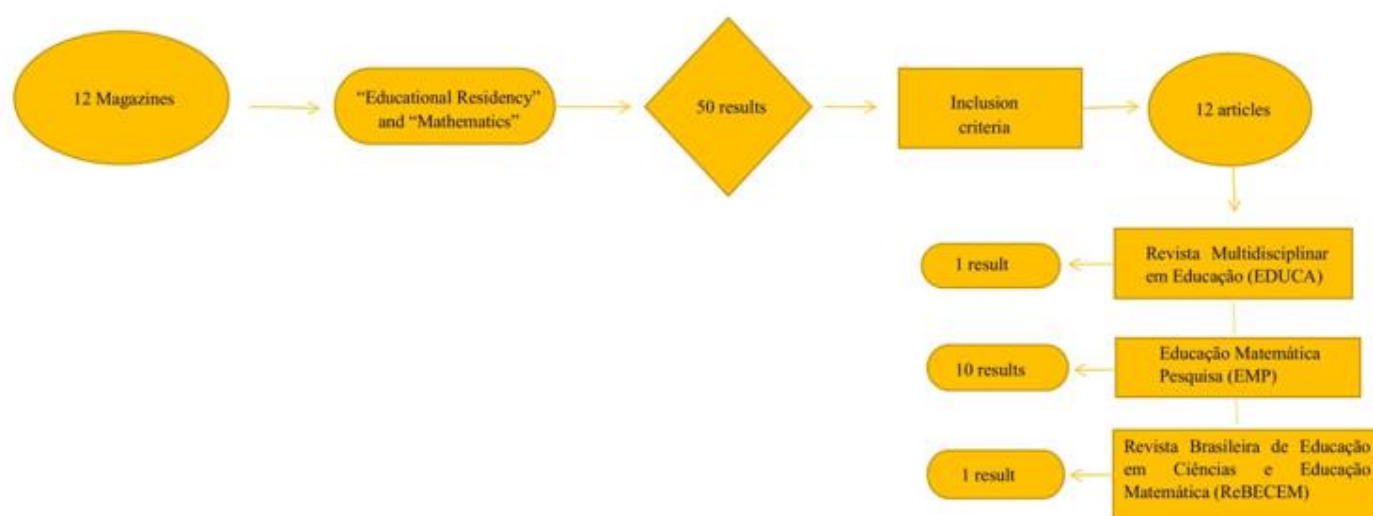
Based on the data from the initial research, we identified 64 studies. However, this number tends to decrease because studies must meet the established inclusion criteria. In view of this, the path to obtaining the final works was through the analysis and reading of each production achieved initially.

Figure 1

CAPES Catalog of Theses and Dissertations Flowchart



Therefore, through the flowchart, we note that six master's theses were selected from the CAPES Catalog of Theses and Dissertations. Given this result, it is clear that articles on the PRP and mathematical education remain few. Another factor that indicates the low production is the absence of a doctoral thesis among the results. It should be noted that, given the low number of publications on the SciELO portal, it was not necessary to prepare a flowchart. In addition, the only article found did not meet the established inclusion criteria.

Figure 2*Flowchart of the Journals*

This flowchart shows that of the 12 journals found in the initial research, only three contained articles that met the selected inclusion criteria. Given the quantity obtained, we note that ten have been published in *Educação Matemática e Pesquisa*, with the highest concentration in 2022. This predominance is directly related to the publication of a thematic issue of the journal focused on the education of mathematics teachers at the interface with the PRP, which contributes to the concentration of studies on the subject in the same period.

Table 3*Data from selected works*

Title	Authors	Journal/ Portal	HEIs	Type	Grade
"Profissionalização da docência: reflexões a partir do Programa Residência Pedagógica da UEPB"[Teaching professionalization: reflections from the UEPB Pedagogical Residency Program]	Gomes & Dias	CAPES	UEPB	Master's thesis	2020
Contribuições e limitações do Programa de Residência Pedagógica (PRP) para a formação inicial de professores de ciências da natureza na Universidade Federal do Acre (UFAC) [Contributions and limitations of the Pedagogical Residency Program (PRP) for the initial education of natural science teachers at the Federal University of Acre (UFAC)]	Araújo & Pires	CAPES	UFAC	Master's thesis	2021

Benefícios e desafios do trabalho colaborativo no ensino de matemática no Programa Residência Pedagógica [Benefits and challenges of collaborative work in mathematics teaching in the Pedagogical Residency Program]	Pereira, Silva, & Gomes	EMP		Article	2021
Sentidos atribuídos por futuros professores de matemática ao processo de formação no Programa de Residência Pedagógica [Senses attributed by prospective mathematics teachers to the formative process in the Pedagogical Residency Program]	Altomare & Caporale	CAPES	UFLN	Master's thesis	2022
Residência Pedagógica em tempos de pandemia: reflexões de residentes do curso de pedagogia sobre a formação matemática [Pedagogical Residency in times of pandemic: reflections of residents of the pedagogy course on mathematical education]	Rôos & Palma	EMP		Article	2022
Praxiologia para ensinar sólidos geométricos: o caso de uma bolsista do Programa Residência Pedagógica matemática da Universidade Federal de Sergipe [Praxiology to teach geometric solids: the case of a scholarship holder from the Mathematical Pedagogical Residency Program of the Federal University of Sergipe]	Santos, Souza, Rosa, & Almouloud	EMP		Article	2022
O Programa Residência Pedagógica na licenciatura em educação do campo da UFPB: reflexões e percepções dos residentes acerca do processo de formação inicial [The Pedagogical Residency Program in the degree in field education at UFPB: reflections and perceptions of residents about the initial formation process]	Porto	EDUCA		Article	2022
O Programa Residência Pedagógica na formação docente: perspectivas de estudantes residentes em um subprojeto interdisciplinar de Biologia e Matemática [The Pedagogical Residency Program in teacher education: perspectives of students residing in an interdisciplinary subproject of biology and mathematics]	Costa & Junior	EMP		Artigo	2022
Construindo novas compreensões sobre o ensino de matemática com o Programa Residência Pedagógica [Building new understandings about mathematics teaching with the Pedagogical Residency Program]	Oliveira, Oliveira, & Grilo	EMP		Article	2022

Conhecimentos mobilizados por professores de matemática, egressos do Programa Residência Pedagógica [Knowledge mobilized by mathematics teachers, graduates of the Pedagogical Residency Program]	Rosa, Reis, Santos, & Silva	ReBECCEM		Article	2022
Conhecimentos de futuros professores de matemática nos contextos do estágio supervisionado e da Residência Pedagógica [Knowledge of prospective mathematics teachers in the contexts of the supervised practicum and the Pedagogical Residency]	Lima & Cristóvão	EMP		Article	2022
A (Re)constituição da identidade profissional de futuros professores de matemática no contexto da Residência Pedagógica [The (re)constitution of the professional identity of prospective mathematics teachers in the context of the Pedagogical Residency]	Sousa, Melo, Pontello, & Neta	EMP		Article	2022
A pesquisa sobre a formação de professores de matemática na interface com o Programa Residência Pedagógica [Research on mathematics teacher education at the interface with the Pedagogical Residency Program]	Tinti & Silva	EMP		Article	2022
A formação de professores de matemática na interface com a Residência Pedagógica, experiências e resistências em tempos de pandemia [The education of mathematics teachers at the interface with the Pedagogical Residency, experiences and resistances in times of pandemic]	Santana & Santana	EMP		Article	2022
O Programa Residência Pedagógica como espaço formativo e de mobilização do conhecimento didático-matemático: perspectivas teóricas e metodológicas [The Pedagogical Residency Program as a formative and mobilization space for didactic mathematical knowledge: Theoretical and methodological perspectives]	Tinti & Silva	EMP		Article	2023
Investigação da faceta internacional do conhecimento didático matemático, no contexto do Programa Residência Pedagógica: um olhar de preceptores e residentes [Investigation of the international facet of didactic-mathematical knowledge, in the context of the	Horta & Silva	CAPES	UFOP	Master's dissertation	2023

Pedagogical Residency Program: a look from preceptors and residents]					
Importância do Programa Residência Pedagógica na formação de professores [The importance of the Pedagogical Residency Program in teacher education]	Santino & Dias	CAPES	UEPB	Master's dissertation	2023
Elementos da faceta ecológica do conhecimento didático matemático mobilizados por licenciandos participantes do Programa Residência Pedagógica [The elements of the ecological facet of the didactic-mathematical knowledge mobilized by undergraduates participating in the Pedagogical Residency Program]	Santos & Silva	CAPES	UFOP	Master's dissertation	2023

Below, we present a table with the main information extracted from the selected studies. The systematized information was mostly obtained from reading the abstracts, in which essential aspects such as the investigative problem, objectives and research questions are synthesized. This organization aims to facilitate the visualization and analysis of the thematic axes identified in the review.

Table 4

Work presentation

Gomes, 2020	This master's dissertation was driven by the anguish and problems the author experienced in her teaching universe. In this context, many questions about the teaching profession and teacher education have arisen. Her research focused on the following questions: 1) What are the social representations of the undergraduates of the Pedagogical Residency of the biological sciences course at UEPB/Campus I on the professionalization of teaching? 2) To what extent has PRP contributed to the initial education and teacher professionalization of residents? 3) What values, behaviors, beliefs, and knowings does the group associate with the professionalization of teaching? 4) How is the articulation between theory and practice in PRP actions? 5) What are the contributions of the PRP for basic education students? To answer these questions, the general objective was to identify and analyze the social representations of prospective teachers participating in the PRP of the biological sciences course at UEPB/Campus I regarding teacher professionalization.
Araújo, 2021	The author's dissertation seeks to discuss the relevance of PRP for initial education. Thus, the guiding question is: How can the PRP contribute to the construction of knowledge in the initial education of teachers of chemistry and biological sciences at the Federal University of Acre, Rio Branco campus? Thus, the general objective established was to analyze the contribution of the PRP to the construction of teaching knowledge in the initial education of natural science teachers. Based on this general objective, the specific objectives are: (i) to identify the constructions of the teaching knowings of the natural sciences professional; (ii) to describe the pedagogical practice of the subjects about a reflective and articulated formation; (iii) to highlight the main criticisms and potentialities about the PRP in the teaching degrees in chemistry and biology of UFAC and (iv) to elaborate an educational product that will contribute to the initial formation of teachers of chemistry and biological sciences. Thus, the work makes relevant contributions to understanding the PRP in the context of initial teacher education by highlighting aspects of the construction of teaching knowledge and the

	development of pedagogical practices. However, within the scope of mathematics education, their contributions are more indirect, establishing approximations based on elements common to teacher education that can engage in dialogue with this area.
Pereira, Silva, & Gomes, 2021	The PRP, launched by CAPES in 2018, is a national program that aims to improve the initial education of basic education teachers through immersion and experience in schools. Among the actions of the graduates are classroom instruction and pedagogical interventions. Thus, in this article, we seek to answer the following question: What are the contributions and challenges of the collaborative work developed by the Mathematics College of the Federal University of Pará and three state public schools, within the scope of the Pedagogical Residency Program? The objective of this work is to discuss the benefits and challenges of the collaborative work carried out by the PRP inserted in the mathematics teaching degree course at the University of Pará (UFPA).
Altomare, 2022	This dissertation discusses the education of undergraduate students in mathematics who participated in the PRP. Therefore, the following question was posed: What meanings do prospective mathematics teachers produce during the teacher education process through participation in the Pedagogical Residency program? To answer the established questions, the following objectives were structured: 1. Identify remarkable experiences in the formative process; 2. Identify, in the prospective teachers' narratives, the practices developed during the program that were remarkable; 3. Understand the preceptor's professional development process.
Porto, 2022	The PRP is a program created and maintained by CAPES and is part of the national teacher education policy. It aims to bring undergraduate professional practice closer, providing prospective teachers with classroom experience. The PRP articulates initial education (resident students) and continuing education (preceptor teachers), as the basic education teaching units participating in the program are integrated into the formative process developed by the guiding teachers and the university itself. Thus, the guiding question of this study is: What are the contributions of the PRP in the initial education of field education teachers? Based on these reflections, this text sought to analyze the contributions of the PRP to the initial education of prospective field education teachers, drawing on residents' reports prepared at the end of the project. In this sense, the PRP is significant for both science and mathematics teaching by promoting strategies that favor the problematization of knowledge and the construction of more contextually grounded teaching and learning processes.
Rosa, Reis, Santos, & Silva, 2022	This research aimed to investigate the repercussions of the PRP on the didactic-mathematical knowledge (DMK) of mathematics teachers who graduated from the program. The researchers intend to reveal the perspectives of the PRP on the education of prospective teachers and thus produce information that can value such a program, since access to it is not yet a reality for most undergraduate students in Brazil.
Costa & Junior, 2022	The work aimed to develop a qualitative and interpretative analysis of the implications of resident students' participation in an interdisciplinary subproject in biology and mathematics of the Pedagogical Residency Program for the constitution of their professionalities and teaching identities. It is intended to understand the perspectives of the students participating in the PRP, from the teaching degree courses in biological sciences and mathematics of the Federal University of Western Bahia, during emergency remote teaching, regarding the constitution of their teaching identities
Lima & Cristovão, 2022	This article presents the results of a work comparing two studies (Lima, 2021a; Lima, 2021b) of a qualitative and documental nature, which sought to characterize and analyze the knowledge mobilized by prospective mathematics teachers from a federal university in Minas Gerais, in two different contexts: the PRP and the Supervised Practicum. In this way, its objective is to analyze and understand the approximations and distances between the knowledges mobilized in these two contexts.
Oliveira, Oliveira, & Grilo, 2022	The guiding questions that motivated this article were: What are students building in terms of teaching practice when they reaffirm such an idea? What have we understood about what it means to do mathematics? To answer the questions, the following objective was established: to analyze how the learning environments that a teacher mobilizes in mathematics classes in basic education impact the education of prospective teachers.
Rôos & Palma, 2022	This work focuses on experiences lived and reported by residents of the pedagogy course regarding the mathematical knowledge developed during the PRP, in order to

	understand whether these learnings can be presented as potent elements for the construction of theoretical and methodological knowledge of mathematics. Seeking to analyze the contributions of the Pedagogical Residency Program to the education of teachers who teach mathematics in the early years of schooling, starting from the following question: What do the residents of the pedagogy course report about the learning for mathematics teaching experienced with the Pedagogical Residency Program during the COVID-19 pandemic?
Santana & Santana, 2022	This work finds that no studies present theoretical reflections or research results on the education of mathematics teachers at the interface with the PRP implementation process during the SARS-CoV-2 pandemic. Thus, this article proposes to analyze how students experienced training at the interface with the PRP during its implementation in pandemic times.
Santos, Souza, Rosa, & Almouloud, 2022	This article is an excerpt from a master's dissertation defended in the Postgraduate Program in the Teaching of Sciences and Mathematics (PPGECIMA) at the Federal University of Sergipe (UFS), São Cristóvão (SC) campus, carried out by the first author. This dissertation had as a general objective to analyze the praxeologies adopted by a student of the degree course in mathematics, a scholarship holder in the PRP, linked to UFS/SC, to teach geometric solids in a class of the 6th grade of elementary school.
Sousa, Melo, Pontello, & Neta, 2022	In this article, a group of eight residents of a mathematics center within the institutional project of the Pedagogical Residency Program of a federal public higher education institution was selected as the locus of investigation. In this context, the following guiding question was raised: Which dimensions of teacher identity were mobilized, recognized, and represented by residents in mathematics when writing their activity reports? Thus, the objective of this study was to identify mobilizations in the TPI of residents experienced in the context of the mathematics center under analysis, using activity reports.
Tinti & Silva, 2022	The work consists of a dossier composed of 18 articles that address the education of mathematics teachers at the interface with the PRP. The central objective was to contribute to the appreciation of teacher education in contemporary times, bringing together studies that analyze different aspects of the program, such as the constitution of professional identity, the development of pedagogical practice, the articulation between theory and practice, and the challenges experienced in the school context, including during the pandemic period. In general, the studies show the relevance of PRP as a formative policy that enhances reflection on practice and the insertion of undergraduates in the context of basic education.
Horta, 2023	The purpose of this dissertation was to propose a discussion and problematization of the knowledge necessary for teacher education, delimiting, as an excerpt from this approach, the interactional facet of didactic-mathematical knowledge (DMK) in the context of the PRP, with a focus on preceptors (basic education teacher) and residents (prospective teacher), who are the main actors in the scope of this public policy. With this, the following question was presented: How is the interactional facet of didactic-mathematical knowledge presented from the link between preceptor and residents, within the scope of a PRP mathematics subproject? Moreover, the secondary objectives are: to identify the interactions between preceptor/residents within the scope of the PRP; to identify the interactions between residents within the scope of the PRP; to verify whether the interactions between the preceptor and residents foster the development of autonomy in the context of the PRP; to understand how preceptor and residents evaluate the actions guided by the interactions developed within the PRP.
Santino, 2023	The dissertation defends quality teacher education. In this context, the work focuses on specifically discussing the PRP. Thus, the following objective was structured: to analyze the importance of the PRP in the initial education of science and biology teachers.
Santos, 2023	This master's dissertation focuses on the education of teachers of mathematics. Specifically, the knowledge of the mathematics teacher, including adaptation to the curriculum, professional and sociocultural context, didactic innovation, education and values, and relationships between mathematical and other content. It also seeks to promote the study of public policy in teacher education. In this context, the following guiding question was structured: Which elements of the ecological facet of didactic mathematical knowledge are mobilized by PRP participants? To try to answer this

	question, the following specific objectives were structured: 1. Investigate whether the pedagogical proposals are suited to the curriculum bases; 2. To analyze whether the actions developed considered the social, professional, and cultural peculiarities of the public served and the use of technology-oriented resources; 3. Identify possible elements that may indicate traces of the construction of knowledge based on democratic bases and encouragement of critical and reflective thinking; 4. Check whether relationships were established between mathematical content and other areas of knowledge in the analyzed lesson plans.
Tinti & Silva, 2023	This article takes a meta-analytical perspective to discuss theoretical and methodological approaches that contribute to understanding PRP as a formative space and to the mobilization of didactic-mathematical knowledge. To this end, we considered as corpus of analysis a set of five master's dissertations, defended in the Postgraduate Program in Mathematics Education of the Federal University of Ouro Preto, linked to the Nucleus of Studies, Research, and Educational Practices Teachers who teach Mathematics, led by the authors of this article.

Based on the reflections of the authors of the twelve selected studies, two central thematic axes were defined, guiding the discussion in the following topic. The first refers to the contributions of the PRP to initial teacher education in general terms; the second, to the program's specific contributions to mathematics teachers' initial education.

Contributions of the pedagogical residency program to teacher education: general and specific perspectives of mathematics education

The analysis of the literature on PRP showed two central thematic axes that guide the organization of this section. The first axis addresses, in general, the contributions of the PRP to initial teacher education, considering the formative aspects that apply to undergraduates from different areas of knowledge. The second axis focuses on the program's specific contributions to the formation of mathematics teachers, highlighting the particularities of teaching and learning this subject.

This division aims to highlight both the breadth of the PRP's impact on teacher education and the specific approaches that emerge in academic publications aimed at mathematics teaching degrees, thereby enabling a more structured and in-depth analysis of the program's contributions.

Contributions of the pedagogical residency program to initial teacher education

Contemporaneity has shown that initial teacher education is marked by challenges, especially for teachers who teach in basic schools (Costa & Pimentel Júnior, 2022). Given the configured scenario, hope lies with universities, since higher education institutions are expected to develop solutions, either through research or, as Pereira et al. (2021) note, "due to the need for better training of the prospective teacher in undergraduate courses" (p. 617). In this context, the PRP emerged as an action under

the National Teacher Education Policy to address imminent difficulties in teacher education, which has been reflected in teaching and learning (Tinti & Silva, 2022).

According to Costa and Pimentel Júnior (2022, p. 38), the PRP is a space for “improving teacher education, trying to strengthen the educational links between education networks and universities, expanding the participation of basic education institutions in initial teacher education”.

In this sense, the program was created to offer better teaching conditions in practical education for teaching degree courses in Brazil, enabling prospective teachers to be inserted in the school contexts of basic education (Lima & Cristovão, 2022; Santana & Santana, 2022). Among the objectives to be achieved by the program, practice stands out, as one of the main challenges in teacher education in the 21st century is the disarticulation between practice and theory (Santos, 2023; Araújo, 2021; Gomes, 2020).

Through the PRP, the theory-practice relationship has been established in the educational action, constituting itself as praxis and enabling the education of residents as quality teaching professionals, similar to supervised practicums, which, once again, reinforces the need for integration between these two formative actions (Costa & Pimentel Júnior, 2022, p. 59).

For Porto (2022, s/p), in the PRP, teaching degree students can develop skills inherent to teaching, “experimenting with dialogical practices and experiencing skills related to their future profession, to face the challenges of this very unique environment that is a basic rural school”. In line with this perspective, Santos et al. (2022) state that the PRP allows students to put theoretical aspects studied at the university into practice. This program offers undergraduates the opportunity to experience teaching while still in their initial education. This experience is relevant for professional growth, since one of the main challenges faced by educators when entering the teaching profession is the lack of methodological knowledge, classroom positioning, class planning, lack of mastery in the contents, to follow the different levels of knowledge presented in the classroom, etc. (Costa & Pimentel Júnior, 2022; Horta, 2023).

Sousa et al. (2022, p. 260) emphasize how important PRP is for initial teacher education, recognizing it as a

[...] fruitful field of research and learning, and it is possible to understand it as a policy of initial and continuing teacher education, which advocates the partnership between HEIs, departments of education, and schools of the federal, state, and municipal school networks. Thus, it provides a rethinking of the dimensions that

constitute education and the profession, processes that foster the (re)constitution of the teaching professional identity.

Thus, we infer that the partnership between graduation (teacher formative space) and school (teacher performance space) can significantly contribute to teacher education by drawing on the experience of teaching, which presents increasingly challenging conditions every day. However, with the intervention of the PRP, it is possible to solve doubts about teaching practice and acquire knowledge relevant to professional performance (Sousa et al., 2022).

Thus, the evidence is satisfactory regarding the PRP in initial education, significantly impacting teaching practice, given that they already have the opportunity to experience the practice, which also allows them to relate it to theory. Porto (2022) argues that this homogeneity among educational institutions and schools is fundamental, as it enables teachers, resident students, and preceptor teachers to share their experiences. In this sense, Santino (2023, p. 28) emphasizes the importance of the program for resident students by saying that the program “is a unique experience for everyone involved in the process, as it is like a more complete and incorporated internship, making all the difference in the professional life of the resident”.

Thus, analyzing the PRP, it is clear that the advances provided go beyond the limits of the undergraduate course, because, in addition to strengthening the education of undergraduate students through the actions carried out in schools, public school students also benefit from teaching, as well as the schools themselves are favored (Santino, 2023). Given the program’s relevance to initial education, the next topic will discuss the impacts of PRP on mathematics teacher education.

Contributions of the pedagogical residency program to mathematics teachers’ initial education

As already said, the PRP aims to improve initial teacher education by integrating the university environment and the school context to achieve effective articulation between theory and practice. Within this context, the program is fruitful for the education of mathematics teachers, as it offers concrete solutions to one of the main challenges set at the undergraduate course: the fragmentation between the education offered and the professional reality (Altomare, 2022).

Thus, the implementation of the PRP has contributed positively to initial education, as it provides teaching degree students with contact with school reality and fosters the construction of the teacher’s professional identity. As stated by Costa and

Pimentel Júnior (2022, p. 38): "Students of different degrees are allowed to contact the school reality, as well as elements that boost the constitution of the teaching professional identity". This statement reinforces the program's importance as a concrete formative space that anticipates the challenges of the teaching profession and allows teaching degree students to practice even during their undergraduate studies.

The criticism that teaching degrees are too close to research degrees persists, highlighting gaps in teacher preparation, especially in the articulation between theory and practice. This concern is shared by Pereira, Silva, and Gomes (2021, p. 219), who state that "the objective of the project is to optimize the education of prospective mathematics teachers and, at the same time, cooperate with field schools in establishing the new common base that was approved for Brazil". In this sense, although the National Common Curriculum Base presents itself as a reference for the organization of teaching, its implementation in the context of teacher education raises debates, especially regarding the risk of curriculum standardization and the limitation of pedagogical autonomy. Thus, it is evident that public policies play a significant role in minimizing such gaps and promoting a closer relationship between university education and the school context.

In this sense, it appears that the PRP is significant for initial mathematics teacher education, as it enables students to immerse themselves in teaching practice, especially in basic education (Santos et al., 2022). In addition, it gives students the opportunity to share experiences with preceptor teachers and contributes to improving methodologies, communication with the class, and the selection of the best mathematics content to implement in courses (Sousa et al., 2022).

Costa and Pimentel Júnior (2022, p. 41) also describe advantages regarding the program and corroborate Sousa et al. (2022) when they report that the activities practiced in schools are formative opportunities, through which they highlight: "studies of teaching methodologies, evaluation of lived experiences, pedagogical planning and preparation of lesson plans, and conducting supervised by a supervisor and preceptor". Thus, the PRP provides the student with the re-signification of the understanding of the meaning of mathematics (Oliveira, Oliveira, & Grilo, 2022).

This finding arises from the problems that mathematics teaching has posed today. Among the weaknesses is the fragmentation of the teaching degree where they are prioritized: specific theoretical subjects, to the detriment of pedagogical subjects; the disarticulation between theory and practice; the difficulties of the teacher educator, also arising from their own education; students' deficiency in mathematical content;

and the distance between the formative institution and schools, etc. (Rôos & Palma, 2022; Santos et al., 2022). Given this scenario, the PRP is a relevant strategy for prospective teachers.

The experience with the pedagogical residency program guarantees us reflection on teaching practice [...] I developed a new approach to teach some content, acquiring a range of possibilities for explaining and presenting it. [...] I had the opportunity to relate theory and practice, always seeking to learn, contribute and exchange experiences with the students involved in this process, aiming to have responsibility and commitment to public education and contribute to quality education, to develop an ethical educator open to new methodologies, even with all the circumstances and obstacles encountered in a classroom (Oliveira, Oliveira, & Grilo, 2022, p. 558).

In short, the discussion reveals how effectively implementing the program in undergraduate courses can contribute to teaching practice, especially in the education of mathematics teachers. The PRP provides students with practical knowledge and a real understanding of the profession while still in the degree, helping address many doubts and insecurities. In addition, it provides unique learning opportunities for professionals.

Conclusion

This study aimed to conduct a systematic literature review to identify and analyze the contributions of PRP to the initial education of mathematics teachers. In line with the objective, the following guiding question was delimited: What are the main contributions of the PRP to the initial education of mathematics teachers, according to recent scientific literature? Based on the analysis of the selected works, it was possible to observe that the PRP has played a significant role in improving initial teacher education, providing a more integrated formative experience between theory and practice.

The studies analyzed indicate that participation in the PRP enables undergraduates to develop knowledge and practices essential for teaching, such as didactic planning, the application of active methodologies, classroom management, and critical reflection on pedagogical practice. This approach to school life allows prospective teachers to encounter the real challenges of the profession even during their graduation, thereby contributing to the development of their teaching practice.

From the literature review, we note that the PRP strengthens teacher education by integrating practical experience with academic knowledge, favoring experiential learning, and contributing to the qualification of students' formation. Methodologically,

the program also stands out for fostering collaborative practices among residents, preceptors, and supervisors, thereby creating a space for shared education.

However, the review also signaled limitations and persistent challenges in initial education, including difficulties articulating the specific content of mathematics and teaching methodologies, as well as the need for greater integration between the university and the school. Such aspects underscore the importance of public policies that expand and qualify the PRP to strengthen its effectiveness in teacher education.

In summary, the findings of this review reaffirm the PRP as a relevant and necessary strategy for the qualification of initial mathematics teacher education, by promoting formative experiences that enhance professional development from the first years of the teaching career.

Finally, it should be noted that, although the PRP continues to be listed as an institutional action by CAPES in 2024/2025, no new notices have been launched since No. 24/2022. In this scenario, there is a greater absence of PRP, while there is greater emphasis on other initiatives, such as PIBID. This context raises questions about the continuity and development of the PRP in initial teacher education policies, especially in mathematics teaching degrees.

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