



Pedagogical residency: An experience report of the intervention of residents in biology at the Maria Mendes Mourão School, Pedro II – PI

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ABSTRACT

Teacher training is an essential theme for the search for quality education, for the alignment not only of practices but also of the knowledge and challenges to be faced by these teachers, whether in the public or private network. Knowing this, the Federal Government, through the Ministry of Education (MEC), launched, in 2017, the National Policy for Teacher Training (PNFP), in which one of the actions is the creation of the Pedagogical Residency Program (PRP), which is a program that encourages the elaboration and development of practices aimed at conducting for students who are in the second half of their degrees (PACHECO; SAUERWEIN, 2022; LEE; ALVES; LIRA-SILVA, 2023).

Keywords: Teachers, MEC, Federal Government.

1 INTRODUCTION

Teacher training is an essential theme for the search for quality education, for the alignment not only of practices but also of the knowledge and challenges to be faced by these teachers, whether in the public or private network. Knowing this, the Federal Government, through the Ministry of Education (MEC),



launched, in 2017, the National Policy for Teacher Training (PNFP), in which one of the actions is the creation of the Pedagogical Residency Program (PRP), which is a program that encourages the elaboration and development of practices aimed at conducting for students who are in the second half of their degrees (PACHECO; SAUERWEIN, 2022; LEE; ALVES; LIRA-SILVA, 2023).

In a recent study carried out by Júnior and Cardoso (2022), on the contribution of the Pedagogical Residency Program to teaching learning in initial training in Biology, it was observed that the PRP brought significant contributions to teaching learning in its pedagogical dimension, from the planning of activities to their realization and evaluation, however, they also point out challenges, such as: weaknesses of pedagogical training at the university, lack of continuing education of Preceptors and lack of infrastructure to carry out the school's pedagogical projects.

In this context, one of the great losses in elementary education is precisely the concern only with the contents, arising mainly from the entrance exam and other evaluation/classification tests existing in the current educational system. As a result, the content ends up being taught without connection to reality and students are unable to build scientific knowledge to understand their lives and the world around them (DOMINGUINI *et al.*, 2012). It is up to the teacher, as a mediator of the teaching-learning process, to propose activities that provide the active participation of students, so that they feel motivated to learn. This can be achieved with the use of practical activities in Science Teaching, which involve, in addition to the teacher's speech, the interactive participation of learners in experimentation and construction of scientific concepts (COSTA *et al.*, 2020).

2 OBJECTIVE

The objective of this study was to explain, in the view of the PRP residents, the perception of reality in the educational environment, their experiences as teaching assistants in the field school and how they perceived the theoretical training being portrayed in practice.

3 METHODOLOGY

The place was the Maria Mendes Mourão school, located in the municipality of Pedro II-PI. The activities were carried out in the classes from 7th to 9th grade as a priority. The residents, together with the science teacher, planned and elaborated the activities of theoretical and practical classes to be developed for the school year. For the planning of the activities, the residents needed to seek subsidies through bibliographic research, deepening their knowledge. Two didactic experiences were developed during the classes.

The first experiment was on substance mixing where the problem question was presented: "What happens when we mix different substances?". The materials of the experiment were presented to the students



(water, alcohol, vegetable oil, falcon tubes, salt, sugar, sand). It is worth mentioning that the materials used in the experimentation are all easily accessible.

The students did not participate in the preparation of the experiment, because they received the tubes already filled with the material and properly labeled. Each tube contained a mixture, namely: tube 1 was with the mixture of sand and water; Tube 2 was a mixture of salt and water; Tube 3 was the mixture of water and alcohol; Tube 4 was the mixture of oil and water; Tube 5 was the mixture of water and sugar and tube 6 had only water. Before the practice, the students were asked what happened if they mixed the oil with water, the oil with the alcohol, as well as the sand with water. For the last stage of the experiment, the students chose a piece of paper with a number that corresponded to the falcon tubes containing the mixture. The student would have to explain whether that tube contained a homogeneous or heterogeneous mixture.

The second experiment was about the use of red cabbage as an indicator of acidic and basic solutions. The methodology was worked on at first with the explanation of the content and survey of the students' previous knowledge, and then the explanation of how the experiment would take place was made. The red cabbage was cut and processed in a blender, then the juice was strained. The red cabbage extract obtained was added to the following products: laundry detergent, milk of magnesia, bleach, lemon juice, vinegar and detergent that were in disposable cups. With this, students can observe color changes due to the pH range of each solution used in the experiment.

4 DEVELOPMENT

Practical activities contribute to arouse the student's interest in learning, in addition to providing curiosity, imagination and critical thinking. This teaching tool, when used appropriately, allows the student to experience the scientific method, starting to establish communication with the phenomena, either by manipulating materials and equipment, or by observing organisms, which facilitates a better understanding of the subjects addressed by Science (COSTA *et al.*, 2020).

Although the practical activity used on Substances and Mixtures is a simple practice, it was possible to encourage the student to have more affinity and seek to better understand the subject by using material that is part of their daily life. For this reason, we realize how important it is to use more dynamic classes that seek the best use of the subject by the student.

Costa and Pimentel Jr (2022) analyzed the implications of the participation of resident students in an interdisciplinary biology and mathematics subproject of the PRP, and realized that this program is a path for undergraduate students to reach school. The school is not only the place of excellence for the acts of teaching and learning knowledge in different areas (sciences, arts, communication, technology, etc.), and as the political space for the expression of diverse cultures, but, above all, as a professional and scientific environment for teachers.



Regarding the practice of using red cabbage extract as a natural indicator, we observed that it was efficient since all the substances analyzed obtained results compatible with those indicated in the pH scale. When the students were asked if experimental classes are important, they all answered affirmatively and that interaction during practice is essential to better understand Chemistry.

5 FINAL THOUGHTS

It is concluded that the experience in PR was significant for each resident who, as future teachers, were able to experience the challenges and needs of the school context, serving as a support for a greater understanding of this educational journey. The use of simple experimental classes such as these is important to facilitate students' learning about science, as they contribute to these students learning to question how phenomena occur, and the students' satisfaction with the experimental activities is evident.



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