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MATHEMATICS TEACHING AND LEARNING PROCESS: THE EFFECT OF PROBLEM-BASED LEARNING

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This text is part of a larger study developed as part of the Final Internship Report for obtaining the master's degree in Teaching of the 1st Cycle of Basic Education and of Mathematics and Natural Sciences of the 2nd Cycle of Basic Education. The theme is Problem-Based Learning (PBL), characterized as an innovative teaching and learning methodology, which translates into the multiplicity of materials, resources and strategies. It seems relevant to us to find activities that focus on the student in order to captivate his attention, thus putting him in the learning focus, essential in the current educational context. In this paper we focus on the following question-problem: "How does PBL influence the teaching and learning process of mathematics?", considering the following objectives:
i) to investigate whether PBL is favorable to the teaching and learning process of mathematics;
ii) to reflect on mathematics educational practices based on PBL.

The study, qualitative and interpretative, analyzes two points of view: the students' view and perspectives on the educational practices experienced and the researcher/teacher's own self-reflection on their practices. The techniques used to collect data in investigation were participant observation and the survey trough questionnaire applied to twenty-six students from the 4th grade of the elementary school.

The results allowed us to collect very complete opinions, regarding the way to motivate students to the current educational reality, making them future adults with critical thinking, autonomy, argumentative capacity, self-determination and proactivity. ABRP proved to be a teaching and learning methodology that provides dynamism and student motivation. The results of the researcher's diary analysis, and the results of the questionnaires, showed the students' interest in the teaching practices, a greater initiative in participating in activities, and a greater commitment to the work done. The students considered themselves more active and communicative, and valued the learning of the contents worked on. However, we also found constraints in PBL, from the teachers' point of view, namely time management and preparation of activities. We conclude that the researcher/teacher needs to make a prior and thorough study of the group with which he/she will work, about the content themes to be developed, to then design a feasible planning in the time available and the time needed.

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