

## 12th Workshop on Renewable Energy and Sustainability (WREN2024)

### **Title. Programming of development conditions for behavior related to the concept of acceleration.**

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#### **Abstract:**

Brazilian curriculum guidelines and standards for different levels of education aim at developing competencies related to solving practical and meaningful problems, with a focus on autonomy and critical thinking in exercising citizenship and work. There are a variety of teaching methodologies based on research from the Experimental Behavior Analysis (EBA), grounded in the interrelated notions that all learning necessarily involves behaviors and that the acquisition of such behaviors is shaped by environmental regularities. However, to fully realize this ideal of emancipatory education, centered on the learner's contextualized action, the prescription of attitudinal changes must be accompanied by practical changes in the way teaching strategies are planned and implemented. The objective of this work was to carry out the initial stages of analysis and elaboration to support the programming of conditions for the development of behaviors for teaching the concept of acceleration in Physics, aimed at students in the 1st year of high school. The work was carried out in two stages: 1) characterization of learning needs and proposal of terminal and intermediate objective behaviors; 2) elaboration of the teaching program itself, based on the definition of teaching conditions and sequences. The characterization of problem situations and the definition of terminal and intermediate objective behaviors were informed by problems found in questions from the Enem exams over the last 10 years, which addressed the concept of acceleration. With this analysis, the decomposition of the terminal objective behaviors was performed, resulting in three classes of prerequisite behaviors – proper intermediates, intraprogram prerequisites, and extraprogram prerequisites – which served as the basis for the elaboration of a teaching program proposal. The results of Stage 1 justified the choice of a logical sequence criterion to guide the organization of teaching units, with the central aspect being the discussion and demonstration of the pragmatic and relational nature of the categories and concepts typical of the field of Mechanics. Following this logic, an example of program implementation was formulated in the format of a course with workshops, with general recommendations for organizing the content and conditions to be followed. Finally, this exercise in programming conditions for behavior development was discussed in contrast with traditional teaching and the author's experience as both a teacher and a student.

Keywords: behavior analysis, programming of behavior development conditions, physics teaching, concept of acceleration, high school

#### **References:**

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