

YABÁS AS A REPRESENTATIVITY IN PHYSICS TEACHING OF BASIC EDUCATION

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Abstract

Students must recognize physics, while human construct, through its social, economic, political and historical relationships. As well as the understanding of physics in the productive, technological, interdisciplinary system and its capacity for mathematical language, graphics and expressions of physical knowledge (MOREIRA, 2000). The biographical reports of black women in the history of science are contribution tools in physics teaching. The challenges faced by these women, strategies used to overcome and reflect on the possibilities of pedagogical practices are necessary to reduce the lack of representativeness in scientific areas (ROSA, 2015). It is possible to infer that women participated in the production of scientific knowledge, but they need to be portrayed in physics textbooks (ROSA & SILVA, 2015). The objective of this work is to contribute to the diversity and inclusion in the representation of black scientists in physics teaching. It approaches the black woman in sciences as well as proposes the use of biographies of scientists black women in physics teaching. The methodology of the didactic sequence was built based on the principles of the designer Richester, which allowed a research-application focused on development of an educational instrument (NONATO; MATTA, 2018). Physics

classes in first year of high school were held at Colégio Estadual Alberto Santos Dumont, located on the outskirts of Salvador / Bahia. 150 students participated, with an average age of 16, distributed in 4 classrooms. The females activities took place in classroom. Rocket launching took place in schoolyard. The evaluations were carried out in a participatory way and for the launch of rockets the distances that reached the ground were measured, creativity and beauty were evaluated, and respective notes were applied. The guidelines of Law 10.639 / 2003 in science teaching guided the elaboration of this work. The test result of the first prototype was organized through complementary, auxiliary pedagogical activities in the teaching of mechanics and kinematics, in addition to interdisciplinarity with the chemical discipline. The intersectional debate on the film “stars beyond time”, shown at the school, was applied. The content of the cinematics and dynamics was contextualized and focused on problematization, through exposure of the contents and construction of the rocket (PET bottle, sodium bicarbonate and vinegar). The results of the first version of the bibliographic use of black scientists are considered resources for the insertion of diversity in the teaching of physics and anti-oppressive education. The contents of kinematics and dynamics were from the second unit of 2019, with the activities of the rocket experiment and research for drilling the last stages. It is concluded that the use of women's history in sciences with ethnic relations, inclusion and diversity in teaching of physics contributed to demystify stereotypes, consolidated, as the white and male science. There were favorable reports from the students, regarding the activities, showing involvement, motivation and adherence to classes.

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