

KNOWLEDGE ABOUT NUCLEAR ENERGY AND RADIOACTIVITY OF SENIOR HIGH SCHOOL STUDENTS

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Contrary to what many Brazilians think, Brazil is considered a country of nuclear activities. The country began to develop an interest in the area in the 1930s with the beginning of the early researches and after the nuclear bombs of Hiroshima and Nagasaki the Brazilian military verified the importance of the knowledge and domain of nuclear energy for military strategic purposes. In 1969, Brazil developed its first nuclear program and initiated the establishment of the first nuclear power plant. Currently, there are two plants in operation in Brazil and a third one is being implemented; they're all located in the city of Angra dos Reis, state of Rio de Janeiro. There are also other related nuclear activities in the country, such as the exploitation of radioactive minerals, research and production of radiopharmaceuticals and technologies to generate products and nuclear services. The Brazilian government, worried about educational questions, established some pedagogical guidelines to ensure that all students leave high school with sufficient knowledge to evaluate new technologies critically. The document in which these guidelines are found is called Supplemental Educational Guidelines for National Curriculum Parameters of Secondary Education (PCNEM), and issues about radioactivity and nuclear energy can be found in it. The document also states that the students must know the nuclear properties, production and use of nuclear power, the risks and benefits, and major social uses of this form of energy. After the initiative of the Brazilian government of including themes related to nuclear energy and radioactivity in the high-school curriculum, questioning of what would be the perceptions and the level of knowledge about these themes by senior high-school students emerged. To evaluate whether students are getting the knowledge given in PCNEM, a questionnaire consisting of multiple-choice questions and open questions on the topics has been elaborated. The sample selected for the survey was graduating high school students from public and private institutions in the city of São Paulo. National literature shows in several studies that levels of understanding of the issues by the students are below those indicated by the Ministry of Education, which confirms the results of this research. In the present work it was found that students know very little about nuclear energy and radioactivity, believe many myths about nuclear energy and are not able to analyze critically the advantages and disadvantages of this form of energy.