

## 5 - Teaching-Learning Sequences as Innovations for Science Teaching and Learning | Empirical

### SP - (15716) - TEACHING THE MODEL OF THE BOHR ATOM USING THE LINE SPECTRUM

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#### Short Abstract

*Line spectra generated by electron transitions between energy levels of the atoms is important for the understanding of contemporary physics. Teaching them with experimental activities can motivate students to learn and help them obtain a more profound and qualitative understanding of the atomic structure and its applications. In this study, we present a module for the teaching of the model of the Bohr atom using linear spectra of chemical elements. The design of the module was based on the model of educational reconstruction. Students' previous ideas were investigated, and textbook analysis was carried out. The students of the upper secondary education were engaged in a combination of computer simulations and hands-on activities which helped them develop a more complex and structured knowledge of the subject. A ten-multiple choice questionnaire was administered before and after the implementation. The data were qualitatively and quantitatively analyzed. The results showed that the intervention had a significant positive impact on students' learning outcomes.*