

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

### SP - (16163) - TEACHING GENETICS USING THE SIMPSONS. AN INNOVATIVE PROPOSAL WITH SPANISH PRE-SERVICE SCIENCE TEACHERS

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#### Short Abstract

*Television and internet often include science-related content that may affect consumers. As such, they may be good teaching-learning resources. With this in mind, this study presents the results of an activity based on use of the well-known TV series "The Simpsons" to teach genetics. This proposal was implemented with 24 pre-service science teachers (PSTs) studying the Masters in Secondary Education Teaching at the University of Malaga (Málaga, Spain), in the Biology and Geology field, as part of an educational innovation course in the academic year 2020-21. The study was carried out in the classroom as follows. Using a family tree for the Simpsons family containing three generations, the PSTs were asked to design an activity for secondary students using the laws of Mendelian inheritance. They were given 30 minutes to discuss different proposals as a group and then presented their designs. Finally, they completed a questionnaire to evaluate different aspects of the activity. The proposals to explain the family tree were based on the characteristics of hair colour and hair type. Hair colour generated significant debate as it proved difficult to explain all the phenotypes. However, they chose an autosomal recessive explanation assuming that other possible factors were likely involved. The hair type characteristic was explained using an intermediate inheritance. The evaluations of the PSTs were very favourable, with the questionnaire reflecting the ease of design and implementation and the marked versatility. Indeed, activities based around TV series were considered to be effective for teaching science. However, this resource must be adapted to the age group, interests and context of the students in which it is to be implemented.*