



Co-creation of an environment and resources education book with schoolchildren from low STEM engagement areas

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During childhood, crucial career-related concepts and attitudes are first formed. While parents are major influencers in high school subject choice and career choice, 68% of Irish parents feel uninformed with regards to providing advice to their children on STEM career choices. In response to this, the Science Apprentice is a series of children's books, showcasing the importance of STEM in society. Developed by University College Dublin, and circulated with an Irish national newspaper, this series was directed at children in elementary school (7-12 year olds). Designed to inform the first conceptions of STEM career pathways through intriguing stories, dynamic visuals and creative expressions of knowledge, the series also offers parents a level of confidence and understanding of STEM and STEM career opportunities.

Here we present an overview of the Science Apprentice book series, with emphasis on the Energy and Resources edition. Developed in conjunction with scientists from the Irish Centre for Research in Applied Geoscience (iCRAG), the book covers a wide range of topics, such as energy sources and their impacts on the planet, environmental engineering and the career paths of young researchers working in science and engineering.

A key aspect of this project was co-creation of the book with the target audience from the outset. We will outline how the book was developed by working with schools from low STEM engagement and rural areas, and how the primary audience of the book was directly involved in the character design, content development and "try at home" activities that feature in the book. Co-creation was done two steps: first through a series of workshops led by elementary STEM teaching researchers; and second through a field trip to a local mine where a tour and community debate by the schoolchildren on windfarm development took place.

In total, 75,000 books were circulated with the national newspaper. The evaluation used both qualitative and quantitative methods to assess the effectiveness of the book and explored schoolchildren's, parents' and teachers' attitudes to scientific research and careers in science. Methods included in-depth interviews with teachers, focus groups with parents, and a purposive national survey. While 93% of parents felt that the Science Apprentice books made their children more interested in science than they were before, differences in attitudes towards the book, and science, based on socioeconomic status were observed. Critical reflections on the successes and challenges of the programme will be shared.