

## Careers-Outreach Programmes for Children: Lessons for Perceptions of Engineering and Manufacturing

**Authors :** Niall J. English, Sylvia Leatham, Maria Isabel Meza Silva, Denis P. Dowling

**Abstract :** The training and education of under- and post-graduate students can be promoted by more active learning especially in engineering, overcoming more passive and vicarious experiences and approaches in their documented effectiveness. However, the possibility of outreach to young pupils and school-children in primary and secondary schools is a lesser explored area in terms of Education and Public Engagement (EPE) efforts - as relates to feedback and influence on shaping 3rd-level engineering training and education. Therefore, the outreach and school-visit agenda constitutes an interesting avenue to observe how active learning, careers stimulus and EPE efforts for young children and teenagers can teach the university sector, to improve future engineering-teaching standards and enhance both quality and capabilities of practice. This intervention involved careers-outreach efforts to lead to statistical determinations of motivations towards engineering, manufacturing and training. The aim was to gauge to what extent this intervention would lead to an increased careers awareness in engineering, using the method of the schools-visits programme as the means for so doing. It was found that this led to an increase in engagement by school pupils with engineering as a career option and a greater awareness of the importance of manufacturing.

**Keywords :** outreach, education and public engagement, careers, peer interactions

**Conference Title :** ICEEE 2021 : International Conference on Education and Educational Engineering

**Conference Location :** Paris, France

**Conference Dates :** July 19-20, 2021