Experts' views on insertion of nanoscale science and technology concepts into the physics middle school curriculum: a qualitative analysis.

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Abstract

The goal of this research is to provide a net of rich and diverse connections between two fields: 1. Nanoscale science and technology (NST), 2. Topics from a common middle school physics curriculum. NST is emerging as one of the most promising new fields of the 21 century which is one of the many arguments for including NST topics in secondary science education. This work identified the connections between NST and physics discipline as taught in middle school. In this qualitative study I used a method of multiple case study in a community of expert scientists in the field of NST and physics. A specially designed guided discourse was used to form a map of connections between the two fields. The guided discourse was tailored to fit the way scientists communicate science and what we refer to as “the making of nanoscience”. The influence of this design on the scientists' communication skills was examined in this study by pre and post discourse evaluation using a specified instrument that was validated elsewhere.

The MSc has yielded two publications:
