A Study Of Learning Progression Of Matter In Elementary Students

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Abstract

Learning progressions(L.P.) depict successively more sophisticated ways of thinking about a topic that can follow one another as children learn about and investigate a topic over a broad span of time (6-8 years) (Duschl, Schweingruber and Shouse, 2007, Smith, Wiser, Anderson and Krajcik, 2006). They describe in words and examples what it means to move over time toward more expert understanding of big ideas of a domain and is a promising direction for organizing science curricula and instruction. To study the learning progression of the major concept 'matter', an analysis of content sequence of related concepts from the science curricula at the elementary level was done and data from field through a cross age method was analysed to explore whether there is progression from contextual knowledge to more scientific understanding. The findings of the study have major implications for curriculum designing and further research.

Science curriculum should help young people acquire a broad, general understanding of the important ideas and explanatory frameworks of science in addition to the procedures of scientific inquiry (Robin Millar and Jonathan Osborne, 2000).

A purposeful science curriculum should aim to sustain and develop the curiosity of young people about the natural world around them, and build up their confidence in their ability to inquire into its behaviour. It should seek to foster a sense of wonder, enthusiasm and interest in science so that young people feel confident and competent to engage with scientific and technological matters.

Our emergent understanding of the way young students acquire domain-specific knowledge in the sciences can inform the planning and sequencing of science curricula. Development of science concepts may not be a primary goal of science education. But

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