

The Context of Teaching and Learning Primary Science to Gifted Students: An Analysis of Australian Curriculum and New South Wales Science Syllabus

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Abstract : A firmly-validated aim of teaching science is to support student enthusiasm for science learning with an outspread interest in scientific issues in future life. This is in keeping with the recent development in Gifted and Talented Education statement which instructs that gifted students have a renewed interest and natural aptitude in science. Yet, the practice of science teaching leaves many students with the feeling that science is difficult and compared to other school subjects, students interest in science is declining at the final years of the primary school. As a curriculum guides the teaching-learning activities in school, where significant consequences may result from the context of the curricula and syllabi, are a major feature of certain educational jurisdictions in NSW, Australia. The purpose of this study was an exploration of the curriculum sets the context to identify how science education is practiced through primary schools in Sydney, Australia. This phenomenon was explored through document review from two publicly available documents namely: the NSW Science Syllabus K-6, and Australian Curriculum: Foundation - 10 Science. To analyse the data, this qualitative study applied themed content analysis at three different levels, i.e., first cycle coding, second cycle coding- pattern codes, and thematic analysis. Preliminary analysis revealed the phenomenon of teaching-learning practices drawn from eight themes under three phenomena aligned with teachers' practices and gifted student's learning characteristics based on Gagné's Differentiated Model of Gifted and Talent (DMGT). From the results, it appears that, overall, the two documents are relatively well-placed in terms of identifying the context of teaching and learning primary science to gifted students. However, educators need to make themselves aware of the ways in which the curriculum needs to be adapted to meet gifted students learning needs in science. It explores the important phenomena of teaching-learning context to provide gifted students with optimal educational practices including inquiry-based learning, problem-solving, open-ended tasks, creativity in science, higher order thinking, integration, and challenges. The significance of such a study lies in its potential to schools and further research in the field of gifted education.

Keywords : teaching primary science, gifted student learning, curriculum context, science syllabi, Australia

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