



The National Centre of Science, Information and Communication Technology, and Mathematics Education for Rural and Regional Australia



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Description

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Talented Students' Knowledge, Skills and Understanding

Project Title Investigation Years 5 and 6 gifted and talented students'

knowledge, skills and understanding in English, Mathematics,

Science and information Technology

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Agency Faculty grant

Organisational

Base

SiMERR National Centre (formerly CRiLT)

The aim of this exploratory project is to investigate the character of giftedness and talent for upper-primary students in English, Mathematics, Science and Information Technology. This research considers students in OC classes and employs empirically-based qualitative assessment techniques to help describe student understandings both within and across key learning areas. The significance of the research is in the insights it offers to how teachers can interpret the needs of gifted and talented in core subjects, and how they may use this information to improve the learning environment for their students by addressing more appropriately student needs and higher learning outcomes.

The utilisation of an empirically-based theoretical perspective provides a unique perspective to this form of research. It will enable the developmental basis of students' cognitive growth to be interpreted and, in addition, facilitate cross-subject comparisons. At the very heart of this research proposal is a central research theme. Are students, who have been identified as gifted and talented in Years 5 and 6, performing in core curriculum subjects in ways that would be expected of older students or are they performing in ways that are qualitatively different from their same-age peers?

In particular, this research aims to:

- Employ a cognitive development framework to analyse and describe gifted and talented students' responses to a series of open tasks relevant to the subject areas.
- Describe similarities and differences evident in students' responses among these key learning areas.

Allied with these aims is the importance of capturing rich examples of how these students react to particular tasks in different subject areas. The purpose here is to document vignettes that may be used by teachers or educators when dealing with similar cohorts of students. In addition, the developmental paths that are identified should assist classroom teachers in the monitoring and interpretation of gifted and talented student attempts at non-routine problem solving.

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