



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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## **Developmental pathway for lessons**

Project Title Identifying a developmental pathway in the implementation of

lesson components in the classroom of secondary science and

mathematics teachers

Project Team Dr Debra Panizzon and Professor John Pegg

Period 2004 - 2005

Funding Agency UNE University Research Grant

Organisational Base SiMERR National Centre

The aim of this research is to investigate the ways in which secondary science and mathematics teachers implement lesson components in their first five years of teaching to enhance student learning in the classroom. While current research has identified the use of these components by highly experienced teachers, the focus of this research is to explore whether there is developmental perspective identifiable with increased classroom experience. The significance of the research is that it will provide strategies that can be implemented by other practising teachers and inform pre-service teacher education programs.

Of interest is the nature of the components that experienced teachers used in their classrooms and, more importantly, how they manipulate and combine different components to provide a richer learning environment for their students. This current proposal concerns obtaining exemplars of lesson structures and their use by novice (i.e., recent graduates) and new career teachers (i.e., individuals in their first five years of teaching) as a means of trying to unpack a developmental sequence or growth in teachers' ability to implement these components in the classroom.

Lesson components refer to particular activities or aspects that comprise individual lessons. These could include: an introduction; brief review of previous lesson, utilisation of short questions; checking homework; introduction of 'new' concept; worked examples using this concept (hands on focus); and/or relating this work to that learnt previously, and practice activities. These examples of components are drawn from two sources. Firstly, the early findings emerging from our current grant involving lesson components and, secondly, from an earlier research study by Pegg (1989) conducted with secondary mathematics teachers.

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