



Through the Digital Futures - Collaborative Research Network (CRN) program of work funding has been awarded for the following research project: **Project 4: ContextuRAL** (RAL-8-ed: An overview program for remote access laboratories)

What is the project about?

The Contextu-RAL project is a part of the larger RAL-8-ed research program, which is a joint research initiative of the Faculty of Engineering and Surveying, and the Faculty of Education at USQ. The ContextuRAL project will investigate the pedagogical applications and possibilities for Remote Access Laboratory (RAL) technology. This research will be informed by theories of curriculum development and pedagogy, with a particular focus on improving student engagement and learning outcomes in the higher education context.

Why is it important?

Remote access learning is a recent example of flexible, technology-assisted learning that is being employed to foster learning in virtual spaces. Internationally, it represents educational innovation. As well as students using remote access technology individually, the technology has the potential to be used for collaborative learning and therefore the social/community aspect also needs consideration. The findings from this project will inform policy and practice with respect to the pedagogical applications of remote access technology in the higher education sector. The findings will also have a significant impact on, and connection with, learning and teaching in primary and secondary schools, and on pathways from these schools into further education.

Who is involved?

University of Southern Queensland, Australian National University, University of South Australia

How will the research be conducted?

There is a paucity of research reporting on the pedagogy applications and implications of remote access technology. Some of the key questions that need to be answered include:

- *What are the differences in student experience (and learning) between hands-on and RAL experiments and equipment?*
- *Do these differences have any impact with respect to our graduates being work-ready and competent with different types of equipment?*
- *How can RAL be used most effectively as a cooperative learning tool?*
- *What are the best ways to facilitate student learning (individually and in learning communities) when using RAL?*

Many of these questions can be answered by examining the pedagogical applications of the remote access technology through the lenses of educational frameworks such as variation theory and constructivism. A number of different research approaches could be adopted to this end, including phenomenography, phenomenology, case-study and action research.

What will be delivered? (in terms of academic output)

One PhD student completion and at least three conference and four journal papers.

What is the timeframe?

Completion within three and a half years – 2012 to 2015

Project Leaders

Dr Warren Midgley (Faculty of Education) and Dr Alexander Kist (Faculty of Engineering and Surveying)