

Less is more when learning through science investigation

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Credit: Victoria University

Research by Victoria University of Wellington Faculty of Education senior lecturers has helped teachers around the Wellington region develop new ways of teaching science investigation in schools.

The study, "Beyond Play: Learning Through Science Investigation," was a collaborative project between Victoria academics Dr Azra Moeed, Dr

Dayle Anderson, Dr Craig Rofe, Rex Bartholomew, and teachers from Wellington primary schools, secondary schools, and wharekura (a school run on kaupapa Māori principles).

Teachers invited Dr Moeed, Dr Anderson and Dr Rofe into their classrooms to observe and discuss teaching approaches, with the aim of understanding how teachers and students perceive science investigation, and to find ways to improve on science learning outcomes.

"We wanted to understand what investigative work mandated by the science curriculum is currently used in New Zealand classrooms, and to see how teachers could improve it," says Dr Moeed.

Data was gathered through classroom observations, teacher and student interviews, student surveys, teacher reflections and lesson plans. The researchers identified that both teachers and students can see the purpose and value of learning to investigate, and participating teachers are providing a variety of approaches to investigation. However, they also identified some areas for improvement.

"A key element we found is that less is more when it comes to learning from [science investigation](#). If a teacher has a few specific learning outcomes they want to achieve in a practical investigation the result is far more effective," says Dr Moeed.

"It's even more effective if the teacher communicates to students at the outset of the lesson what it is they want the children to learn."

Improving students' learning outcomes also came down to a teacher's confidence and scientific knowledge, in primary school and wharekura.

"Once wharekura teachers realised they could draw on their training and knowledge of te reo and mātauranga to apply understanding to scientific

techniques for the students, their confidence grew," says Dr Rofe.

The study was funded through a Teaching and Learning Research Initiative grant—a grant that brings together educational research and teaching practices to improve learning outcomes for children in New Zealand.

More information: Beyond play: Learning through science investigation: [www.tlri.org.nz/tlri-research/ ... science-investigation](http://www.tlri.org.nz/tlri-research/...science-investigation)

Provided by Victoria University of Wellington

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