Research Profile

Research Area Specialisation

Science and mathematics pre-service education in the primary/middle year levels with a focus on Educating for Sustainability (EfS).

Contributing to a better and sustainable environment

Kathy contributes to a sustainable environment by providing professional learning opportunities for teachers and pre-service teachers to engage students in inquiry based, meaningful, context rich and rigorous science experiences. Pedagogical practices include place based education, undertaking voluntary experiences in an urban ecological setting, participation in an Act of Green, planning transdisciplinary units of work to teach in their fourth placement and guerrilla gardening. By using socio-scientific issues as the driver, teachers can involve students in social action to reduce their ecological footprint and connect to the natural world.

In the next years, Kathy will be building on from the ARC discovery Grant ‘Educating the scientific citizen in Australia: citizen science’. This project involves colleagues from Education and Urban Ecology establishing a model to develop scientific citizenship in low socio-economic areas in the space between schools and communities.
People

- Our researchers are scientists, engineers and social scientists
- We work collaboratively on real-world issues
- Over 100 researchers and 130 research students

Projects

- Multidisciplinary projects focused on sustainability
- We work in partnership with government, industry and academia
- Extensive testing and evaluation services and consultancy expertise
- Our work is underpinned by community participation and education

Research Abstract

Kathy is working on several projects to provide an interdisciplinary approach to science and mathematics education with a focus on ecological sustainability.

Her first project focuses on working with teachers in the North of Adelaide, South Australia using citizen science to provide authentic learning experiences in the middle years of schooling (Years 6-9). Her second project explores how transdisciplinary approaches for planning for learning with pre-service teachers improves their confidence to teach science and mathematics as early career teachers and her third project focuses on new pedagogies and social justice with teacher educators.

Research areas of interest

- Educating for Sustainability (EfS) and action based pedagogies
- Using citizen science as a vehicle to engage middle school students in science and developing a connection to the natural world
- Science and mathematics teacher education in primary/middle years

Barbara Hardy Institute

Advantages include working with colleagues with similar interest and values and being able to access and contribute to cutting edge world leading research.

Keywords to describe Kathy’s research

- Educating for Sustainability (EfS)
- Citizen science
- Science education

“By using socio scientific issues as the driver, teachers can involve students in social action to reduce their ecological footprint and connect to the natural world.”