

# Action research for Change Towards Sustainability: Change in Curricula and Graduate Skills towards Sustainability (ACTS)

## Summary

Further and higher education play a critical role in assisting change towards sustainability within our society. If graduates do not have a core understanding or vision for sustainability the pathway towards a sustainable future will remain unclear. Achieving this will require innovation and organisational change - not just the integration of sustainability concepts within the curriculum.

This two year pilot project, funded jointly by Environment Australia and Macquarie University, attempts to address this need, by exploring ways of changing curriculum and graduate skills towards sustainability. The project adopts an innovative approach, combining methodologies to explore sustainability across disciplines in higher education. The main component of the project is on action research for change within universities. The project focus is on:

- exploring research based activities to innovate for sustainability – through curriculum, professional and/or organisational development;
- professional development of teachers of postgraduate units in sustainability education to support their plans for innovation; and
- cross faculty involvement.

The ultimate goal is to facilitate change within Universities to enhance opportunities for the development of graduate skills to assist business and industry in moving towards sustainability. The project is still in progress.

## Background

ACTS arose out of the University-Industry Summit hosted by Macquarie University and the National Environmental Education Council in November 2001. Participants at the Summit, identified the need of university graduates to have attributes such as critical, creative and futures thinking skills, confidence to deal with uncertainty, and awareness of sustainability. Many educators are grappling with the issue of how to integrate knowledge and skills for sustainability into their discipline areas. There is a lack of resources and support mechanisms for the shift towards sustainability in further and higher education.

A key recommendation was that research be undertaken in the area of education for sustainability and that this process be accompanied by capacity building of university staff (Tilbury and Cooke 2001). The ACTS project addresses key recommendations from the Summit. An outcome of the Summit was the formation of the Industry Advisory Group for Sustainability Education to inform future University-Industry Initiatives.

## Aim

The aim of the ACTS project is to advance the contribution of higher education to sustainability. More specifically, it intends to create change within the university and enhance opportunities for development of graduate skills for sustainability.

## Timeframe

September 2002 through to August 2004.



## Stakeholders

The reach of this project is extensive as many links have been developed during the life of the project. Stakeholders of the ACTS project include:

- Macquarie University staff teaching post-graduate students across a variety of faculties;
- others involved in management and operations at Macquarie University;
- Department of Environment and Heritage;
- post-graduate students;
- key informants from business and industry; and
- other university lecturers from Australia and overseas.

There was significant overseas interest generated through dissemination of project information particularly from universities, government, and consultants.

## Description

The key phases of the project include:

- Phenomenographic Research, which has been used to explore sustainability and creativity across disciplines;
- Action Research, which involves a group of academic staff from across disciplines and at various stages of career as Action Researchers, training in Action Research and education for sustainability, and undertaking an Action Research project within the university;
- Stakeholder communication to gain advice on the focus of the project, and explore opportunities for collaboration in Australia and overseas; and
- Evaluation of this pilot project to consider the potential of the ACTS process for innovating towards sustainability within Universities. It will consider the value and limitations of this process across Australian Universities.

### Action Research

Staff involved in teaching postgraduate students across all divisions of the University, were given the opportunity to be involved in undertaking the Action Research component of ACTS. Involvement from other universities was also invited.

Components of the project includes:

- Participation by academic staff from various backgrounds including Accounting and Finance, Environment and Life Sciences, Health and Chiropractic, Linguistics and Psychology and Law from Macquarie University and participants from the University of New South Wales and Griffith University.
- Material development for the workshops including a participant handbook and CD Rom containing the relevant readings covering education for sustainable development, sustainability in higher education and case studies in curriculum change and Action Research were prepared.
- Program of workshops for the academic staff on Action Research, sustainability and education for sustainability. The workshops employed participatory learning activities, offered the opportunity to discuss case studies presenting good practice, and piloted new action learning activities to engage with Action Research, sustainability and Action Research for change in curricula.
- Group sessions for academic staff to share their plans, actions and reflections and explore ways of bringing about change towards sustainability within curricula.



## Process / Activities / Methods



Action Research can be used as a collaborative research tool, which is often represented as a four-phase cyclical process of critical enquiry - plan formulation, action, outcome observation and reflection. In this project, the process engages lecturers in critical research into contextual epistemology, pedagogy and ontology - to challenge notions and approaches to sustainability.

Action Research provides a valuable process for exploring ways in which sustainability is relevant to the university curriculum and can contribute graduate skills. It views change as the desired outcome and involves participants (in this case academic staff) as researchers of their own practice. Action Research has been used in the area of curriculum and professional development in Environmental Education as well as in other fields.

A key aspect of the project approach is that Action Researchers identify their own needs in addressing the integration of sustainability into practice and curriculum. Some of the areas of research focus defined by the Action Researchers include:

- rethinking assessment to explore sustainability in decision-making processes in Australia;
- introducing concepts of social responsibility into the accounting and finance curriculum;
- involvement of employers in defining graduate skills for contributing to a better world in the area of health and chiropractic; and
- developing an integrative framework for teaching and learning ecological and sustainable design in a new Master of Landscape Architecture, working across disciplines and institutions.

The role of ACTS Team is to work with the Action Researchers to identify a research program to address those needs and facilitate the process. In addition, the Team provides support through training in Action Research, education for sustainability, research methods and provides guidance for the analysis and interpretation of results.

Sharing the learning is seen to be an important outcome of the project. For this reason, stakeholders have been invited to participate at different stages of the project to contribute but also to learn from the experience.



## Why Action Research for Sustainability?



'Action research ignores the boundaries between disciplines when they restrict effective understanding and action and advocates crossing the boundary between academia and society as a basic principle of operation.'

*(Greenwood and Levin 2000, p.94)*

Sustainability is interdisciplinary and relevant to all professions. It calls for a new paradigm of thinking and acting. Action research is congruent with this new paradigm. It provides a process that helps transform thinking and actions for sustainability within further and higher education. This process challenges existing research and teaching practice and assists the process of reconnecting universities to society (Greenwood and Levin 2000).

Action Research produces more than a research document. It results in catalytic change for sustainability. It is based upon the critical theory paradigm. Critical theorists attempt to close the gap between research and change by involving and empowering people through the research act. A key outcome of Action Research is ongoing change for sustainability and still seeks valid and rigorous research.



Action Research is associated with a cyclical process of inquiry. However, it is more than just planning, acting, observing and reflecting. It aims not just to improve but innovate practice. Ultimately,

'Action research is a learning process, the fruits of which are the real and material changes in: a) what people do; b) how they interact with the world and others and c) what they mean and what they value and d) the discourses in which they understand and interpret their world.'

(Kemmis and McTaggart 2000, p. 596)

## Outcomes

As the project is still in progress, specific change outcomes can not yet be described. However, the level and nature of interest generated by the project shows there is a recognised need for work in this area. More specifically, the lack of resources, opportunities and support for professional and curriculum development in education for sustainability was highlighted.

We have received an influx of correspondence from university academic staff, business, industry, and government requesting opportunities to collaborate and establish a dialogue on how to work towards sustainability. Advice from leading universities such as Cambridge and Rhodes, suggest that this project is leading edge in advancing sustainability within higher education. The project has generated interest within management and operations at Macquarie University supporting changes at a range of levels.

## Project Team

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