

Postgraduate Environmental Education Research: Meeting the Needs of the Community

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A B S T R A C T

This article reports on experiences gained in two postgraduate programs in environmental education—one at the University of Canberra and one at Deakin University. The paper draws from the work of several postgraduate students who are exploring environmental issues in their communities as part of their postgraduate studies. The paper addresses some issues associated with community-based environmental education, including:

- research as participation in the critical appraisal of environmental situations
- the need for the research to be responsive to the needs and interests of the community
- the role of the researcher as change agent.

The article concludes that community-based environmental education research is a powerful learning experience for postgraduate students who are at the forefront of the research process and communicating directly with the community.

The community-based environmental education research undertaken by postgraduate students and staff at Deakin University and the University of Canberra raises a number of key issues for environmental educators and environmental education researchers. The aim of this paper is to describe and discuss these research issues with reference to the first-hand experiences of the participants undertaking research projects in these programs.

‘community-based environmental education research approaches at Deakin and Canberra universities... attempt to close the distance between researchers in formal institutions and the wider community’

It has been our experience that environmental education tends to be perceived as being properly located within schools and universities and consequently takes on the values and trappings of these formal institutions. For example, much school-based environmental education is seen to be mainly the province of applied science (NSW Department of School Education 1995), it is shaped by the timetables and other organisational structures of educational institutions, and it is taught within the fairly obvious and conservative social/power relationships that exist between educators and students. Formal institutions, therefore, shape and constrain environmental education to the detriment of the field itself (Fien 1993, Robottom &

Andrew 1996). Further, this narrow perspective tends to de-emphasise the relationships between formal institutions and their community contexts, despite formal institutions being embedded in a wider community which they are ‘part of’ not ‘apart from’ (Harris et al 1995).

The community-based environmental education research approaches at Deakin and Canberra universities have addressed this situation by attempting to close the distance between researchers in these formal institutions and the wider community. The primary goal of these approaches is to encourage critical inquiry about the nature of community-based environmental problems, and to encourage wider participation in community-based programs.

We see the need for a new generation of researchers who are able to understand and communicate the nature of environmental problems and their relationship with the human contexts in which they arise, and within which they must be solved. This requires of postgraduate students cooperative endeavour in working with community representatives to identify an area of environmental concern and clarify the problem or issue, and to plan and conduct the research as a collaborative project. On completion of the research it is desirable that an administrative infrastructure is left in place for the community to be able to continue its efforts in the nominated area of concern. Postgraduate students are encouraged to publicise the results of their research using, as appropriate traditional forms of communication such as theses, journals and seminars, and more popular ones including television and magazines.

Formal institution-based approaches commonly used for dealing with environmental problems are too dependent on specialist researchers linked to management agencies and government bureaucracies. Campbell (1994) and Carr (1994) discuss this "top down" approach. There is a need for studies in environmental education to be participatory, that is to involve members of community groups in the processes of the research itself. We will argue that rather than limiting ourselves to a form of education aimed at transferring research findings about environmental issues to other specialists and the wider public, we need to engage in community-based forms of education aimed at generating a critical debate about environmental issues that have their meaning within those communities. A challenge for researchers is how to become fully involved in a learning process with society and to facilitate dialogue in the community about environmental issues. One of the important roles, therefore, for researchers working in a community context is often as a facilitator, co-learner or documenter who is actively participating in the discovery of new insights.

Community-based environmental education: some key issues

What follows is an outline of a number of key issues which have arisen as a result of our shared experiences in community-based environmental education research at Deakin and Canberra universities. First, each issue is stated and then it is illustrated and discussed with reference to a particular research project or projects.

The research project is more about the process of participation in the critical appraisal of environmental situations or issues than about finding specific solutions.

Postgraduate students' interest to explore possible solutions to the environmental issues they are studying can be problematic. For example, the initial approach of Allison Treweek's Master's research into the firewood issue in the Australian Capital Territory (ACT) was to explore alternatives to the use of remnant eucalypt timber as firewood in the ACT. This issue has been 'current' in the ACT for over ten years. At first it seemed sensible for Allison to focus her research on identifying appropriate solutions to the problem as was indicated by the early title for her project—'Identifying alternatives to eucalypt firewood use in the ACT'. As Allison progressed in her research it became clear that there was no adequate description, let alone understanding, of the 'firewood issue' as a whole; the research project shifted to one determining what was actually happening with respect to firewood collection, distribution and use in the ACT and the surrounding region of New South Wales. The issue itself was much more complex than originally thought, and the complexities meant that proposed 'solutions' were not as straightforward as had originally been expected.

Jocelyn Phillip's Master's research thesis was entitled 'Coastwalk; A case study of environmental education in the community'. Jocelyn was among a small group of 'core walkers' who walked for four months along the coastline of Victoria and New South Wales, from St Kilda Pier, Melbourne, to Bondi Beach, Sydney in the summer of 1993/94. 'Coastwalk' was organised by the Australian Conservation Foundation (ACF) to focus its campaigning on coastal protection more at the community level in Australia. In this case a primary aim of the research was to assess the effectiveness of Coastwalk as an environmental education process for positive social change. The research addressed the level of environmental awareness which might instil in people the motivation to search for appropriate solutions to local coastal management problems, but did not attempt to delineate the solutions themselves.

It is sufficient for the research to promote in the community social learning processes whereby the level of debate or discourse about key issues is raised

One of the outcomes of involvement in research of this kind is a scepticism about whether postgraduate students should necessarily be expected to determine solutions to the issues they are researching. Such issues are contested, political and contextual; their resolution is more properly the responsibility of stakeholders within the community itself rather than the postgraduate students. Put another way, it is more important for the community members to determine the kinds of solutions which are achievable by the community. In addition, the time constraints of institutions for postgraduate students to attain their award tends to be a source of pressure. It is sufficient for the research to promote in the community social learning processes whereby the level of debate or discourse about key issues is raised.

Familiarity with research literature, key concepts and methods is important if the research is to be participatory and responsive to the needs and interests of the community.

Postgraduate students need to read widely and to be fully aware of the relevant literature as they plan their research project. All community-based research projects are complex and the place to start is uncertain. Environmental issues are complex and the community's appraisal of them changes over time. The best practice, according to Janesick (1994), is to start with a question or questions and to use a variety of methods in order to understand a community's multiple perspectives.

It is important that research students have a well considered methodological framework, including the establishment of their philosophical stances about a number of issue associated with their methodology such as the nature and

means of acquiring knowledge and the possible effects on their research of their political and value positions. It is equally important to be flexible at the level of method, that is the means of data collection. Rather than seeking to apply a given research method, for example questionnaire-based survey or action research, students need to be aware that their research is more likely to be responsive to its context if the substantive research topic guides the choice of data collection methods. This is also helpful when one has to collect information under difficult or unpleasant circumstances. Researchers confident of their critical appraisal of the literature are more likely to be able to overcome these circumstances and to remain focused on the research processes.

‘participatory action research is...particularly fraught with difficulty because it can be interpreted in different ways’

Action research, or participatory action research, is a research method particularly fraught with difficulty because it can be interpreted in different ways from the very specific to the broader process of both educational research and ‘learner’ investigation (Zuber-Skerritt 1991). It can also be confused with case study methodology. To illustrate this issue we have chosen the research of Graeme Gibson, Karen Malone and Jennifer Andrew. Graeme Gibson’s Master’s research focused on his own role as an educator of groups of Landcare and Environmental Action Program (LEAP) participants. Graeme’s main interest was to determine which of several approaches to LEAP teaching/leadership was most effective in terms of their effects on the lives and actions of LEAP participants. He altered his teaching/leadership style and maintained records of the outcomes of these alterations. At the same time, he was recording changes in the environmental perspectives of the young people with whom he was working. So while Graeme was adopting an action research perspective into his own practice—the research questions concerned ways of improving his own teaching/leadership and the data related to his own practice and its effects—he had a component of interpretive research for studying the changes in thinking and action of the LEAP participants.

Karen Malone’s and Jennifer Andrew’s approaches were somewhat different. Karen was studying the effects of educational restructuring by the Victorian government on the lives of a school and its community. The school was eventually closed after a long period of struggle on the part of teachers, students and community members. Members of the school and its community were themselves engaged directly in the research, adopting a research perspective in working systematically at becoming more effective in resisting the proposed closure of their school. Karen was to an extent a participant in their struggle as well because she attended meetings, taught classes to provide relief to

teachers and planted trees in the school precinct. Nevertheless, her role was essentially interpretive as her research was aimed at developing an account of the actions/activities of others engaged in a research process. The research questions being addressed related to the activities of the school participants, not in the first instance to her own actions as a researcher or environmental activist. Hence her research is best described as critical ethnography. Similarly Jennifer’s research was, in part, an interpretive study of the actions of a Landcare group engaged at improving their approaches to rabbit management. Again, the Landcare group was itself adopting a research perspective very like action research in addressing its own perceived practical problems, gathering and reflecting on its own rabbit management data, and engaging in community self-education. But while the group’s research showed the characteristics of action research, Jennifer’s study of the group’s research was one step removed and hence more of an interpretive character, that is, a case study.

Community-based environmental education can be a participatory research activity which meets the expressed needs of the community as well as having an academic purpose. Postgraduate students are educated professionally and the community is strengthened through a collaborative response to environmental issues. A research project is not the same as a development project.

Peter Hazell’s Master’s research project entitled ‘Community-based environmental management in peri-urban residential developments’ illustrates this issue. Peter’s research is a case study of two residential developments near Murrumbateman in New South Wales. One was established five years ago and the other was established last year, the latter being marketed as a form of ecologically sustainable development (ESD). The marketing claim related to the estate being self-sufficient in terms of water harvesting and sewage disposal. However, there is a strong desire from the residents and the developing company to continue to explore and implement ESD concepts. Both developments have been established under ‘community title’ legislative guidelines for land tenure. Residents own their block of land and have collective ownership over common areas and management responsibilities for public areas, such as dams and open space, including wildlife corridors, road verges, nature trails and so on. The key questions Peter Hazell is addressing are:

- What are the perceptions of the residents in these communities of the meaning of ESD and of community-based environmental management?
- Are residents willing to participate in community-based environmental management?
- If so, what are the impediments preventing this from occurring?

In the process of answering these questions Peter is meeting the expressed needs of the community as well as his own as a university postgraduate.

‘outcomes of the research...include the changes occurring in the community as a result of the participatory research process, and local improvements in human and environmental well-being’

The relationship between the research process and the thesis as a product or outcome of the research can be a challenging one for postgraduate students and requires further clarification. The research thesis is a major academic outcome of the postgraduate students' research but this is the 'tip of the iceberg'. The knowledge, skills and values learnt by postgraduate students undertaking their research project are different from those learnt from writing the academic thesis. Other outcomes of the research include the changes occurring in the community as a result of the participatory research process, and local improvements in human and environmental well-being. It is the process of undertaking the research and subsequent writing up which contributes to the professional and personal maturing of postgraduate students. Because this maturing is usually long lasting and irreversible, especially if the research project is one of their own choice, postgraduate researchers are able to contribute continuously over a life time, having learnt about who they are, their potential for enabling change, and how to approach a situation from a research perspective.

There is another question which has arisen as a result of Peter Hazell's research—What is the difference between a development project and a research project? It is clear that these residential communities are participating in development projects. However, the question emerges as to whether they can shift ground to become 'action-researching communities', critically reflecting on the ways they are currently acting in order to resolve the constellation of issues relating to ESD? If so, one could argue that a research project has emerged from a 'purposive' development project and the researcher has facilitated this change (Bawden 1991). Through thoughtful dialogue with residents, using carefully designed interviews and questionnaires, new insights will arise from the social learning process which, when coupled with the common desire to act positively, can initiate community change and, in the longer term, possibly contribute to a better articulation of the concept of ESD.

The role of the researcher is often perceived as 'change agent'. Adoption of the project by the community within which it is being conducted can be seen as a sign of the success of the project.

‘The research processes of community-based environmental education facilitate change’

This is another issue which requires critical appraisal. The research processes of community-based environmental education facilitate change so that researchers commonly see themselves as 'change agents'. There are critical ethical issues involved here as researchers declare the nature and purpose of their research. Researchers always bring to their research a given position. Allison Treweek, for example, adopted an ethical stance by declaring her role as a researcher and in explaining the kind of research she was undertaking. Nevertheless, by remaining open to the diversity of views expressed by each of the parties—the wood merchants, stove/heater retailers, farmers and residential users of firewood—Allison was able to conduct her research in a way which maximised the likelihood of finding new perspectives and insights on an issue which had been intractable for over a decade in the ACT.

A sign of the success of Allison's research came within a year of commencing the project when many people from the NSW and local government agencies, the Commonwealth Scientific and Industrial Research Organisation, the NSW farming community and retailers began phoning and faxing her concerning the firewood issue and wishing to be involved in helping to resolve the issue. Although the receipt of a number of unsolicited contacts provided more work for Allison it signalled that the community was adopting the project, which augured well for the final outcomes of her research. On completion of the research, it seems highly likely that an administrative infrastructure will be in place for the ACT community to be able to take over the research project and eventually find durable solutions to the vexed issue of residents using remnant eucalypt vegetation for domestic firewood.

Similarly, Karen Malone's research has to an extent 'left the tools behind'. After a reduction in, though not cessation of, contact with the community at the completion of her PhD study, the community group which she worked with for three years has continued to collaborate on a number of environmental issues. Their continuing mode of operation in these projects reflects the linkages, collaborative processes and 'inclusivity' fostered during the period of Karen's study.

Conclusion

‘Community-based environmental education research is a powerful holistic learning experience for postgraduate students who are both in the forefront of the research process and communicating directly with the community’

The environmental issues that often form the basis of environmental education research are usually different in content and form in different localities. There are different

parties involved, different proposals for change, and different vested interests at work. Controversy usually attends such issues. In addition, environmental issues are contextual—the issues have their meaning in community debates and it is only by studying these debates that the issues can be understood. Therefore the approach to research adopted in studies of such environmental issues must be capable of engaging these debates, and be inclusive of and sensitive to the range of differing perspectives that might occur in a particular situation. In short, our approaches to teaching and research must be congruent with the nature of environmental issues. Above all, teaching and research practice must be ‘responsive’ to the substantive issues studied. There is no doubt that environmental education is diverse, perhaps in ways and to extents found in no other ‘subject’. This has certainly proven to be the case in the kind of research conducted by environmental education postgraduate students in the Applied Ecology Research Group, University of Canberra, and in the Centre for Studies in Mathematics, Science and Environmental Education, Deakin University.

Community-based environmental education research is a powerful holistic learning experience for postgraduate students who are both in the forefront of the research process and communicating directly with the community. They are placed in new and unpredictable situations which require them to use their initiative in different kinds of environments and social encounters. Postgraduate students develop effective ways of linking theory and practice in their education. In our experience they also adopt a realistic approach to the inherent complexity of larger contexts within which environmental issues always occur, including environmental systems and socio-political frameworks within which community decision-making occurs. With each passing decade, it becomes more evident that lasting solutions to environmental issues can only come from the commitment of individuals, communities and whole societies to pursue positive environmental lifestyles and policies. Perhaps this is possible through individuals, like these adventurous postgraduate students, who are first, “able and willing to look beyond their own lives to work for the welfare of society and the environment” (Caduto 1985), and who have an enthusiasm for accepting the challenge of learning how to work towards community-derived social change in their communities. 🌱

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References

- Bawden, R. 1991, ‘Towards action research systems’, in Zuber-Skerritt, O. (ed.), *Action Research for Change and Development*, Avebury, Aldershot, UK.
- Caduto, M. 1985, *A Guide to Environmental Values Education*, Environmental Education Series 13, UNESCO, Paris.
- Campbell, A. 1994, *Landcare: Communities Shaping the Land and the Future*, Allen and Unwin, London.
- Carr, A. 1994, ‘Grass-roots and green tape: community-based environmental management in Australia’, unpublished PhD thesis, Australian National University, Canberra.
- Fien, J. 1993, *Education for the Environment: Critical Curriculum Theorising and Environmental Education*, Deakin University Press, Geelong, Victoria.
- Harris, J. A., Day, A. T., Egloff, B. E., Hingston, J. & Pamphilon, B. 1995, *Exploring a Curriculum for Adventurous Learning: Closing the Distance Between the Community and Professional Education*, Occasional Paper, Centre for the Enhancement of Learning, Teaching and Scholarship, University of Canberra, Canberra, ACT.
- Janesick, V. J. 1994, ‘The dance of qualitative research design: metaphor, methodolatry, and meaning’, in Denzin, N. K. & Lincoln, Y. S. (eds), *Handbook of Qualitative Research*, Sage Publications.
- NSW Department of School Education 1995, *Quality Assurance: A Review of Environmental Education in NSW Government Schools*, New South Wales Government, Sydney, NSW.
- Robottom, I. & Andrew, J. 1996, *Creatures from the Other Side: Environmental Education and the Feral Animal Debate*, Deakin University Press, Geelong, Victoria/Australian Nature Conservation Agency, Canberra, ACT.
- Zuber-Skerritt, O. 1991, *Action Research for Change and Development*, Avebury, Aldershot, UK.

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