

## Research methodologies represented (or not) in 30 years of *AJEE*

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As one of the authors represented in the first issue of *AJEE* in 1984 (and further issues), and as a sometime member of its editorial board (1991-4) and the editorial collective that edited four issues from 1999 to 2002, I have been privileged to witness at close hand its development from infancy to maturity. My particular focus in this brief reflection on the journal's development is on the research methodologies that it has privileged or diminished. In the interests of brevity I focus in detail only on the first few issues of the journal, with the remaining issues being the subject of impressionistic (though I hope not rash) generalisations.

In his editorial in the first issue, Bill Carter (1984) made his preference for a particular type of research clear. After pointing out that most of the articles in the issue were papers presented at the second national conference of the Australian Association for Environmental Education held in Brisbane in 1982, he commented:

Appropriately for the first edition, the articles review and challenge existing concepts in environmental education. Whilst it is hoped that the biennial conference will continue to attract papers of sufficient quality to be published in the Journal, they will, by the nature of most conferences, tend not to include papers of a truly [sic] analytical nature. Such studies which test or evaluate programmes empirically are particularly sought by the editors (p. 1)

Russell Linke (1984) made a somewhat similar point in his concluding remarks at the 1982 conference which were also published in the first issue:

One notable deficiency still in the field of environmental education has been the lack of systematic research on curriculum and teaching strategies... it is a point of serious concern that the intense research activity which accompanied the development and introduction of, for example, the Australian Science Education Project has been conspicuously absent. The peculiar emphasis which environmental education gives to the teaching of attitudes and values, as well as to decision-making skills and opportunities for practical involvement in local community issues ought to provide a wealth of opportunities for educational research... But so far lamentably little of this extraordinary research potential has ever materialised (p. 3).

The majority of the remaining articles published in the first issue were indeed chiefly concerned with reviewing and challenging existing concepts in environmental education, although E. K. Christie's (1984) review of the state of arid land management in Australia had little to say about environmental *education* as such. Carter's preference for empirical studies is not surprising, given his academic and professional specialisation as an environmental scientist, but Linke's preference for 'systematic research' modelled on 'the intense research activity which accompanied the development and introduction of... the Australian Science Education Project [ASEP]' suggests a somewhat narrow view of what research may entail, given that

science education research in the 1970s was largely dominated by quasi-experimental quantitative designs. Was Linke implicitly positioning the remaining papers in the first issue, which had been presented at the conference that inspired his reflections, as something other than 'systematic research' because they did not resemble the empirical-analytic research arising from ASEP? By 1982, the notoriously conservative *Oxford English Dictionary* (which then determined 'common English usage' by such means as sampling the ways in which words were used in *The Times* (London) newspaper, defined research as an 'endeavour to discover new or collate old facts etc. by scientific study of a subject, [or] course of critical investigation', and each of the remaining papers in the first issue, of which there were two by Ian Robottom (1984a, 1984b) and one each by John Henry (1984), Max Walsh (1984) and me (Gough, 1984) was clearly an example of a 'critical investigation'. Henry (1984), Robottom (1984b) and Walsh (1984) offered differing critical interpretations of the implications of emphasizing education *for* the environment (cf. education *about* and *in* the environment) as the most desirable quality of environmental education, whereas my paper (Gough 1984) offered a critical analysis of approaches to moral education (including the cultural transmission of environmental ethics) emphasizing the limitations of the then popular classroom techniques of values clarification.

William Reid (1979) once observed that 'the well argued essay' was the preferred genre of curriculum writing as published up to that time in the *Journal of Curriculum Studies* (of which he was then European Editor), and I suspect that this is also what became the dominant genre of writing in *AJEE*. As Carter (1984) implies with his hope of attracting 'papers of sufficient quality to be published in the Journal' what counts as a 'well argued essay' (and, for that matter, what counts as research) is a matter for the judgment of peer reviewers. According to my reasoning, research is not only 'scientific study' and/or 'critical investigation' but also includes *any* means by which a discipline or art develops, tests, and renews itself. If well argued essays (as judged by their peers) are the means through which Australian environmental educators have chosen to develop, test, and renew their discipline then that constitutes their research.

I am personally pleased that *AJEE* did not follow the preference of its first editor (and influential commentators like Linke) by over-privileging empirical-analytic and scientific research reports. Indeed, in the journal's second issue (also edited by Carter), a perceptive essay by John Fien (1985) pointed to the more productive partnerships suggested by social and environmental education research, drawing attention to 'international, global, futures, population and values education (all long established themes in social education) as imperatives in environmental education' (p. 21). Fien (1985) pointed out that environmental education research was not only constrained by its historical ties to science education, but also by the 'control of postgraduate studies in education faculties by the foundation sociology, philosophy and psychology of education disciplines' (p. 21).

I regret that stereotypical associations of research with empirical-analytic designs were reinscribed from 1987. As the new editor, Ian Robottom (1987), explained, the 1987 issue had four sections, titled 'Feature articles', 'Research', 'Reflections' and 'Reviews':

This structure reflects the editorial policy of the new Editor and Editorial Board, which is that each issue of the Journal contains a balance of contributions matched to the different interests of members of the environmental education community...(p.2).

This was clearly a good intention and Robottom elaborated that the research presented in the Research section ‘may be of the quantitative, applied science design, the interpretive case study kind, or more participatory action variety...’ (p.2) and voiced his own ‘preference...for the more accessible, descriptive examples of research that tend to emanate from case study and action research’ (p. 2).

Nevertheless, these intentions and preferences were somewhat undercut by the actual contents of these sections in ensuing issues. For example, in 1987, the essay with arguably the most significant implications for environmental education research – Giovanna Di Chiro’s (1987) ‘Applying a feminist critique to environmental education’ – was located in the Feature Articles section, and the sole research report was Barbara Johnson and Peter Fensham’s (1987) study of students’ perceptions which relied on quantitative data from word association tests and responses to environmental photographs. In the 1988 issue the categoric sections were further confused by the sole research report being another quantitative study deploying a pre/post questionnaire design, yet two reports prominently titled as case studies were described in the editorial as ‘Reflections’.

The four-section structure was abandoned from 1990 to 1995, with only Feature Articles and Reviews being differentiated. Without going into further details, Di Chiro’s (1987) advocacy for critical feminist approaches remained the only substantial challenge to the predominant methodological orthodoxies of quantitative, case study and action research in *AJEE* until I advocated for the application of poststructuralist approaches (Gough, 1991). I regret that neither feminist nor poststructuralist approaches have had a great deal of purchase in the pages of *AJEE*, although there have been some honorable exceptions, including Deirdre Barron’s (1995) feminist poststructuralist analysis of the constitutive power of environmental discourses, Hilary Whitehouse and Sandra Taylor’s (1996) feminist critique of senior secondary environmental studies courses, and Jo-Anne Ferreira’s (1999/2000) use of Foucault’s work on the formation of the self as an ethical subject.

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