

# Environmental education in a rural setting: the role of teachers in dissemination

## Rural e.e. and teachers

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For many schools, environmental education constitutes a curriculum innovation in that it represents a challenge to existing teaching and curriculum practice. An innovation issue frequently neglected in environmental education is the spread of messages about the innovation within and between schools. This neglect is often apparent in the case of environmental education materials developed at sites away from the school. In such cases, great care is taken to develop a useful curriculum resource, and to distribute it from central development site to school classrooms. For example, when the Curriculum Development Centre (CDC) produced its recent environmental education materials, the *Environmental Education Project*, it sought to disseminate the innovation by fostering sales through such strategies as the mailing of promotional leaflets to all schools, conducting state and national launchings, providing cost-free review copies to subject associations and the like, and advertisements. However, the exchange of ideas about the innovation from practising teacher to practising teacher is more difficult to organise from outside the school.

This brief article reports the experiences of teachers in a small rural primary school in attempting to carry out environmental education and to spread its influence in their region.

### The setting: A context of change

The school enrolls 160 children in a rural setting of undulations and winding roads some 40 kilometres from the state's major intercapital highway. The staff of eight work in dated but well-kept ex-high school buildings set in grounds which are beginning to show signs of raised environmental consciousness.

The school's current Environmental Programme was initiated and developed by Fay, a half-time language consultant, and Judy, an infant teacher in the school. Both teachers became involved in the work of the Programme in response to prevailing 'farming community' attitudes which were perceived as ranging from indifference to exploitation of the environment. Neither teacher had a strong environmental education background in the usually-accepted sense of formal science or geography studies: the motivation for action was primarily one of concern for the local environment.

We're in a farming community here and you only have to drive around to see how devastated our country is. Nobody replants the trees that the original farmers knocked down, and the erosion is terrible. Ninety percent of the children of this school are farm children who see the land as being something which they work — as something from which they take as much as they can. They don't recognise the resources we've got around us. We're surrounded by state forest and yet no one ever goes into it — it's a waste of potential farming land as far as they are concerned.

The context of the two teachers' operations was one predisposed to change. The school had had three principals in as many years, with the last (current) incumbent proving to be positively disposed to school based curriculum development. Fay and Judy gravitated to the infant department and

discovered a mutual interest in environmental concerns, and they initially enjoyed the support of a third teacher whose responsibilities comprise half outdoor education/half school camp administration. The curriculum was undergoing revision as well; in the infant school in particular there was a move away from the conventional subject orientation:

The School used to work on a timetable of subject-based slots, but at the moment we are changing over in the infant department to a system of themes. Rather than have an afternoon when we do Social Studies, Environmental Studies and Science and all the rest, we do a theme and it might fill in the whole time for two or three weeks. Then we might do a Health theme or a theme in Social Studies and we might not come back to environmental education for a couple of weeks.

At about the time Fay and Judy were working together on developing a theme-based, non-subject-based, programme in the infant school — and were doing so in a setting which was predisposed to change and in which they felt relatively unconstrained in operating in an autonomous fashion — they both attended a ten-day inservice course in environmental education in the State capital. Attendance at this course was seen by both teachers as a significant factor in triggering their efforts in environmental education program development. It was at this course that they were introduced to the Curriculum Development Centre's Environmental Education Project materials, and began to see a way of achieving the potential for environmental education programme development that existed at their school.

### The new program

After the ten-day inservice, Fay and Judy together with the part-time outdoor education teacher worked in collaboration to develop an environmental education programme. A number of factors shaped the final outcome. First, the teachers agreed that an initial framework was required: this framework was obtained from the 'Planning' section of the Environmental Education Project's Primary Sourcebook (*CDC1981*). A second factor was the ease with which out-of-classroom activities can be organised at the school: the school has access to a nearby camping facility, possesses adequate camping gear, and offers few constraints to out-of-schoolground activities (half-day excursions and the like). Third, at the time of developing the programme the new State Education Department Science curriculum guides had just been released, and the teachers felt a need to be seen to be making use of this new, environment-related curriculum resource. The eventual programme reflects the influence of these factors: it is organised in very similar fashion to a programme described in the Primary Sourcebook, it includes many of-of-classroom activities, and it refers extensively to relevant sections of the departmental science curriculum guides.

In discussing the programme, the two teachers described the philosophy that has guided their work. Their view of the process of curriculum development is that it ought to be

school-based, for reasons to do with maximising the match between the developing programme, and the interests, needs and circumstances of the programme's participants — teachers and students. Descriptors employed by Fay and Judy when referring to the programme itself include activity-based, "process-oriented", "integrated" and "suited to group work". The programme is activity-based and process-driven in the sense that, as much as possible, the students are to be directly involved in investigations, and the teacher's criteria in selecting and organising a sequence of activities centre on the provision of opportunities for exercising process skills (such as planning, measuring, recording, controlling variables). The emphasis on the 'doing' is enhanced by the ease with which out-of-classroom activities can be organised in the school. The group-work aspect of the programme is justified in terms of its contribution to the development of critical thinking abilities in the students: the greater proportion of student-student dialogue to student-teacher dialogue is seen as a pre-condition for reducing the students' dependence on the teacher. The notion of integration articulated by the teachers is an interesting one. They believe the developed program to be integrated in the sense that it is not necessarily constrained to be taught within the boundaries of a particular subject area. The programme, however, can be taught in a way which expresses the 'subject area bias' of a particular teacher at a particular time — this needn't undermine the integrated flavour of the programme because in the longer term, complementary biases will cancel themselves out, especially if some loose monitoring of biases takes place:

There's no reason why you couldn't do with say one of these units as is done with 'Language across the Curriculum'. Depending on the teacher's bias there's no reason why if her bias was for, say Language that they couldn't start it off as a Language unit and develop from there. If the bias was mapped there's no reason why you couldn't then choose something that involves measurement, say, and work from there ...

Fay and Judy admit that the structure of their programme is based substantially on a case of curriculum design reported in the Primary Sourcebook (*CDC 1981*). The programme's guiding principles (listed below) and topic areas are almost identical to those reported in the Sourcebook's chapter entitled 'Environmental Education K-7 Curriculum Design in a small school':

#### Guiding principles of environmental education

Environmental education will involve the following principles:

- emphasising process rather than product;
- developing a commitment to maintaining and improving environmental quality i.e. education for the environment;
- encouraging integration of school subjects;
- stressing enquiry and discovery methods;
- providing opportunities for group work and group processes;
- providing opportunities for values education and values clarification;
- providing learning experiences in outdoor situations;
- utilising a range of learning environments (classroom, school-yard, local area, other areas);
- encouraging student planning and involvement.

Using the Sourcebook chapter's topic areas, and the K-7 grade levels as two axes, the teachers compiled a 'grid' into which they placed a range of activities of their own, chosen and sequenced with regard to the 'Guiding Principles' listed above. Fay and Judy incorporated activities from a range of sources, including the Environmental Education Project materials, the State Government's Science Curriculum Guides, and various commercially-produced booklets on the local flora, fauna and geography.

#### Teachers as disseminators

When the programme was completed, the teachers wrote a submission to the local education department inspectorate office applying for a grant to support the development of a resource kit for their programme. The application also requested funds for the organisation of an in-service for

colleagues within the teachers' own school, and for teachers from neighbouring schools. The submission was successful.

At the time of writing this paper, the school's environmental programme is in place in the infant department level (K-2), and the teachers have held a 'mini-inservice' for teaching colleagues at the school. A copy of the programme has been sent to the neighbouring schools, and requests have come back to Fay and Judy for a larger-scale inservice to involve representatives of those neighbouring schools.

The sequence of events in which Fay and Judy operated as school-based curriculum developers and disseminators can be represented in point form:

- Two teachers with similar attitudes of concern for the local environment gravitate to the infant grades in a rural elementary school;
- Their teaching setting is undergoing change at both administrative and curriculum levels;
- The teachers attend an extended inservice on environmental education;
- At this inservice they were introduced to a recently-published environmental education curriculum package;
- The teachers, together with a part-time outdoor education teacher, collaborate in developing an environmental programme based on a similar programme reported in the curriculum package encountered at the inservice, and which meets the needs and circumstances of their own school;
- The teachers forward a submission to their local education department inspectorate office, applying for a grant to develop a resource kit: a grant is awarded;
- The teachers hold an inservice for teachers within their own school on issues related to implementation of the programme;
- Copies of the programme are sent to neighbouring schools, who express an interest;
- The teachers plan a larger-scale inservice to accommodate the interests of staff of those neighbouring schools.

The efforts of Fay and Judy in school-based curriculum development and dissemination could be termed successful for at least the following reasons: the experience was an involving one, with the teachers able to control the course of events; a new programme was generated which recognised the needs and circumstances of the school, students and staff; immediate concrete improvements in the schoolgrounds were made possible; the school's range of resources was amplified; the teachers brought about a change in the school curriculum; and created the possibility for change in the curricula of neighbouring schools.

#### Reflections on the process

The value of the teachers' efforts exceeds the substantive gains outlined above: their experiences also inform the process of teacher involvement in curriculum change. Their experiences assist in the identification of constraints to, and conditions supportive of, teacher-initiated curriculum change.

Some of the constraints reported by the teachers in attempting to set their programme into place on a K-6 basis are associated with the qualitative differences between the infant department (K-2) setting and the middle and upper school settings. The infant department, under Fay and Judy's direction, has a curriculum based on themes; the rest of the school has a subject-based curriculum, with a subject-blocked timetable. The teachers in the middle and upper grades are long-term incumbents who value disciplinary knowledge above interdisciplinary experiences and who resist the more integrated quality of the new environmental programme. The question, 'Where does it (the new programme) slot in?' has been asked. The same teachers habitually assume a didactic teaching style which is at odds with the group-based, inquiry-oriented principles of the new programme.

Other constraints take the form of criticisms of the process of development of the programme. The teachers reported some complaints that the proper curriculum development procedure based on the formation of curriculum committees and featuring inputs from visiting curriculum experts was not followed.

It is more important, however, to consider what information the teachers' experiences provide about the conditions which tend to support teacher-initiated and teacher-mediated curriculum development and dissemination. Such conditions would seem to include at least the following:

- a general context of change within the school — in respect of administration, or staffing, or curriculum, or all three;
- a protracted period of attack on the issues and problems which arise;
- a personal commitment on the part of the teachers to the change in question;
- a collaborative or group attack on the problems and issues which arise;
- access to funds, through contact with granting bodies;
- a sense of freedom and willingness on the part of participants to identify and address issues and problems through their own practice, rather than relying on substantial inputs from visiting curriculum experts.

The benefits of the experience in school-based curriculum development and dissemination reported here are spreading only slowly. The principal benefits may be restricted largely to those participants directly involved — that is the two teachers who initiated the programme. There are signs, however, that the impact is more general: the rest of the school's curriculum is showing signs of change, with basic subjects being taught in the morning and 'themes' providing the organising principles in the afternoons. And the yet-to-be-held inservice for teachers from other schools holds the promise of widening ripples of change.

#### **Reference**

C.D.C. (1981) *Environmental Education: A Sourcebook for Primary Education*. Canberra: Curriculum Development Centre.