Education for Sustainable Development and Citizenship through Outdoor Education: Gardening as a focus

Peter Bloomfield  
Lately Senior Lecturer, Geography in Education  
University of Hertfordshire

Introduction

The geographical rationale for this research is embedded in the development of skills and the themes embracing the environment, citizenship and sustainable development, all integral to the national curriculum and Agenda 21. It focused on three primary schools in St Albans and was a partnership project between Hertfordshire County Council (HCC) Department of Environment (who funded the research) and the Department of Education at the University of Hertfordshire (UH). At a local level were the schools, and St Albans District Council (SADC).

The project had a number of aims. These were to investigate:

- whether through sustainability and citizenship 'growing activities' at Key Stages 1 and 2, the school can engage and involve the local community;
- whether sustainability and citizenship can be integrated into the current national curriculum without detracting from targets already in place;
- whether through these activities it is possible to maintain continuity in school and the community, post-project;
- the effect gardening has on children's motivation, values and attributes, self-esteem and general behaviour.

An additional aim was to engage final year teacher education students, following a B.Ed. degree at the University of Hertfordshire and taking a course in Education for Sustainable Development (ESD), in the planning and delivery of ESD through the gardening activities in the core curriculum in the three schools.

The project has been ongoing for over 3 years, has outlived its funding and is now in the post project stage identified above. It has been an eventful period and the research has not been straightforward.

http://www.geography.org.uk/eyprimary/primaryresearch/researcharticles/
Literature Review

Since the conception of this research, the rationale outlined in the introduction has come to appear rather dated. Initially, the rationale provided a clear foundation for the study, but thinking about ESD has moved on substantially in the past four years. The underpinning of ESD and citizenship in school has, or arguably should, move outwards from geography toward whole school thinking and policy, with geography an excellent vehicle for underpinning some of the finer detail. Thinking generally needs to be more holistic and embrace the statement in the national curriculum as to its 'values, aims and purposes':

Education is also a route to equality of opportunity for all, a healthy and just democracy, a productive economy and sustainable development (DfEE/QCA, 1999, 10).

Indeed, the argument for and role of ESD is set out in a full paragraph in the same document (DfES/QCA, 1999, 23). There is a clear mandate for its inclusion in the wider curriculum of the school.

But why gardening? Gardening is a practical, outdoor activity, which can provide creativity in any subject (Bloomfield, 2003a). It can also begin to provide children with alternative understandings of where food comes from at a time when, for them, most food seems to come directly from the supermarket. This 'reality' seems totally unsustainable. Gardening, as an approach, can engage children in the sustainability discussion.

Accepting that there is a need to develop, understand and teach ESD, Fein (2003) argues that ESD is not an extension of environmental education or an integration of development and environmental education, as others have stressed. He sees the debate moving into a second stage where ESD is a catalytic process for social change that seeks to foster- through education, training and public awareness - the values, behaviour and lifestyles required for a sustainable future (Fein, 2003, 3)

In attempting to make sense of this for the primary school teacher, it is useful to consider the components of ESD. The seven key concepts, presented by Sterling (2001) and outlined by QCA are:

- interdependence
- citizenship & stewardship
- needs and rights of future generations
- diversity; quality of life
- equity and justice
- sustainable change
- uncertainty and precaution in action.
These key concepts can underpin all the schools teaching, but it is useful to integrate them with ‘the three pillars of sustainable development’, society, environment and economy, as outlined by Harrison (2002) an advocate of an holistic approach to the future. The holistic model is a dominant theme taken by Sterling (2001, 11), where he argues for a transformation of all education. One strand to attain this, he says, is

Realization of a sustainable education paradigm requires vision, image, design and action – at all levels – from all concerned with achieving healthy societies and ecologically sustainable lifestyles.

He draws attention to the way in which education is preoccupied by assessment and asks: what is being assessed and how it is being assessed? Sterling is, in effect, posing the questions about what we do not assess, and argues that naming and shaming does nothing to develop reflective, critical thinkers, or responsible citizens. Teachers and children who engage in practical (gardening) activities can engage with the curriculum, in many subjects, reduce the stress from assessment and inspections and integrate good practice across the school, as did the schools in the research project. He continues by presenting five key success factors for sustaining change in schools by citing Symons:

- raising staff awareness of sustainability issues
- taking a whole school approach
- involving pupils in the decision-making processes
- increasing involvement with the broader community, and
- taking one step at a time (Sterling, 2001, 68).

These factors figure either in the aims of this research or in the process developed during the project. If the first point is deemed most important, and it may well be, perhaps not enough attention was paid to it throughout this project. Huckle (2003, 34), in an unpublished paper for the Teacher Training Agency, mentions this point when he writes, ‘Beyond a ‘converted minority’ there is limited awareness of ESD amongst teachers’. He continues, ‘but what good practice exists is more likely to be found in primary rather than secondary schools’ (34). Huckle also expresses concern at the ‘significant mismatch between ESD as an aim of the national curriculum and ESD as delivered in teacher education and school classrooms’ (33).

Built into the project was an expectation that children would become motivators of local and global citizenship (Clough and Holden, 2002; Young, 2002). They have a vested interest, as Hicks (2001, 2) states:

As children well know, their future adult life will greatly be affected by what is happening in the world today. It is important, therefore, for teachers and pupils to develop some sense of the current state of the world (where we are now) and also the future (where we want to be).
Given the links with environmental education, it is important to recognise why there is a need for ESD and to build on that foundation. Palmer et al (1996), in the extensive work on emergent environmentalism, and specifically on environmental cognition in young children, found that as children mature between the ages of four and seven, they are able to take a longer term view of issues and consequences and to make meaningful links between cause and effects problems. ... the research sample shows children to be active thinkers in the realm of environmental issues. (Palmer et al., 1996, 328)

ESD has moved through the political and academic agenda with great speed since the inception of this project. Many of the authors and researchers quoted here have contributed to current thinking and will, no doubt, have differing views on recent developments. In late 2003, Ofsted published Taking the first step forward ... towards an education for sustainable development: Good practice in primary and secondary schools (Ofsted, 2003). In the same month the DfES published its 'Sustainable Development Action Plan for Education and Skills' (DfES, 2003). These two documents could be taken to be a turning point in ESD and education as a whole if they are ‘followed through’. However, this presumes a radical change in thinking and, as Sterling (2001, 77) comments, ‘education for change is by definition a long-term process', which also presumes that all the parties involved want the same changes. He suggests change begins at a micro level, where 'the exchange you next have with a child or adult might be transformative immediately', as in his experiences of working with teachers on in-service courses. This perspective underpinned the model used in this research.

Research pathway and methods

From the outset a delicate balance existed between the 'real work' of the schools and the ESD/gardening research. The head teachers of the schools were committed to the project and were very supportive. They saw an opportunity to develop a vision of their school, backed by good pedagogic practice. At the outset they suggested that to monitor motivation and achievement, the Hertfordshire PSHE framework, which was already in existence, be used. This provided them with a known method of data collection.

The researcher played a multi-functional role in that the research and development project was framed as action research in the sense that the data was gathered at various points to develop the next stage, inform thinking about progress and move forward accordingly. The structure of the research was written into the funded agreement:

- UH convene meetings of lead teachers in schools to discuss methods and set targets.
- Schools to put procedures in place to meet targets.
- UH and HCC meet with schools to monitor progress.

http://www.geography.org.uk/eyprimary/primaryresearch/researcharticles/
• UH, HCC and school lead teachers to meet, share and process data and to assess whether targets have been met, problems and way forward.
• UH and HCC write report.

The methods of monitoring the research were agreed by the schools and set out in the project bid:
• teachers and researchers keeping diaries of events, feedback from children, parents and other participants;
• teachers keeping evidence of children's work (gardening, ESD & Citizenship);
• monitoring local press coverage;
• keeping records of numbers and categories of participants involved;
• keeping records to sessions taught, clubs attended, events, etc.

As 'research facilitator', the researcher's role included convening and facilitating meetings between the partners, setting targets for the schools, acting as go-between with the local council and HCC and contractors, schools and students and at times getting involved in the gardening with the children and teachers. It also involved setting up staff development visits, which were project funded. The meetings were rotated between the schools so that the participants could share ideas and support each other. This was all perceived as data collection.

In the final stages of the project interviews were held with children, teachers, parents, students and others who were involved. This proved to be a rich source of information and data. Children were given the option of completing a storyboard to illustrate how their learning had progressed or to enter into a dialogue with the researcher about the project. The children were quite articulate and relaxed about providing data. This was supported by some of their parents who also volunteered to be interviewed. They saw the process of recording their feelings as an important way of being involved and considered. Where possible, teachers were also interviewed, but less formally. A caretaker, who had taken a major role in the project, was also interviewed.

The researcher taught a lead-in session at one of the schools, attended the ‘Growing Schools’ conferences, and the teacher development visits to Spitalfields City Farm (Coriander Garden), London and Coombes School, Reading. The research has been summarised as 'work in progress' in several publications (Bloomfield, 2000, 2001, 2002, 2003a, 2003b, 2003c). The World Education Fellowship conference, in 2001, (a WEF event) established links between St Albans schools and township schools in South Africa who had gardening projects and the WEF conference, Mumbai 2004, allowed discussion of the transfer of intergenerational skills from this project.

Two themes emerged from the research, the data from the participants and the rewards and challenges of the research. These are the twin foci of the rest of this chapter.
**Research findings**

The research findings are presented as two distinct data sets, that from the perspective of the main school partners and that from the interviewed children and adults. Full data is appended to the HCC Report (Bloomfield, 2003c).

**Rewards and challenges**

Most of these data were abstracted from diaries and anecdotal evidence supplied by the schools, from evidence of children's work, and from links with the local and global community. The following emerged.

School 1

- Children have an overwhelming interest in the project. It had to accommodate twice as many as expected
- Less able children have realised that they too can make a vital contribution – something special. Some very co-operative work has been led by a child who is not especially liked.
- The school was awarded Beacon Status for 'Education for Sustainability' and 'Citizenship' and 'the outdoor classroom'.
- A teacher has been designated to oversee the above, including 'the plot'.

School 2

- Enthusiasm of Foundation Stage staff and children beginning to permeate to other teachers; 50% now enthusiastic.
- A group of parents and the Family Learning teacher showing interest despite not having a garden.
- Y4 particularly enjoyed their 'habitats' work with the UH students.
- Willow arbour extended to 'willow village'.
- Allotment plot prepared by St Albans District Council.
- Plans for school grounds, especially the allotment, drawn up by final year students at local F.E. College.
- Very strong, ongoing, links made with school in South Africa.

School 3

- Opportunity to visit other schools e.g. Coombes School.
- Group meetings, which give a focus and a target to the project.
- Having new equipment (e.g. digital camera).
- Having the allotment rotovated and laid out by SADC.
- A parent and the Caretaker very involved.
- Strawberries from allotment sold to pupils via the breakfast club.

http://www.geography.org.uk/eyprimary/primaryresearch/researcharticles/
• Teachers used the allotment during 'School Grounds Week'.
• School fully accepted by the 'allotment community', including 'Camphill Trust' who also have an allotment.
• Links established with South African school garden project.
• Teachers expressed interest in continuing allotment after retirement of Head Teacher.

All schools identified that the university students integrated gardens into the school plans for core subjects and shared these with the teachers. Written evidence was given regarding increased motivation and achievement especially with regard to the less able children, for example in School 1. In school 3 one child was so motivated by the allotment that his work in English (writing about the gardening) improved dramatically. A girl in year 5 was overheard saying that she could not miss school, to attend hospital, because "they're doing an ICT project about designing a shed for the allotment"!

Schools naturally saw the acquisition of new equipment (digital camera, tools, sheds, etc) as a positive outcome. The cameras were used in part to record progress of the project. All felt the meetings and the targets useful in progressing the work.

The schools also identified ways forward. All three saw the need to get more adults involved in maintenance of the plots and more teachers using them. They also wanted to get more children involved, but did not identify how this might be achieved. This raises the issue of whole school, or even class, curriculum involvement in the garden project.

**The interviews**

The following is a synopsis of the interview data.

**Children**

• Great fun, exciting way to learn, not really school;
• Acknowledged integration with the curriculum, mainly science;
• Recognised inter-generational links with parents and grandparents;
• Strong links between school and home gardens;
• Good to work together;
• Sense of achievement in growing and eating own produce.

**Teachers (one school)**

• 'Highly motivating for children.'
• 'We should not have to justify it in the curriculum, but we could.'
• 'It gives the children a sense of responsibility (citizenship).'
• 'It should be timetabled to allow each class gardening time each week.'
• 'It needs to be in the plans; teachers need to know when to include it in the curriculum.'
Parents

- Gardening should be developed with all classes; other children want to be involved.
- 'I'm sure that if asked lots of parents would help, and grandparents; there are a lot of them and they have lots of time!' 'Feeling you're helping, like a community thing'.
- 'He's very proud and tells us everything, far more than other school stuff. It helps his communication with other children'.
- It gives responsibility to the children for growing food.
- It's practical; helps children develop enthusiasm toward school.
- 'For the future we'd like the children to develop a holistic view of the world; develop life skills, environmental skills; it's the world isn't it?'

Students from University of Hertfordshire

- 'Teaching in the environment showed me just how much it inspired children and motivated them.'
- The ICT, English and Maths activities facilitated an 'awe and wonder of the world and local environment'.
- Benefits include real, concrete experiences to enhance learning and enjoyment. ESD and Citizenship need to be planned into all subject areas.
- The activity helped me plan and make cross-curricular links throughout the six areas of development in the Foundation Stage.

Caretaker

- Children see a different side of adults and get some benefits, the strawberries, for example.
- It develops better relationships in the whole school. There's a definite 'spin off' in school.
- It has developed positive relationships with other allotment holders.
- Children queue up for jobs, eg watering, at dinnertime. It's often 'scallywags' who come for jobs! Children become part of the school, develops a sense of belonging.
- Gardening is an adventure to the children.

In summary, these children found gardening fun, rewarding and part of the curriculum. The teachers saw it as motivating, and stated that it should be planned into curriculum and timetabled. The parents want their children to be involved, want to be involved themselves, and see it as developing important life skills. The students identified gardening as an excellent vehicle for motivation in core subjects and geography, as well as for fostering 'awe and wonder' from Foundation Stage to Year 6. The caretaker identified a strong citizenship and school ethos as outcomes.
Discussion

Rewards and challenges

The head teachers of the schools attended meetings, which were important arenas for sharing ideas and for detailed discussion. Indeed, these were often the only times when such involvement took place. The integration of the garden project into the curriculum, by the students in the summer term, was praised by the teachers as a positive step forward, and upheld the head teacher’s wishes for planning ESD into the curriculum. When teachers used one of the gardens (during School Grounds Week), both they and the children thoroughly enjoyed the experience. These are all outcomes that should be celebrated and encouraged.

All was not rosy though. It was unfortunate that the council sub-contractors failed to meet their targets for site preparation, since this de-motivated the staff and parents in one school, such that the project was deviated from the original direction. Equally unfortunate was the lack of take-up when it was suggested that each school had an excellent case to submit to the Best Practice Research Awards, with the majority of the work already completed and a university link in place. However, these examples may serve more to illustrate ‘researcher frustration’, than negative outcomes!

Realising that there was a willingness to tackle targets as set and negotiated with the researcher, further targets were set out in an interim report, ready for September 2002. These targets strove to delegate much of the responsibility for the project to the children by way of the school council:

- contacting the local community and press to celebrate their successes;
- contacting other local and South African schools to share and compare their work;
- using the school newsletter to get more parents involved and generally sharing responsibility for the projects.

The thinking was that the children should take greater ownership and responsibility for the project. New targets were negotiated in October 2002 between HCC and the head teachers, which resulted in visual and written action plans for future development.

The interviews

Data from the interviews was very positive, as is indicated above. The children and the parents interviewed were highly motivated and enthusiastic. The limitation is that only the children who had participated (and their parents) were interviewed and, therefore, it is not known what other pupils thought about what they saw happening. That aside, the teachers and student teachers were equally enthusiastic, and they were the ones who would implement visionary and future plans. They agreed that they could justify planning ESD, environment and citizenship, from geography, into and across the curriculum via gardening. Yet, the teachers did question whether they should have to justify this;
surely, they said, we should just be able to do it because we believe in it as a good pedagogic activity. The caretaker and parents also identified many other 'whole school' advantages.

In this context the key concepts of ESD, (e.g. citizenship, interdependence, rights and responsibilities) were seen to be of benefit to all and were deemed attainable. The parents identified this when in two schools they stated that parents and grandparents would help if asked and that parents enjoyed the allotment, giving them a feeling that they were helping the children in the community.

As in many educational situations, the project organisation, partnerships and action research formed a complex set of inter-related data. For the most part, these were identified with their origins. However, who can say whether the less able child who became motivated through being allowed a major role in a gardening activity would not have become motivated if given a lead part in a school play or responsibility in other extra-curricular areas? Only when projects such as these become more accepted (dare it be said, inspected?) will sufficient data be generated on which to base more specific conclusions.

Conclusion

The evidence collected has indicated many successful outcomes from the garden project. Whether teachers, and in particular, head teachers are yet ready or able to 'grasp the nettle' (to coin a gardening pun!) and develop curricula in such a way that underpins ESD as good geographical pedagogy and whole school thinking, is debatable. Using the expertise in schools and the motivation of the children to promote ESD and citizenship in the curriculum, through school based community gardens, may be too radical or simply too demanding in a climate of national strategies, core subject testing and league tables. However, the example of Coombes School (2003) is good evidence of what can be achieved in the state system if teacher vision and motivation are positive and lateral thinking is allowed expression. Maybe Excellence and Enjoyment: A strategy for primary schools (DfES, 2003a) provides just the vehicle to allow geography to bring projects such as this into core teaching.

In this project, it was often hard to define the researcher's 'role'. On one hand, it included facilitating and collecting data, on the other the 'wanting it to succeed', which was hard to suppress! The project is ongoing. This is work in progress, but much has been achieved and most of the aims of the project have been met. As Chairman Mao famously said, 'Every journey starts with the first step'. Considering the recent 'Sustainable Development Action Plan for Education and Skills' (DfES, 2003b) and 'Taking the first step forward ... towards an ESD' (Ofsted, 2003), there is good reason to suggest that these 'steps', and these schools, are already working toward the aims of both papers, and the UN decade of ESD.

References

http://www.geography.org.uk/eyprimary/primaryresearch/researcharticles/

Bloomfield, P. (2001), The root of success, Primary Geographer, 43, 26-27

Bloomfield, P. You are what you eat: the sources of food as a source of education for citizenship sustainability, New Era in Education, 83 (1), 8-22

Bloomfield, P. (2003a), Local, national and global citizenship, Education 3-13, 117 (3), 59-67


Bloomfield, P. (2003c), Report to Hertfordshire County Council, Forward Planning Unit, Environment Department, August, unpublished


Sterling S. (2001), Sustainable Education: Re-visioning Learning and Change, Dartington: Green Books Ltd.


In September 2007 How Dell Primary School, a brand new zero carbon emission building, was complete. It is designed to incorporate the latest elements of environmental sustainability and on-site renewable energy technologies. Read more and see the ESD curriculum plans at: http://www.thegrid.org.uk/leadership/sustainability/casestudies/documents/howe_dell_ecocurriculum.pdf Accessed August 2011.