AGENDA 21, EDUCATION FOR SUSTAINABILITY AND SCHOOL PARTNERSHIPS: Gardening, a case study

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Introduction
The essence of this article is the chronology and partnerships associated with the setting up of an allotment garden at Spencer Junior School, St Albans. References at the end expand the definitions, research, curriculum development and curriculum links. Agenda 21 and its local form, which schools link into, 'Local agenda 21' (LA21), are inextricably interwoven with Education for Sustainable Development (ESD), environmental studies and citizenship.

It is important for teachers to realise that Local councils and authorities have Environmental Officers who have a brief to work closely with schools, they also often have funds available to help with LA21, and school related projects. In this case study the district council and county council were both involved and of great help throughout. The study spans four years, the first two without funding from the county council.

**Agenda 21** Blue print for planet survival signed by 180 world leaders at the Earth Summit in Rio de Janeiro in 1992 and endorsed at the Johannesburg Earth Summit 2002, development delegated to local councils

**Education for Sustainable Development (ESD)** Seven key concepts to be integrated with whole school life and curriculum: Interdependence; Citizenship and Stewardship; Needs and rights of future generations; Diversity; Quality of life; Sustainable change; Uncertainty and precaution.
Partnerships as developed in the case study

**School level:** District Council, County Council, University of Hertfordshire, Dept of Education, Local FE College, Local Secondary school.

**Community:** residents association, garden groups, allotment groups, local church,

**Wider community:** Henry Doubleday Research Association (HDRA) Schools web site
www.hdra.org.uk/schools_organic_network/1_zone.htm

Royal Horticultural Society Education Department email: schools@rhs.org.uk

Links were also made with other local schools and township schools in South Africa

**Other useful links could be:** Learning Through Landscapes, Eco Schools, Groundwork Trust

**The Spencer Junior School allotment Progress 1999 - 2003**

**September 1999**
Head teacher and author discuss the idea of an allotment with respect to raising motivation and achievement across the whole curriculum, but with special attention to geography

**November 1999.**
Author teaches a session for year 3 (double entry, 50 children) which starts with 'Where does your food come from' good standard geography, (Bloomfield 2002) and ends with 'can we grow these fruit and vegetables here in St Albans?' Answer, 'Yes'. 'Would you like to grow them yourselves?' Answer from all 50,'Yessss!' Follow up work included map work to choose a good plot from those vacant and, when agreed, visiting the site (100m from school) to claim it. At this stage it is a Year 3 allotment and the District council are donating it free of charge. Two partnerships established, one with the University of Hertfordshire the other with the District Council.
Motivation and achievement were to be 'measured' by adopting the Hertfordshire PHSE framework and by teachers keeping a diary and evidence of learning from children's work.

**Spring 2000**
First cohort of Education for Sustainability students work on adapting school curriculum plans for core subjects and geography so that allotment is included as a resource in teaching and learning. Evidence for increased motivation was recorded. The main work on allotment was by the Head teacher with groups of children one afternoon a week. Parents were also involved.

http://www.geography.org.uk/eyprimary/primaryresearch/researcharticles/
April 2000
Visit from WWF hosted Chinese Education Delegation gathering data on Environmental Education. Minibeast and D&T projects observed on allotment, run by Education students. Also a three way 'Gardeners Question Time' arranged by school council, with panel of Experts (drawing upon the University, District Council and others), the Allotment Society and the Chinese delegation. Questions from the children included 'What grows best in this soil?' What should we plant now? What might children in China be planting? There was great appreciation from both visitors and the local press, which was highly motivating for the children. Similar projects established in other Hertfordshire schools.

Summer 2000
First harvests, many potatoes, (Primary Geographer 43, Jan 2001)

September 2000
Lots of children across the whole school have become interested in the allotment. Head Teacher claims to be 'mobbed by children when seen with a watering can' so the allotment is opened to the whole school and has groups of mixed ages working together on a rota system.

Spring /Summer 2001
The battle against perennial weeds; couch grass (stroll if you come from Devon or Cornwall!) bindweed and dock is too much for the children so mulching with carpet and straw is used to suppress weed growth, rather than spray. Greater range of crops planted. New group of Education students involved with planning, teaching and evaluating ESD on the allotment in the summer term.

September 2001
Crops harvested and some prepared and eaten in school, others taken home. The battle with weeds has been lost; they grew through the carpet! St Albans District Council agreed to rotovate and edge beds with wood and lay bark chipping paths. Work was completed over the winter. An experiment involving children scattering deep and shallow burrowing worms on different parts of the allotment (to monitor their activity in the soil), carried out in the rain, did not attract the attention of Ofsted who were currently visiting!

The other schools in the partnership include a nursery school, infant school and two JMI schools. Projects range from 'square foot gardening' (see HDRA web site) to reclaiming part of a walled garden and building a 'willow village'
Winter 2001

Hertfordshire County Council (HCC) offer funding to the three St Albans schools and the University in order to increase our aims to investigate whether the gardening can act as a vehicle to develop and encourage ESD and Citizenship in the local community. It also allows cash for cover so that teachers can visit other schools to view good practice (e.g. Coombes C of E Primary School, Arborfield, near Reading) develop their planning, purchase tools and disseminate good ideas. There are regular partnership meetings where targets are set and visions discussed. All partners attend meetings.

Spring / Summer 2002

The allotment has been prepared by the district council and the new beds allow the children easy access without trampling the soil. Competing demands for the head teacher's time has led to the allotment being run by an Allotment Club, twice a week after school. The caretaker and a small number of parents are regular helpers. The club attracts a wide range of ages and the largest ethnic mix of all school clubs. Different children attend each session, 32 per week.

Students were again involved. The regular shaped beds lend themselves to 'measure, shape and calculation' in one plane while vertical growth and seedling types examines the vertical in maths. Germination, growing and minibeasts are investigated in science and there is a wealth of language and written work, speaking and listening and persuasive writing in English. Students evaluated the work very positively and comments included:

- 'Working with children in the environment showed me just how much it inspired them and motivated them to produce excellent work
- The ICT, English and Maths activities facilitated an 'awe and wonder of the world' and local environment which would hopefully go on to engender a desire to sustain the environment'

Winter 2002

Winter becomes the 'closed season' nevertheless, children were able to contact schools in South African townships to compare their projects. One of the partner schools had a teacher work in a township school and this formed strong links between staff and children in the two countries. Electronic communication can be a problem so written work is encouraged. Winter is also a time for allotment planning and visions. The latter were part of the HCC mid term evaluation of the project.

Spring & Summer 2003

The school embraced 'School Grounds Week' and this enticed some teachers to use the allotment. Comments from teachers included:

- '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)
• Should be timetabled in so that each class had a short time gardening each week
• It needs to be in the plans; teachers need to know when to include it in the curriculum.'

The last comment links with the work of the students who do actually 'write ESD and allotment' into the school plans.

This term the crops produced were greater in variety and quantity. The children picked 'bucket loads' of strawberries. (3.5 buckets full to be exact) Some of these were eaten by children at the school 'Breakfast Club', others washed and distributed to the allotment club growers. They have also produced, runner beans, French beans, sweet corn, marrows, courgettes, potatoes, carrots, leeks, beetroot and herbs and planted gooseberry and blackcurrant bushes.

One problem is that many crops need watering and mature over the summer holiday. The Camphill Trust runs another allotment on the same site and they have agreed to maintain the school allotment during the summer holiday. It is generally taken for granted that the allotment is a school plot and the children are accepted as part of the allotment community; this meets the aims set by HCC.

Summary
There is plenty of evidence in this case study to suggest that including an allotment or garden into the school curriculum motivates children and helps them achieve. It also meets many LA21, ESD and Citizenship aims. Some of those are included in the comments above from students and teachers. There were also very positive comments from the children and parents.
Children
I think it's good because it's really healthy food and it helps in science
I think the allotment is fun; exciting, really exciting and creative. More fun than watching TV; makes you want to do the things they do on TV
You dig the soil to make it crumbly, not hard, to help the plants grow. Sometimes we take the stones out and we put sticks in to help plants grow up.
In the winter me and Miss G and Mr D planted seeds in school; we should do more work on gardening like we do science and geography and things'

Parents
'The allotment gives responsibility to the children for growing food followed through by eating
It's practical; very good to help children develop enthusiasm toward school
Parents enjoy the allotment, feeling you're helping the children, like a 'community thing'
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?'

The funding has ended and sadly the head teacher has had to retire due to ill health. The new head may have different priorities but some of the teachers and parents are enthusiastic to continue to include the allotment garden in the school curriculum, and the children would certainly support them.

References
Bloomfield P (1998a) 'Raising Awareness of Local Agenda 21' in: Scoffham S. (Ed), Research findings in primary geography, pp.34-35 Sheffield Geographical Association

Bloomfield P (1998b) 'The Challenge of Agenda 21 at KS 1, 2 & 3'. Geography 83 (359), pp.97-104 Sheffield Geographical Association,


Referred Websites

Henry Doubleday Research Association (HDRA) Schools
accessed August 2011

Royal Horticultural Society Campaign for School Gardening
http://www.rhs.org.uk/Children/For-schools  accessed August 2011


Further Reading


Literature review of Improving the Understanding of Food, Farming and Land Management Amongst School-Age Children:
http://www.dfes.gov.uk/research/data/uploadfiles/RR422b.pdf  Try the National Archive

A Review of Research on Outdoor Learning by NFER
accessed August 2011

http://www.growingschools.org.uk/AboutUs / accessed August 2011

The Growing Schools garden accessed August 2011
http://www.thegrowingschoolsgarden.org.uk / vision statement
http://www.thegrowingschoolsgarden.org.uk/explore-the-garden.htm interactive garden