Growing Kids who Care - Connecting School, Place and Planet

Sowing the Seeds of Place and Community Based Education in Scotland

Rebecca Boyd, Churchill Fellow 2010

'Place is really important. If you can get kids to bloom where they're planted and take ownership of the area around, they're going to be more likely to come back and be those good citizens that we need here in our communities. To give them a sense of place, pride in where they're from, we have to tap into the resources that are here', Melissa Radcliffe, Science Curriculum Head, Tillamook School District, Oregon

So what is education for? …
'To empower the next generation to collectively take responsibility for the world they inhabit…', Will Coleman, Carnegie Trust UK Ambassador for Place Based Learning.

'To give kids the creative energy to change the world', Tom Horn, principal, Kennedy School

Why is Place and Community Based Education essential for today's world?

Today's children need to be educated in a way that helps them shape the world they will inherit. They need the wisdom, skills and confidence to meet the many social, environmental and economic challenges and inequities facing the rapidly-changing planet. Place and Community Based Education (PCBE) is an approach to learning and teaching that creates caring people who can do this.

National educational initiatives like Scotland's Curriculum for Excellence and England's Sustainable Schools Framework have taken important steps in recognizing the importance of creating not only '*successful learners'* but also *'confident individuals, responsible citizens and effective contributors'*[1]. PCBE can support and complement these initiatives, showing practical ways of making these aspirations a reality.

These case-studies have been drawn together to share inspiring experiences of PCBE - a grassroots revolution taking root in the United States and elsewhere - with educators in Scotland.

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Professor Ray Barnhardt, University of Alaska, Fairbanks
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Tom Horn, Principal, Kennedy High School for Sustainability, Cottage Grove, Oregon
Mark and Kate Sorensen, The STAR School, Leupp, Arizona

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[1] Learning and Teaching Scotland 2010), Curriculum for Excellence; (DCSF 2008) National Framework for Sustainable Schools

What is Place and Community Based Education?

Place and Community Based Education also known as Place Based Education or Learning), is a rapidly expanding *grassroots* movement that nurtures care and responsibility for both the local environment and community and for the wider world. At its heart is the simple understanding that students of any age, given the confidence and the chance to make a difference to 'their Place', be it home, school or wider community, will feel connected and empowered. As they learn how to make a difference locally they will develop the skills, confidence, knowledge and wisdom they need to become good local and global citizens. It aims to be simple and inclusive, and to support and reinforce national educational initiatives for good citizenship and sustainability.

School-based learning that uses the local and familiar as the springboard for wider learning has immediate strengths. It adapts to local circumstances and is therefore both flexible and relevant. It bridges the social and environmental spectrum – advantaged and disadvantaged, urban and rural. It often has spectacular results, be it a school in an inner-city, in a rural area dependent on farming or fishing, a school for a marginalized social group or an indigenous population. Common elements of PCBE include[2]:

- **Learning and caring about Place** – Connecting and engaging students by using the local environment and culture as the starting point for learning and caring about the wider world
- **Responsible citizens** - Empowering students to make a difference in the local environment and community, creating caring local and global citizens
- **Active learners -** 'Real-world' problem-solving, so students create knowledge with teachers as guides and co-learners. Learning is often interdisciplinary.
- **Effective contributors** - Students' questions and concerns play a central role in determining what is studied and how.
- **School in Community -** Building two-way partnerships between the school and the wider community, including local organizations and business, and making the most of the 'outdoor' or 'community' classroom
- **Relevant for the real world** - Assessing school work not just on its competence, but also on its wider contribution to student growth, to the community and to sustainability

Evidence gathered over several years at hundreds of schools shows that this approach '*fosters students' connection to where they live, boosts student achievement, transforms school culture, energises teachers, creates vibrant partnerships between schools and communities and improves environmental, social, and economic vitality*' (PEEC, 2010).

[2] Adapted from Smith 2002); www.promiseofplace.org/what_is_pbe/principles_of_place_based_education; http://portfolio.ruraledu.org/main_principles.htm

Growing Kids who Care
Sunnyside Environmental School, Portland, Oregon

'This school makes you more confident and you get to try more things. The mixed classrooms in the middle school work really well. It is pretty fun actually because then the middle school is a bit like a family. (Eric 12)

The riot of colour and activity that is Sunnyside Environmental School, a mainstream school of around 550 five to fourteen year-olds from a range of backgrounds, makes it hard to believe that the warm red brick building set amongst neat vegetable and flower plots, bright murals and mosaics, is a only few blocks from Portland city centre. Inside, the atmosphere is happy, buoyant and relaxed, with a strong sense of a supportive community of confident individuals.

The principal, Sarah Taylor, started this 'ordinary' state school in 1995 to provide an education that, '*brings the beauty and magic of the natural world into the lives of children through an integrated, developmentally appropriate, art infused education. Creativity, love of learning, personal responsibility and family are the cornerstones of an education that celebrates the many overlapping environments of Portland. The city's wild and urban areas become sites for inquiry, exploration and understanding as children acquire personal and academic skills that lead to a satisfying life as thoughtful, active members of the larger community.'*

Literacy, numeracy and 'traditional' subjects are not taught in isolation, but integrated using Storyline[3] into learning about the local area under the curriculum themes of rivers, mountains and forests. In a 'river' year, for example, students might research an Oregon river and write its story through time, monitor pollution and water life at a local wetland for the Local Authority and organise a River Festival. Pupils grow, harvest and prepare all the food eaten in the school with the help of the school garden and a small nearby urban 'farm'. Food is used to strengthen the school community and learn about food sustainability, seasonal cycles and the rituals of other cultures. Students learn at first hand about social issues by identifying and tackling problems in the local community. Fundraising for the elderly or growing vegetables for the homeless are only two of many examples. Unstructured play, singing, dancing and art and a large amount of time outdoors in familiar 'Places' are considered vital for children's sense of 'Place' and belonging, and for their cognitive and social development.

The result is a school where care and respect for others underpin an exciting learning experience. One teacher, comparing this approach with more 'traditional' schools says, *'It's not more work it's just different. At other schools it's a lot about lesson plans and tests, correcting and scoring…here the activities are much more interactive and student-focused, the students lead on many issues and take a lot of responsibility. I think it's more interesting for the students, and more stimulating and fun for the teachers. The great thing is so many of the projects here are cross-disciplinary. It makes it much more interesting to teach.'* The students show great maturity and confidence – from a nursery level 'poetry slam' to extremely thought-provoking presentations by fourteen year-olds. At all levels the school seems to be succeeding in shaping individuals whose character, confidence, maturity and happiness owe much to a strong sense of 'their Place', what they belong to and the difference they make to it.

Taylor firmly believes that this transformation of school culture is possible on the state allowance for mainstream schools, although an active Parent Teachers Students Association raises funds for 'extras' like a part-time Sustainability Co-ordinator and two staff, who manage the school gardens.

[3] Storyline, which originated in Scotland, builds from the learner's existing knowledge and creates links with real world experience through stories, visual and dramatic arts. See www.storyline-scotland.com.

‘Citizen Science’
Tillamook School District, Oregon

'There is so much more to these projects – they have an economic angle and benefit the community and local industry. This way gives students something to have a passion and drive for. It takes them out of the textbook/classroom setting where you read the textbook, do the assignment and get the grade. This is something they’re passionate about. We’re passionate about an actual problem that we can take our knowledge and apply it and see actual results. This is a way for us to see right now the results and see how much education is important and what it can do.' (Todd Josi 18)

Since the late 1990s the six schools in Tillamook School District, a rural dairy farming area in western Oregon, have gained international recognition for their ‘citizen science’, an approach to teaching and learning based on problem-solving in the local environment and community. In 2010 alone Tillamook High School students won $230,000 worth of student scholarships to continue with their education, and presented their work at international sustainability expositions. Academic achievement in national tests has improved across the board, with students not naturally ‘academic’ now excelling and going on to further education.

Staff and middle-school students created Hoquarton Slough City Park on the site of an old lumber mill and city dump. It now boosts the local economy by providing canoeing opportunities on the adjoining river. Some of the School District’s most ‘at-risk’ young people now run an interpretative centre they helped the local authority set up on a major tourist route. Threatened by closure for the winter due to local authority funding cuts, the students chose to keep it running as a team. They now deliver educational programmes to visiting adults from around the world.

With the support of agriculture and science teachers Max Sherman and Melissa Radcliffe, and grant-writer Ed Armstrong, Tillamook High School has developed a world-leading Advanced Science programme. Students work closely with local business and other local partners to identify and solve common local challenges and teach science in local primary schools. Sherman incorporates hydroponics, micro-propagation, genetic research, soil sampling, and a small tissue culture lab into his classes. He and Radcliffe integrate as many subject areas into their classes as possible, integrating science with maths, creative arts, photography, and English.

Todd Josi (18) has identified solutions to pollution in a local stream and quickly put his knowledge into practice by joining the local Watershed Council. He says, *'It’s been a real eye-opener to me to be part of that. Basically what I’ve come to see is that people will change when they’re educated and made to understand why*'. Hayden Bush, son of a dairy farmer faced with high fuel prices, has extracted biodiesel from the invasive Scotch Broom and has forged a business partnership with the local Tillamook Creamery to extract bioethanol from waste whey.

Business funding has helped to equip the school with a field science trailer, an advanced science laboratory and a printer for scientific posters which the school shares with the community. Ed Armstrong and Hayden are part of a small outreach team that communicates the work Tillamook School District is doing to 12 School Districts in the surrounding area.

Turning Stragglers into Leaders
Kennedy School for Sustainability, Cottage Grove, Oregon

'I've been to all kinds of schools and this is best school I've been to. It's cool because you get to go out and do lots of great things, like growing stuff in the garden, forestry work, conservation. It changes the way you see things. There's a lot more respect here too, between us and the teachers.' (Morgan, 17)

The Al Kennedy Alternative High School in urban Cottage Grove, Oregon serves 75 'credit-deficient' students aged 15 to 18 who have struggled in mainstream school. In only two years principal Tom Horn has managed to transform a failing school with drug problems and high truancy to a place where drugs, discipline and truancy are no longer an issue, test results are improving and the atmosphere is buzzing with energy, enthusiasm and confidence.

Vital to this success is the school culture of care and respect. Horn has forged caring relationships with students and their families. Teachers teach the same class for a whole trimester to allow for relationship-building. Classes often begin and end with circle time showing appreciation for others. It is clear that the caring ethos within the school engenders care for the wider community and the wider world.

Kennedy sets out to help students from all backgrounds to, '*think, discuss, question and analyze, combine knowledge with goodness, and acquire the intellectual skills that ensure a love of learning and a lifelong commitment to helping others*.' Horn says, *'Kennedy represents a new way of thinking about education. It's project based, it's place based and it allows students to engage in constructive activities that relate specifically to real-world issues, around sustainability and around environmental issues that are affecting us all…it gives students the creative energy to change the world'.*

School activities revolve around five themes of sustainability - Agriculture, Architecture, Energy, Forests and Water. Within each theme there is a focus on practical problem solving, academic skills, and creating future employment opportunities. In the school garden, students learn to grow, harvest and preserve food, all of which goes to local families in need. Horn has helped students set up an apiary in partnership with a local business. Here they learn beekeeping and the importance of bees to world food supplies. To help improve the trailer-parks that house many of the schools' students, Horn enlisted University of Oregon students and a local architect to help students design a prototype affordable energy-efficient modular home. It is hoped that students will be involved in building prototypes, with potential business opportunities. Students have already considerable practical experience of sustainable building as part of a partnership with Aprovecho, a nearby research and education centre for sustainable technologies. The school's Forest and Field Initiative, in partnership with the US Forest Service and state agencies, involves students in a wide range of habitat conservation work to address local issues. Students also teach a range of topics at local elementary schools.

Both teachers and students find this approach stimulating and enjoyable. Kris, a teacher says, *'One of the reasons I really love teaching at Kennedy is the focus on sustainability. It's really important to be teaching material that's relevant…the reality is that the future that these kids have is going to be really different from what our lives look like right now'.*

Kennedy's problem-solving, project-based approach lends itself to partnerships with business and agencies, which help to fund the school's work. During the 2009-2010 academic year, for example, the school attracted approximately $700,000 to support its programmes and provide employment opportunities for its students.

Caring for the Sea
Oregon Institute of Marine Biology, Charleston, Oregon

'*It's good learning about the sea. We go out to the bay and find lots of animals. It's important that we know more about the sea and how to look after it so it will be healthy*.' (Grade 5 student)

Around 3500 children aged six to twelve from twelve schools on the south-west coast of Oregon have been learning to manage the marine resources on their doorstep as a result of a highly successful programme run by Jan Hodder and Trish Mace at the Oregon Institute of Marine Biology (OIMB). Nine graduate students are funded by the National Science Foundation not only to do research, but to become excellent communicators and educators in marine science.

In an area where many rural coastal communities rely on shellfish gathering and fishing to supplement often low incomes and some fisheries are in decline, it is important that marine life is managed wisely. What better way of achieving this than by growing a generation of young marine experts?

After a week's intensive training, the nine graduates teach at primary schools two days a week. They have created an imaginative incremental curriculum based on field-work and hands-on projects designed to help the children learn not only about marine life and sustainability but about critical scientific thinking. By Grade 6 each child has spent a year studying each marine habitat, from rocky and sandy shores, to estuaries, kelp forests, the open ocean and island ecosystems. Each one is able to survey and record local coastal species, is familiar with geology, colonization, seasonal and tidal changes, diversity and food webs, as well as the impacts of human activities like fishing, energy production and marine litter, and how to manage them.

In 2010, for example, one Grade 6 class (aged 12) wrote and produced a seabird guide and used it on a bird-spotting trip to nearby Coquille Point. They carried out repeat surveys of marine life on Cape Blanco beach, adding their results to OIMB records. A Grade 5 class (11) learned to identify zoo- and phytoplankton and found out about their role in ocean ecosystems. Grade 4 students were able to talk knowledgeably about why the hunting of sea otters has allowed sea urchins to decimate kelp forests, and how modern fisheries have affected marine biomass. At the annual OIMB Open House in May, children from all backgrounds and corners of the school district brought their parents to meet their favourite graduate student and see at first-hand what they had been learning.

The aim is that class teachers will gain the skills to carry on the programme themselves, with the support of the grade-based curricula, lesson plans and training materials that OIMB has provided on its website. OIMB can then focus on a similar programme aimed at local high school students.

Local fishermen are already managing Dungeness crab and Pink shrimp fisheries sustainably and are beginning discussions on marine protected areas. As a result of the OIMB programme, a generation of school children has become engaged, enthusiastic and knowledgeable about 'their' sea and how to manage it. They are already local citizens who give real hope for the future.

It's all about Relationships
The STAR School, Leupp, Navajo Nation, Arizona

'*helping our plant community is taking care of our Sh7m1 (mother earth) and we have heard that the trees, bushes, shrubs and plants are our mother earth's hair. We have to take care of her just like our own mothers.'* (Honoring our Native Plant Community)

The STAR (Service To All our Relations) School's vision is *to create a joyful learning community in which members develop the character, skills and attitudes for understanding themselves, living in balance and serving all our relations'*. Founded in 2001 by principal Mark Sorensen and his wife Kate, this wonderful off-grid, solar-powered charter[4] school in the Arizona desert serves 130 students aged four to fourteen, primarily from the Navajo Nation.

STAR is founded on sustainability, both cultural and environmental, and on the Navajo principle of K'e, echoed in modern sustainability thinking, that all things are inextricably related. Within the school curriculum this ethos is expressed as the 4 R's - Respect, Relationship, Responsibility and Reasoning. Learning about Place here is learning Navajo culture and values neglected by mainstream education and extended them to the wider world. Gaining self esteem from ones cultural identity is seen as a vital way of relating peacefully to others, regardless of ethnicity. Sorensen says, *' if you go very deep into your own Place you will come to universal values and you become aware of how to relate to people no matter where they come from...If you're not very sure of who you are that's when you tend to react violently.'*

Creating good relationships with others is built into the school reading programme, which rotates each year around six thematic units - identity/awareness, perspective taking, conflict resolution, social awareness, love and friendship, and freedom and democracy. The books chosen for each age group give a child's-eye view on the themes, and students discuss how to deal with real-world situations. A whole school art project involves creating colourful mosaics made from recycled ceramics of the Navajo clans represented within the school. Each student is able to introduce him or herself in Navajo by reciting his or her genealogy and Place of belonging. The older students have produced a booklet, *'Honoring our Native Plant Community'*, which addresses not only plant ecology and native lore, but a two-way relationship with man – for example how plants can be used as 'messengers' of climate change.

What Sorensen calls *'Sovereignty through Service'* is at the heart of learning about the 4 R's. In 2007 students received the Governor's Volunteer Service Award for the student-designed *'STAR School Learn and Serve Elder Help Project'*, which involved providing a range of help to Navajo elders, from home repairs to visiting nursing home residents. The youngest students do a weekly cleanup around the campus and a monthly trip to feed and entertain elders at a nursing home in Flagstaff.

Navajo peacemaking is an important element within the school community, and is at the interface of the school's role within the wider community. The *Navajo Peacemaking and Safe Schools Project* is a groundbreaking initiative aimed at reducing violence and truancy at five local native schools through a combination of the reading programme, service to others, and sports. Where problems have arisen it brings students together with professionals from mental health and law enforcement with the support of qualified community peacemakers. STAR students have scripted and are shooting a film on this process.

STAR's Place Based approach is clearly successful. Not only is it developing character and relearning old wisdom to apply to a global age, but it is also improving academic performance.

[4] A charter school is a state-mandated inclusive public school set up by private initiative. These tend to receive less state funding than mainstream schools but are expected to meet the same educational standards.

Old Skills for a New World
Alaska Rural Systemic Initiative AKRSI), Alaska

'*The depth of indigenous knowledge rooted in the long inhabitation of a particular place offers lessons that can benefit everyone, from educators to scientists, as we search for a more satisfying and sustainable way to live on this planet'* (Ray Barnhardt in Gruenewald and Smith 2008)

Between 1995 and 2005 the Alaska Rural Systemic Initiative AKRSI), affecting 287 schools and around 38,000 students across Alaska, set up an education system that integrates native knowledge and ways of learning into the mainstream, 'western' curriculum. The brainchild of Professor Ray Barnhardt from the University of Fairbanks, the Initiative has restored a sense of 'Place' and an awareness of environmental sustainability. It has also increased student achievement scores and the number of students going on to further education, particularly to study science, maths and engineering, and has reduced dropout rates (AKRSI, 2006). The lessons from AKRSI are relevant to any strong local cultural identity; in Scotland they could apply equally to gaelic, scandinavian or doric cultures.

Native Educator Associations led by Elders but with a broad mix of community members, draw up the core educational values for their region for example, respect for nature, responsibility, spirituality, compassion, honesty, caring and hard work), and help to oversee education. The Alaska Standards for Culturally Responsive Schools provide guidance for schools, parents and communities, while the Alaska Native Knowledge Network (ANKN) provides a hub for information sharing. Cultural camps and fairs provide practical training in native teaching and learning, and students can contribute their own research to a multi-media 'Cultural Atlas'. Particularly interesting is a spiral-shaped curriculum framework in which 12 core themes (eg outdoor survival, energy/ecology, health), are underpinned by curriculum resources for each of 12 age groups, rotating in an annual cycle. The resources are available on the ANKN website and have been aligned with state educational standards. There is a strong emphasis on the participation of the community in the education of its children, and on linking the local with the global. National funding for AKRSI ended after 12 years, but the initiatives it spawned have become self-sustaining, largely because of strong grassroots support.

'… We've tracked student performance in majors and have consistently demonstrated that students do better in standard academic terms if you start from something that they can relate to within their community and then work out. It's not creating a parochial outlook but rather a strategy for how you get to where you want to go using the local context to widen the curriculum and give it some meaning for the students.' (Ray Barnhardt, 29 July 2010 pers.comm)

Ray Barnhardt has also helped to develop two charter schools in Fairbanks with a strong Place and Community-Based focus. The Watershed school, a mixed school for ages 6 to14, aims to take students out into the 'community' and 'outdoor' classrooms at least 70% of the time. The Effie Kokrine school, for ages 13 to 20, with an early college element, is 95% Alaska native students, and builds a strong connection to the local environment. Both schools are fully subscribed, and have out-performed their counterparts in standard tests.

What difference does PCBE make?

Place and Community Based Education is growing successful learners, confident individuals, responsible citizens and effective contributors – all aspirations of Scotland's *Curriculum for Excellence*. It is also producing happy, healthy people, energising teachers, and helping to renew communities.

Positive results are well-evidenced by research, statistics and case-studies. The Place-Based Education Evaluation Collaborative PEEC, www.peecworks.org) has, for the past decade, collated international evidence on outcomes, and the success of the approach is reflected in its growth at grassroots level. Some of the most compelling evidence comes from talking to students and educators and seeing at first hand how their sense of 'Place' and their ability to have a real impact creates caring, motivated people.

A comprehensive evaluation of four large U.S. Place-Based programmes spanning 55 schools and surveying over a thousand students and teachers concluded that a PCBE approach improves the motivation and engagement of both pupils and teachers as well as academic achievement and school culture, increases the time pupils spend outdoors, creates a sense of belonging and place, and has a positive impact on environmental stewardship and community decision-making. (Duffin, 2004).

Successful learners

'S*uccessful learning is about getting students to take ownership of their learning and to do it in a way that really makes it stick for them. So we have a learning pyramid that shows how much kids can recall 24 hours after an activity. At the top of the pyramid, if you just lecture they will remember about 5% whereas as you move down the pyramid – group discussions, practice by doing, teaching others - that is authentic learning and they are remembering 80, 90, 95% of what they are doing. So if you can get them locked into a place where they are doing the learning for themselves rather than some sage on the stage telling them stuff, that's where it sticks*', (Melissa Radcliffe, Science Curriculum Head, Tillamook School District)

Evidence from 14 schools showed that students involved in programmes using the environment as an integrating concept (EIC) outperform their peers on standardized academic tests in 92% of comparisons (Hoody & Lieberman, 1998)

Tillamook High School students of all academic abilities now excel in all disciplines in national tests. Of the students who have been involved in Place-Based science projects in the last three years, 92% passed their maths test, 100% passed straight science and 90% passed English, significantly higher than the average 60% pass rate (Ed Armstrong 8 May 2010, pers.comm).

Case-studies of seven US schools that integrate learning around the environment found dramatic improvements in reading, maths, science and social studies, problem-solving, knowledge transfer and discipline. At the Hawley Environmental Elementary School in Milwaukee Wisconsin 100% of eight year-olds passed the state reading comprehension test, as compared with an average of only 25% in Milwaukee schools. At Isaac Dickson Elementary School in Asheville, North Carolina, ten year-olds achieved a remarkable 31 percentage point increase in maths achievement in just one year. (NEETF, 2000)

In 2006-2007 fewer than 5 percent of students at Kennedy School met or exceeded writing standards. By 2010, more than 33 percent met or exceeded writing standards. Between 2006-200 fewer than 5 percent met or exceeded maths standards; by 2010, that number increased to 19 percent (G.Smith, in press)

Students show more interest in learning when their programmes use the environment as a context for integrating maths, languages, social studies, science, and/or the arts (PEEC, 2010)

Confident individuals

'What I really like about this school is that it lets you be unique' (Manson 14 Sunnyside Environmental School)

'*We run into situations where the teacher doesn't know the answer. It gives us both the opportunity to work together to work through that problem and almost never does that fail. We'll find a way, whether it's the way we think or an entirely different outcome. In a lot of the science we do the teachers learn something on a daily basis. I'm studying to become a teacher, hoping to come back here to teach…'* (Hayden Bush 18, Tillamook HS)

*'This school makes you more confident and you get to try more things. The mixed classrooms in the middle school work really well. It is pretty fun actually because then the middle school is a bit like a family. (*Eric 12, Sunnyside Environmental School)

'Quickly the auditorium fills up and around 150 students aged 11 to 14 sit quietly, cross-legged on the floor while today's Meeting leader, Indigo, introduces Sara, the first of six 14 year-old speakers. Self-assured and eloquent, Sara talks about extrinsic and intrinsic motivation and why when she does her regular community work with the school, she focuses on 'making the world a better place'. I am impressed. There follow a series of thought-provoking presentations, including the courage required to live with separated parents, and 'how to change into your true self'. Each speaker is warmly supported by the listeners. I note down a few words which come to mind as I watch – Originality, Self Esteem, Community, Caring, Wisdom, Honesty, Confidence. Now I am not just impressed but challenged. Here are people, barely out of childhood, with more wisdom, confidence, awareness and self knowledge than I had at twice their age…' (R.Boyd, Sunnyside Environmental School, 7 May 2010).

Nine headteachers gave examples of how work on sustainability improved levels of commitment, engagement and performance on the part of their pupils. Some attributed this to the way that this work had extended the pupils' critical thinking skills. Schools also commented on how pupils were motivated by the realization that their efforts could lead to change. (Ofsted, 2009).

Responsible citizens, effective contributers… and renewed communities

'Kennedy has changed me a lot. I went from being somebody who didn't care about anything. I did whatever I wanted whenever I wanted. And I found a whole lot of respect and other things like people and your surroundings, everything. And I see beauty in little things and I care a lot more.' (Crystal, Kennedy School)

'Here they get life skills from this kind of learning, they are learning to be leaders and members of a community. Here they are so much more excited and involved about learning in a school where they are actually doing things…and they are taking their learning in their own hands, and really dealing with issues.' (Dylan, teacher Sunnyside Environmental School)

'…The pupils who were committed to sustainability in school tended to lead sustainable lives at home and there was increasing evidence of this leading to positive changes in their families' views and behaviour. The commitment, enthusiasm and initiative of young people were also a spur to members of the wider community to re-examine their own lifestyles…In 10 of the schools visited, an increased focus on education outside the classroom provided pupils with the chance to learn in a more practical way, and to appreciate why they needed to take care of the environment' (Ofsted, 2009)

Children in schools with a sustainability focus can make the greatest difference in building an ethic of care, and a more inclusive school and society when they are involved in practical, experiential and inquiry-based learning, creativity, have opportunities to take leadership roles and personal responsibility, and are able to develop skills and competencies, such as critical thinking, creative problem solving and leadership (Percy-Smith, 2009).

In a study of 40 schools, with 400 student and 250 teacher interviews, 96% of respondents reported that standards in EIC (environment as an integrating concept) programs developed higher critical thinking skills than their peers in traditional programs…97% showed greater proficiency in problem-solving and strategic thinking. 89% showed better application of systems thinking. (Hoody & Lieberman, 1998).

Research from the sustainable schools movement in England, which focuses on expanding the school experience to active involvement in the environment and community, points to evidence of raised academic standards, better behaviour, attendance, motivation, health, well-being and participation, more environmentally-responsible action and community cohesion (DCSF, 2010).

'Attendance rates of kids that live in the community have improved – now 91% of the kids are here, whereas when we started it was 23%. So there's trust that what we're doing here is meaningful and going to help them. Most of those community members come here for the food baskets, for food. So we represent to them some good resources and they help in the garden and they help farm and they do all these other parts of Kennedy. When I ride by the trailer park I know 75% of the people now. And so there's this trust that is there now that wasn't there previously. That seems like a little thing but what its starting to do - is that it's starting to dispel some of the mythology of these places to the rest of the community because they know something really cool is going to happen in Saganow trailer park. There is going to be a huge garden site…when people show up they are not just showing up to do charity work for this thing, they are doing something that is helpful for a school, its educational, its helping kids and so its shifting the paradigm of how the community members think about their own community and how they think about other people thinking about their own community.' (Tom Horn, principal Kennedy School)

Happy, healthy people, stimulated teachers…

*'At other schools it's a lot about lesson plans and tests, correcting and scoring and just so much more rigid. And here the activities that are planned are much more interactive and student-focused, the students lead on many issues and take a lot of responsibility. I think it's more interesting for the students, and more stimulating and fun for the teachers, very much so.' (*Dylan, teacher, Sunnyside Environmental School)

*The river theme is a lot more fun than learning subjects separately because I love art and when we do themes I get to do more art because we have to illustrate our own river book and if I went to a different school it wouldn't be so creative. (*Emily 11, Sunnyside Environmental School)

'What makes Kennedy really special for me is seeing kids that have all sorts of problems that they are dealing with come alive. They come alive because we provide so many avenues that they can explore – we have gardening, art, music, green building, we have have all sorts of things – it's a place for anybody to find what they can do and that is really powerful for them to be self-directed and find their own niche' (Grace, art teacher, Kennedy school).

Research amply illustrates the importance of environmental experience and contact with nature during childhood to promote children's physical and mental health and wellbeing. (Frumkin, 2001; Louv, 2004).

'I've been to all kinds of schools and this is best school I've been to. It's cool because you get to go out and do lots of great things, like growing stuff in the garden, forestry work, environmental work. It changes the way you see things. There's a lot more respect here too, between us and the teachers.' (Morgan 17, Kennedy School).

'…being a student in classroom with difficult kids like that – you never see them act better than when they are using their hands. In one of our classes we had a couple of real trouble makers and we started a school science project and they were the ones that foremanned it – they were in charge of it and they did most of the work. So for the weeks of that project we didn't have any problems with those kids.', (Hayden 18, Tillamook HS)

'95% of educators at all 40 study schools described consistent and significant growth in their enthusiasm and commitment to teaching after their school implemented an EIC (environment as an integrating concept) programs' (Hoody & Lieberman, 1998).

Sowing Seeds in Scotland

A Place and Community Based approach can be transformative for students and teachers, schools and communities. Making this approach work means taking a fresh look at the school community, the wider community and the environment and working out how they can best support each other. Change takes time. Before a school can create a curriculum based on Place or adapt learning to individual student needs, there needs to be a healthy physical and social learning environment, with good relationships between educators, administrators and students[5].

Here are some pointers drawn from the experiences of real schools, students and teachers to help plant the seeds of Place in new school communities[6].

1 - Learning and caring about Place – Connecting and engaging students by using the local environment and culture as the starting point for learning and caring about the wider world

- Develop an inclusive and caring school ethos and culture, encouraging the school community – parents, teachers and students – to feel listened to, cared for, involved, respected and valued.
- Ground the whole school vision in sustainability – starting with the local Place and community and extending to the wider world – sharing ownership for building the school's identity with staff and students
- Leadership styles that involve shared planning, good communication and the active involvement of the school leader in teaching and school activities can help support a 'culture of care'.
- Nurture students' sense of Place by allowing plenty of opportunity for unstructured play or quiet time in a familiar natural 'Place'.
- Give teachers adequate support, resources, planning time, training and flexibility to develop their own teaching practices around Place.

2 - Responsible citizens - Empowering students to make a difference in the local environment and community, creating caring local and global citizens

- Encourage the development of links between students and local representatives, charities and businesses to help identify manageable projects where students can have a real impact.
- Give students plenty of time and opportunity within the curriculum framework to experience and work in the wider community.
- Encourage students to contribute to the development of community service provision, for example by encouraging markets for local food, helping disadvantaged groups etc.
- Build links with schools and communities in contrasting localities at home or abroad to raise awareness of diversity and global issues.

3 - Active learners - 'Real-world' problem-solving, so students create knowledge with teachers as guides and co-learners. Learning is often interdisciplinary.

- Use themes and action-based projects to make connections across subjects and issues, and link classwork into both the school community and into learning in the local environment and community.
- Collaborative planning of the curriculum framework is needed, particularly at secondary level, to find the most effective synergies and projects and avoid duplication. Allow teachers to help design the curriculum.
- Encourage 'whole school' learning that involves all students across all ages and classes. One way of doing this is to adopt an annual 'theme', for example, forests, rivers and mountains.
- Encourage students to learn by doing and be 'creators' of knowledge, with the teacher as a guide and co-learner who may not have all the 'answers'.

[5] See 'Changing Schools to Embrace the Local, in Smith & Sobel (2010), pp.150-155.
[6] Additional helpful introductory material and practical examples can be found at www.promiseofplace.org

- Action-based and creative arts projects can increase student participation and create more engagement and 'ownership', as well as developing skills in strategic and critical thinking and problem-solving.

4 - Effective contributors - Students' questions and concerns play a central role in determining what is studied and how.

- Make students' concerns and questions central to the learning agenda, helping them to identify issues they wish to address.
- Involve students in supporting the school community, including fundraising, and ensure that their contribution can make a real impact.

5 – School in community - Building two-way partnerships between the school and the wider community, including local organizations and business, and making the most of the 'outdoor' or 'community' classroom

- Be ambitious and outward-looking - use the local environment and community as hands-on learning resources and encourage parents, community organizations and businesses to bring their issues to the school.
- Make the school a model for a sustainable community that can act as a learning hub and role model for the wider community
- Take students out into local wild places and community venues as well as inviting community members into the school.

6 - Relevant for the real world - Assessing school work not just on its competence, but also on its wider contribution to student growth, to the community and to sustainability

- Make use of a range of assessment methods. Materials on documenting and assessing Place Based Learning by The Rural School and Community Trust are a helpful source.
- Encourage community organizations and parents to contribute to assessment – what difference has the school made to them?

Sarah Taylor's top first steps (Sunnyside Environmental School)

1. Choose one State Standard and ask each member of staff to find something outside within walking distance of the school - either in the environment or the community - that they could use to teach that Standard.
2. Run staff meetings in a circle and start to model the sort of inclusive, respectful, listening and caring behaviour you would like to see underpinning the school.
3. Run school morning meetings until other staff feel able to play a role, again setting an example through your own approach to staff and students.
4. Create a garden plot and get the whole school involved in it.
5. Find a service learning project in the community that the whole school can participate in and celebrate the positive results from.
6. End each day - whether at class or whole school scale - with compliments

Tom Horn's top first steps (Kennedy High School)

1. Choose an achievable project that will have a tangible positive effect on the entire community
2. Divide the project into academic domains (language, arts, maths, social science etc) and into phases, so it is clear which academic areas will be addressed at which point
3. The caring culture begins with the principal. He/she should be hands-on, eg teaching class to give staff preparation time.
4. Where possible, a class should have one dedicated teacher to give time to forge relationships
5. Begin and end each class/day with circle time for expectations/appreciations

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Annex 1

Essays from the Blog http://pbechurchillfellowship.org

1. Underway

On 26 April I, with Tom, my husband and Freya and Kai, my two children, arrived in San Francisco. After a couple of days sorting out transport we made our way northwards 800 miles to Portland, following the wild Pacific coast through northern California...

We were on a voyage of discovery - I to learn about Place-Based Education - a way of teaching and learning that creates happy, confident students who love learning, know a lot about where they belong, and have a keen awareness of and responsibility for their community and the environment.

Roll forward to 6 May, when I have my first PBE meeting - an interview with Professor Greg Smith of Lewis and Clark University in Portland, Oregon. What a fascinating and enthusiastic man! He is one of the founders and key proponents of PBE in the U.S. His efforts have planted the seeds of PBE in many schools and communities across the States. The accounts in his books and during the interview point clearly to the success of the PBE approach and to its continuing grassroots growth. For example he speaks eloquently about Tom Horn at the AL Kennedy Alternative School for credit-deficient students, which bases its curricular framework around five elements of sustainability - forestry, agriculture, energy, architecture and community, and takes a practical, problem-led approach to learning. The result is more engaged and much better educated students. There are many such examples of success. Yet it remains the case that, at State and Federal level, what is considered 'real' school continues to focus on national economic goals and takes a market-based tests and standards approach to education. PBE schools that aim to grow enthusiastic and engaged students with a strong knowledge of the area they belong to, and active participation in local and global social and environmental issues, remain a minority, albeit an organically growing one.

2. Sunnyside Environmental School

On Friday 7 May, forgetting about the UK election results, I spend a fantastic day at

Sunnyside Environmental School in Portland. What a riot of colour and interest. Although this is a 'public' or state school, the principal Sarah Taylor, has created a learning environment where life revolves around the seasons, breaking down the artificial barriers between the school, the local community and the natural environment. The curriculum framework involves students aged 6 to 14 in the communal rituals of growing, preparing and eating food, in 'service-learning', or working in the community to solve problems the students have identified, and in plenty of outdoor time to play, to learn about 'real' life and to be. The curriculum framework is built around mountains, forests and rivers - everything is taught through the natural world. I am so impressed by the confidence, level of awareness and maturity of the students, but most of all by their wisdom.

Although Sunnyside is only a few blocks from the centre of the city the small plots of garden around the school contain everything from potatoes for the kitchen to medicinal herbs to gorgeous flowers. There is even a chicken coop to provide fresh eggs.

There is student artwork and colour wherever you look - inside and out. While I am there there is a 'poetry slam', in which 6 year olds read out their beautifully-illustrated poems, then have a celebration with school-cooked food. The whole atmosphere is one of a close-knit supportive community where life is an enriching experience and everyone is valued.

It is a beautiful day, so I chat to the principal outside, while watching a maths class practising long division in chalk on the pavement.

It is certainly a far cry from the grey, hectoring school I attended in Scotland, where joy, individuality and ideas were soon lost without trace in a quagmire of tests and uniformity. It's also a couple of important steps on from what we know in Scotland as 'environmental education'. Once again it is hard to believe that Sunnyside, despite its good test standards in literacy and numeracy, is considered non-conformist and strange by the District and State school authorites, who seem only vaguely aware of what the school actually does.

3. Living with the Ocean

On the south-west coast of Oregon a small town called Charleston is tucked against a busy dockside lined with fishing and tourist boats. The Oregon Institute of Marine Biology has its base here, in a campus of attractive traditional buildings covered in sun-bleached wooden shakes. I'm here to see OIMB's amazing track record for bringing the local marine environment to life for local children.

For the past six years a National Science Foundation grant has meant that nine OIMB graduate students a year have been teaching marine biology two days a week in twelve local schools to Grades K-6 (ages 6 to 12), reaching around 3500 students. The result? - a generation of schools and teachers with an excellent knowledge of the sea life at their doorstep, what it looks like, how it works, and the issues and challenges it faces. On the way they learn to think like scientists and are familiar with microscopes, hypotheses, moon phases and zoea. The curriculum framework is cleverly arranged by habitat, with Grade 1 studying rocky shores, Grade 2 sandy shores, Grade 3 estuaries, Grade 4 kelp forests, Grade 5 the open ocean and Grade 6 drawing all they have learned together with the study of islands.

It's 11 May and I am with Josh Lord, a second year grad student who works on the biology of gumboot chitons when he is not teaching. Our first class of 11 and 12 year-olds at Driftwood School, Great Orford, is getting ready for a seabird field trip today and a rocky shores field trip next week, where the students will compare the shore diversity with an early spring trip to the same spot. They have worked with Josh to produce an excellent seabird field guide for today's trip, complete with illustrations and facts on the key species they have researched. They are obviously very proud of it, and have become good at bird ID. Their class discussion shows that they are not only enthusiastic but very knowledgeable about marine ecosystems.

Our next class of 10 and 11 year olds is studying plankton today. They peer through their microscopes, identifying diatoms, copepods and crab megalopa, and Josh talks to them about how some plankton use spikes to deter microscopic predators.

Next it is time for a visit with the Grade 6s to a bird rehabilitation centre, then enthusiastic seabird spotting at Coquille Point through a line of telescopes.

There is just time to get back to OIMB for 5pm and the annual Open House. Is is impressive to see up to 500 elementary students bring their families to see what sort of research their revered grad students are doing, and to introduce their parents to marine biology. Some of the Driftwood School pupils have a table of their own to show off a project they have done on the history and natural history of their local estuary.

Trish Mace, the OIMB GK-12 Programme Co-ordinator, says that the programme benefits everyone. 'The elementary students and teachers learn about their local patch of sea and benefit from OIMB's scientific expertise and equipment, the grad students learn the invaluable skill of communicating complex science, and there is much better awareness of the work of OIMB and of marine stewardship issues across the whole community.' She stresses the strong emphasis on place - building links between local marine life and the local community.

The plan is to make this programme self-sustaining next year, with class teachers taking over from the grad students. To help this work, lesson plans, field trips, powerpoints and other teaching aides are being organised onto DVDs for easy use by teachers. It is hoped that a further round of funding next year can target local High Schools.

4. Mud and Skunk Cabbage

m up to my boots in mud on Bandon Marsh, south of Charleston. The Shorebird Sister School Programme is run by the US Fish and Wildlife Service to inspire shorebird and habitat conservation. In this area it brings over 800 local 10-12 year-olds to the shore after four lead-up classroom sessions. Here we are looking at some of the invertebrates we have dug up in the mud to see what different shorebirds eat. Chatting to the kids I find out that they have been working on bird identification, adaptation and the threats they face.

I am very lucky to spend the afternoon with Tom Gaskill, who has been the Education Program Coordinator at South Slough National Estuarine Research Reserve for 15 years. We have a very interesting discussion as we walk through the beautiful wetlands and forests of this 4,800 acre natural area in the Coos estuary, set up in 1974 to protect

estuarine habitats for long-term research, education, and coastal stewardship. The team at South Slough runs a very active schools outreach programme, including involving students in Google Earth mapping using data collected in the field and in the development of restoration programmes. They are currently working with OIMB, Hatfield Marine Science Center and North West Aquatic and Marine Educators to develop modules on watershed, estuarine and marine environmental education. Tom himself is on a Task Force which is building environmental literacy standards into State Education.

The week at Charleston ends with a lovely meal with Professor Jan Hodder, OIMB Academic Co-ordinator and her husband Mike Graybill, who manages the South Slough NERR. Trish Mace from OIMB and her son Ian are also there. Over a couple of glasses of wine we talk around Oregon's environmental affairs and, at least as important, enjoy excellent company.

5. Tillamook and 'citizen science'

On 8th May I meet Ed Armstrong, grant writer for Tillamook School District, outside Tillamook High School in north-west Oregon. I'm here to find out about the amazing work Ed and others have been doing in connecting the six schools in the Tillamook School District with their community and with School Districts State-wide.

Ed's background is as a biology teacher at Tillamook HS from 1995-2000 when the school was one of 25 national Annenburg Schools for science. He returned after a break in 2004 to become grant writer for the entire School District, and, using this wider influence and the $6m of grants he has secured, has been at the centre of a small revolution in science teaching in Tillamook which has been internationally recognised.

He says, *'Its really about relationships. It's a long-term process. It's not 'speed-dating'. It's about how different classes interweave into the community.'* With the support of Bruce Rhodes, the THS Principal, Clair Thomas, the co-ordinator of the Natural Science Program since 2005, and staff like biology teacher Melissa Radcliffe and agriculture teacher Max Sherman, Ed has nurtured an approach to teaching and learning which is based on 'citizen science' - problem-solving within the immediate environment and local community.

He takes me to Hoquarton Slough City Park, which staff and middle-school students have created from scratch on the site of an old lumber mill and city dump. It now boosts the local economy by providing canoeing opportunities on the adjoining river.

He tells the story of how some of the School District 'at-risk' kids are running the interpretative center on Hwy 6. *'It's a beautiful center. It would have shut down for the winter due to the Oregon budget situation but our kids kept it running – that was their project as a team. They are delivering educational programmes to adults from all over the State and really from all over the world...'*

We visit South Prairie Elementary School, who have a large area of wild land next to the school and a small salmon hatchery which they use for environmental education.

But it is the High School Advanced Science program that impresses me most. Hayden, Tod and Christa, all 12th Graders about to graduate, describe some of their science projects, with the help of the professional-quality scientific posters they have produced using school equipment. Christa has extracted taxols (a group of chemicals used in cancer treatment) from artichoke roots grown in hydroponic systems. Tod has assessed the causes of and solutions to pollution in the creek running behind the school. He has just joined the local Watershed Council. He says, 'It's been a real eye-opener to me to be part of that. Basically what I've come to see is that people will change when they're educated and made to understand why'. Hayden, a dairy farmer himself faced with high fuel prices, has extracted biodiesel from the invasive Scotch Broom. Other projects include investigating the salt tolerance of invasive New Zealand snails, extracting bioethanol from waste whey from Tillamook Creamery and using rods to grow diatoms used in biofuel production. The common theme of all these projects is that they work closely with local business and other local partners to identify and solve common local challenges.

The seniors make use of a science trailer, fitted out with the latest field science equipment, both for their own field work and when they themselves teach science at the local elementary schools. The school has an Advanced Science laboratory with University-level equipment which THS students use for their projects.

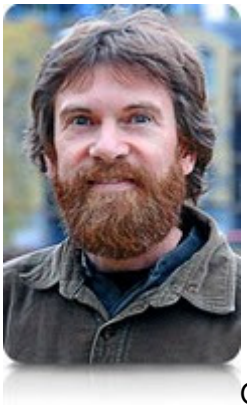
I chat with Melissa Radcliffe, whose approach to teaching and learning has helped to shape the school's science programme. She says, *'We are creating thoughtful people. When I look at my students I think of them in the context of future voters and future parents. Which means they have to be able to look at the world around them and make good decisions based on 'the data' that they have – to cut through the superfluous stuff and see the facts*'. She believes in the importance of linking students to the place in which they live - *'Place is really important. If you can get kids to bloom where they're planted and take ownership of the area around, they're going to be more likely to come back and be those good citizens that we need here in our communities. Giving them a sense of place, pride in where they're from we have to tap into the resources that are here. We use the creamery, forestry areas, the local stream for water quality testing and restoration. That's been an ongoing process. So by using the place in our stream as the living laboratory, they collect real data, do real analysis and know that they are going to present their findings to a local Watershed Council. So they go and present their findings, which means its real. So when we go out there they have to do it well.*' Melissa Radcliffe is about to become head of science curriculum for the entire school district, which certainly bodes well for the future of Place Based Education at Tillamook.

Max Sherman teaches Basic and Advanced Agriculture, Welding, and Plant Science (Biology). The facility includes a greenhouse, a small computer lab for research, classroom, and a large shop area. Max incorporates metal art, hydroponics, micro-propagation, genetic research, soil sampling, and a small tissue culture lab into his classes. He tries to integrate as many content areas into his classes as possible; students actively integrate agriculture with mathematics, art, photography, and English. Sherman prioritises project-based work because he believes *'it allows students to express themselves, have successes, and a chance for integration of the concepts.*' As a result of doing relevant projects, he says students see how they can apply their knowledge to their future.

Ed makes the point that this problem-based, hands-on approach encourages students who are not naturally academic to excel, and that it has improved results across all disciplines in the national standardised tests. Of the 40 or so students who have been involved in these projects in the last three years, 92% of them passed their math test, 100% passed straight science and 90% passed English, way above most High Schools, and bringing the Tillamook HS average to 60%.

This year alone Tillamook HS students have brought $230,000 worth of student scholarships to continue with their education. Tod and Hayden are heading for Oregon State University. In early June some of the school's pupils are about to take their projects to Amsterdam to participate in the International Environment and Scientific Project Olympiad. Ed and Hayden are part of a small outreach team that communicates the work Tillamook School District is doing to 12 School Districts in the surrounding area. In fact Ed is on his way to Seattle for a two day presentation of Tillamook SD's work.The last word goes to Tod - *'There is so much more to these projects – they have an economic angle and benefit the community and local industry. This way gives students something to have a passion and drive for. It takes them out of the textbook/classroom setting where you read the textbook, do the assignment and get the grade. This is something they're passionate about. We're passionate about an actual problem that we can take our knowledge and apply it and see actual results. This is a way for us to see right now the results and see how much education is important and what it can do*.'

6. Washington State University



On 14th June my family and I leave Oregon and head north to Washington where I am to visit with Professor David Greenwood from the Department of Teaching and Learning at Washington State University. We meet at his home in Palouse and talk about his work over a cup of tea in the garden.

David sees Place-Based Education, like the Sustainability movement, as much as a social movement linking social and environmental justice as an educational one. He has described the 'critical pedagogy' or framework underlying it as ' *learning to perceive social, political and economic contradictions and to take action against the oppressive elements of reality'* (DG, 2003, The best of both worlds: a critical pedagogy of Place. Educational Researcher, 32, 4 p.5). He is currently developing Place-Based teaching practices within WSU, building a network of interested faculty members.

David believes that it is important to view PBE within schools as a process quite distinct from a standardised testing approach, rather than trying to integrate PBE into the achievement of mainstream test results. He sees one of PBE's main goals as expanding the landscape of learning opportunities among and between students, educators and community members, providing real experience of diversity and social and environmental issues not available within most school walls. While he believes strongly that PBE should grow from the grassroots through developing networks and relationships, he sees an important complementary role for top-down policy. In Washington State, as a result of advocacy by David and others, the language of Place has recently become part of the educational policy mainstream. All teacher educator programs have to demonstrate that they have taken account of citizenship and ecological sustainability, and teachers can take an special qualification in environmental sustainability education, including place-based and local enquiry.

Although he has concerns about the strong links between corporate America and mainstream education system, he is optimistic about the continuing growth of Place-based Education. After a delicious supper, plenty of playing between his children and ours, and some great music, I leave feeling equally optimistic.

PS. David is now at Lakehead University, Thunder Bay, Ontario

7. Old Skills for a New World

On 29th July I am lucky to spend a couple of hours interviewing Professor Ray Barnhardt, from the University of Alaska in Fairbanks, on a skype connection. This visionary man has spent much of his career giving a place to indigenous knowledge and skills in the modern Alaskan American education system. As he says, *'The depth of indigenous knowledge rooted in the long inhabitation of a particular place offers lessons that can benefit everyone, from educators to scientists, as we search for a more satisfying and sustainable way to live on this planet'* (Ray Barnhardt in Gruenewald and Smith, Place-Based Education in the Global Age, 2008)

Between 1995 and 2005 the Alaska Rural Systemic Initiative (AKRSI), affecting 287 schools and around 38,000 students across Alaska, set up an education system that integrates native knowledge and ways of learning into the mainstream, 'western' curriculum. The brainchild of Professor Barnhardt, the Initiative has restored a sense of 'Place' and an awareness of environmental sustainability. It has also increased student achievement scores and the number of students going on to further education, particularly to study science, maths and engineering, and has reduced dropout rates.
Native Educator Associations led by Elders but with a broad mix of community members, draw up the core educational values for their region (for example, respect for nature, responsibility, spirituality, compassion, honesty, caring and hard work), and help to oversee education. The Alaska Standards for Culturally Responsive Schools provide guidance for schools, parents and communities, while the Alaska Native Knowledge Network (ANKN) provides a hub for information sharing. Cultural camps and fairs provide practical training in native teaching and learning, and students can contribute their own research to a multi-media 'Cultural Atlas'. Particularly interesting is a spiral-shaped curriculum framework in which 12 core themes (eg outdoor survival, energy/ecology, health), are underpinned by curriculum resources for each of 12 age groups, rotating in an annual cycle. The resources are available on the ANKN website and have been aligned with State educational standards. There is a strong emphasis on the participation of the community in the education of its children, and on linking the local with the global. National funding for AKRSI ended after 12 years, but the initiatives it spawned have become self-sustaining, largely because of strong grassroots support.

As Professor Barnhardt says during the interview, *'… We've tracked student performance in majors and have consistently demonstrated that students do better in standard academic terms if you start from something that they can relate to within their community and then work out. It's not creating a parochial outlook but rather a strategy for how you get to where you want to go using the local context to widen the curriculum and give it some meaning for the students.'*

Ray Barnhardt has also helped to develop two Charter Schools in Fairbanks with a strong Place and Community-Based focus. The Watershed school, a mixed school for ages 6 to14, aims to take students out into the 'community' and 'outdoor' classrooms at least 70% of the time. The Effie Kokrine school, for ages 13 to 20, with an early college element, is 95% Alaska native students, and builds a strong connection to the local environment. Both schools are fully subscribed, and have out-performed their counterparts in standard tests.

What has happened in Alaska has been extremely important in redressing a balance between peoples and cultures, allowing the techno-knowledge of the modern age to marry with old wisdoms that are ever more necessary in our over-exploited planet. The lessons from AKRSI are relevant to any strong local cultural identity; in Scotland they could apply equally to gaelic, norse or doric cultures.

8. Back to the Wallowas

In October, after a summer working on farms in Washington State, the Gulf Islands and British Columbia and giving my own children (now 4 and 6) a myriad of real Place Based learning opportunities (see http://boydwild.blogspot.com/), we head south with the encroaching winter back to the Wallowas in eastern Oregon.

Amy Busch has taken over at Wallowa Resources (WR) as Education Co-ordinator, so I arrange to meet with her on 11 November to talk about how she is building Place into the WR Youth Stewardship education programme. The aims of the program goals remain inspirational:

1) To increase science literacy and provide context for learning.

2) To develop understanding of the linkage between human and ecological communities.

3) To promote a sense of place and environmental stewardship.

4) To provide exercise and promote good physical health.

5) To educate our next generation of land stewards, decision makers, and community leaders.

Of the aims Amy said, ' *All our work is aiming towards better stewardship and citizenship. Once you get to that upper middle school/high school level and start talking about issues and values and letting the kids come to their own conclusion. That's what education is about, not telling them one right answer, but presenting all the sides and giving them the skills they need to be active citizens, to deduce 'what are my values, how do I approach this issue and why do I feel this way, how do I work with others who are different, how do we come to an agreement and work as a community?'* This very much reflects the philosophy of Wallowa Resources, which aims to nurture good stewardship and citizenship in the local community by supporting problem solving and conflict resolution in the achievement of local environmental, economic and social sustainability.

The OWL programme for local elementary schools, which involves a weeks of outdoor school in the spring and autumn, will continue as before. Amy says *'The OWL programme is the introductory programme, aimed at elementary schools, giving them the basic knowledge of ecology and land use, and getting them excited about these unique places they live in'* .

It is the WREN field science programme *'the flagship programme'* for ages 11-14 that Amy is most excited about. This covers 8 all-day Fridays outdoors in the autumn and 8 in the spring term. She says, *Those kids, if they go through the whole program multiple years I think really get a more in depth sense of place. Its amazing when I go in the classrooms with the other programs you can tell the kids who have been in WREN because they know the answers a little faster.* The students learn about the world around

them, local cultural, environmental conservation and sustainability issues, linking the local to the global. *'Every day is about Place. For example last week we did the Nez Perce and we hiked up a local hill and Dave shared a great story from Chief Joseph, read from his actual words. Another time we did a day on air quality and put out petroleum jelly dishes, and looked at particulates, and we counted traffic in town. We counted 89 cars and trucks in 15 minutes. We talked about local car pollution and traffic*'.

WREN costs $15 a lesson, but around half of the participants are on WR scholarships. WREN does compete with school sports on Fridays, and WR's capacity means that only 14 students can sign up for any session. Nevertheless, WREN provides an excellent follow-on from OWL for middle-school students.

WET, the watershed monitoring programme, continues for High Schoolers and 6th graders. 'The *10th and 11th graders go out and learn how to do water monitoring and within a week the 6th graders go out and the high schoolers teach the 6th graders what they learned. It's a good mentoring thing, and the highschoolers take it more seriously because they have to teach.'* All the local schools, from Enterprise, Joseph, Imnaha, Troy and Wallowa now take part in water quality monitoring each autumn, and each school has two water monitoring sites.

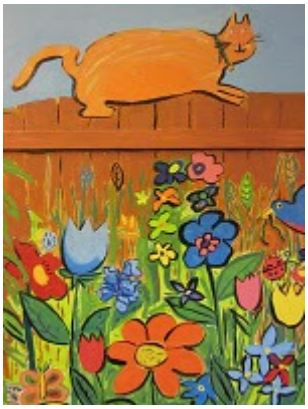
In 2010 for the first time, data trends could be observed that indicate that water quality is not improving. Amy is excited about the possibilities of using the data from this programme to prompt further scientific analysis and ultimately river restoration activities. She says, *'We try to reinforce the sense of Place. The data is now going to a new website called www.streamwebs.org , run by the Oregon Freshwater Trust, a non-profit based in Portland. It's for kids to put data into. It has google maps and you can see all the data across the State*.' There are also real possibilities for interchange and learning between the work of WR's watershed manager, Mark Porter, now involved in a large local catchment monitoring programme in the Joseph creek watershed and the WET participants.

The WR HAWK programme, originally designed to match older students interested in sustainability issues with natural resource mentors and businesses in the community, is being developed to provide real career-building experiences for students keen to work in the environment, giving them alternatives to traditional ranching and farming. The ACE programme, a dual college/school credit course for older advanced science students in partnership with Blue Mountain City College, is set to continue.

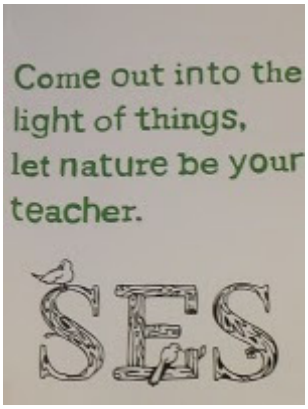
I asked Amy about challenges for the future: *'The biggest thing is finding funding to sustain all the programmes, with a focus on WREN and WET. OWL is already well-established. I would like to use Watersheds as our Place Based focus and build the whole education programme around watersheds because it ties all the kids to their place. Long-term I'm working on how to make the Youth Stewardship programme more holistic and make it clear that each programme builds on the next.'*
The two key issues for WR appear to be funding in the current economic climate, and also the challenge of building sustainability issues into mainstream school 'from the

outside', competing for student time with academic and sports puruits. Nevertheless, the Youth Stewardship programme makes a very positive, and certainly the most significant, contribution to learning about sustainability and Place in local schools.

9. What makes Sunnyside Special?



On 16 November I make a return visit to Sunnyside Environmental School in Portland, Oregon, the K-8 (kindergarten to age 14) which I first visited back in May. This time my conversations with the principal, Sarah Taylor, and with teachers and pupils, focus on what makes the school special, and on how best to help other schools keen to start along the path of Place Based Education.



I have an interesting discussion with Sarah Taylor about curriculum planning and assessment. She is about to complete a curriculum framework for the school, a document which promises to be useful for any other school starting out in a similar direction. Its guiding principles emphasise trust, intellectual curiosity, high academic standards, seasonal cycles, the importance of play and time outdoors, mixed

age experiences, service learning, gratitude and joy. *'In this framework, schools are seen as satisfying and rich experiences that instill a sense of well being, support and community into its members'.* Daily rituals help to bring the school community together. The day at Sunnyside starts with a morning circle, a review of the seasonal calendar, the plan for the day and good news. Breaks for play, fresh air and silence are built into work time. The day ends with a closing circle for compliments and a waste audit. Families and

the wider community are included in the life of the school in various ways, from volunteering to family and community events.

The assessment of students' performances is broader than in most mainstream schools. While student progress is measured against State developmental benchmarks for the 'essential skills' - maths, reading and mathematics, much learning is thematic, project-based and cross-disciplinary. The whole school alternates on an annual basis between the themes of rivers, mountains and forests, so that each student gains a good grasp of related local and global sustainability issues. The range of learning that Sunnyside aims to help students achieve is much broader than simply the subject areas of literacy and numeracy. The assessment process is therefore as interactive as possible, involving both parents and teachers in goal-setting. Student portfolios and student-led conferences to which parents are invited allow for a rounded assessment of student development.

This school year is a 'river' year and I sit in on a blended middle school class (Grades 6-8, ages 11-14) and interview long-term substitute teacher Dylan McCann. The students have each chosen a river in Oregon and are researching it independently. They are monitoring the water quality and ecology of a local wetland. History, culture and economic changes along their chosen river will be written as a River Memoir, telling the story of each river from the river's perspective. Creative arts will also be part of a student-organised River Festival.

Dylan is able to compare Sunnyside with other schools he regularly teaches in. Most notable is the culture of care and respect within the school, *'Its very different from other schools that I teach in. It just has much more of a community feeling, so when you walk around you recognise people and they greet you by your first name and say things like 'nice to see you again'. People treat each other with respect, between students and*

students and teachers.' I ask whether a school like Sunnyside requires much more time and effort from its teachers than mainstream schools. Dylan convinces me that, while both require good preparation, there are real advantages to this more cross-disciplinary, student-focused style of teaching. He answers thoughtfully, 'I *don't think so. I think as long as you have the mindset you need to be at the school it's not more work it's just different. At other schools it's a lot about lesson plans and tests, correcting and scoring and just so much more rigid. And here the activities that are planned are much more interactive and student-focused, the students lead on many issues and take a lot of responsibility. I think it's more interesting for the students, and more stimulating and fun for the teachers, very much so. I mean the great thing is so many of the projects here are cross-disciplinary they incorporate math and science and art and language into the same project, rather than studying just math or just science or just writing. So much work incorporates so many facets. As a teacher it's great because you can really enter into a project, really get so much more in-depth into projects instead of doing it for a class you can do a theme for a week or a month and really explore it. It makes it much more interesting to teach.'*

Dylan believes there is a greater breadth of learning for the students too. *'Here they get life skills from this kind of learning, they are learning to be leaders and members of a community. Here they are so much more excited and involved about learning in a school where they are actually doing things, and each lesson is building on the last one and creating. They are interacting with other classes, and they are going out weekly and being members of the community and seeing real things. There is so much more interaction and they get choice in what they do and they are excited about it and they are taking their learning in their own hands, and really dealing with issues*.' I ask what qualities he believes Sunnyside brings out in its students by comparision with mainstream schools. He says, *'I think these kids are a lot more interactive with each other and take on more responsibility, having ideas. Creativity is so much better than at other schools because they get a chance to use their imagination.... In other schools it can be just 'memorise, memorise, memorise' and that's all it is. They have no creativity, no originality, no imagination whatsoever. It's so hard. Whereas here its not memorization it's learning, it's getting immersed in it and really understanding what you're doing and focusing on real issues. So when they're asked to sit down and write a story about something they can just run with it as opposed to sitting down and saying 'tell me what to write'*. '

The students in the class echo these views when they are asked what they think makes Sunnyside special for them. They identify the sense of community, respect for peers and teachers, mixed-age classes and a family feel as highlights. They also like the themed curriculum and the opportunities for creativity. Emily says, *'The river theme is a lot more fun than learning subjects separately because I love art and when we do themes I get to do more art because we have to illustrate our own river book and if I went to a different school it wouldn't be so creative'* Her classmate chimes in, '*I also think the river and the theme work is cool because at my old school the subjects didn't link together and I'd get confused about what goes with what.'* A girl named Manson, obviously a strong character and very much part of the class community says simply, 'What *I really like about this school is that it lets you be unique'.*

Later in the day I go outside and help kindergarten kids plant bulbs, under the supervision of Sustainability Co-ordinator Stef Rooney. Her post is funded by the Parent Teachers Student Association and she works 20 hours a week. She tries to get each of the 15 Kindergarten to Grade 6 classes out for at least an hour once a week in the school garden. She has two staff, a farm and school co-ordinator, who co-ordinates school work on Jean's farm, the local urban farm that grows much of the school's food, and an intern. She values the integration of outdoor learning with learning as a whole, and says her work at Sunnyside is, *'a perfect combination of being outside with kids but in a learning setting where it is a part of the school, not just something that's completely unrelated to what you're doing in your classroom. It's fully integrated here. And that's exciting because I get to see how that works day to day... It's all about the garden and what needs to happen, but its learning too – not just science but all sorts of other things. Its easy here because it's all integrated. At other schools I've worked in there was no link and students didn't see what they were learning from it*.'

My final question to Sarah Taylor during our discussion was to ask what practical first steps she would take if she were encouraging a Place Based approach at a mainstream school. This were the six steps she chose:
1. Choose one State Standard and ask each member of staff to find something outside within walking distance of the school - either in the environment or the community - that they could use to teach that Standard.
2. Run staff meetings in a circle and start to model the sort of inclusive, respectful, listening and caring behaviour you would like to see underpinning the school.
3. Run morning meetings until other staff feel able to play a role, again setting an example through your own approach to staff and students.
4. Create a garden plot and get the whole school involved in it.
5. Find a service learning project in the community that the whole school can participate in and celebrate the positive results from.
6. End each day - whether at class or whole school scale - with compliments
Once again, my time at Sunnyside was a fascinating and a lot of fun!

10. Growing Place Based 'Organisms'

Fresh from another blast of Sunnyside Environmental School, its sparky kids and stimulated teachers, I have a final meeting with Greg Smith at Lewis and Clark College in Portland before the family and I travel south towards Arizona.

It is lovely to talk to this inspiring man again, and our discussions touch on the strong connection between the nurturing of self esteem, love and care within the Place Based schools I have visited and the capacity to relate to and care for the school community, the wider community and, beyond that, the planet. How different from efforts to 'do the right thing' for sustainability out of a sense of duty - although of course that's fine too. Each school has been very different in its outward characteristics, but the most important common element has been this 'culture of care', often emanating from a particularly charismatic school leader. Replicating this intangible but vital quality adds challenge to any aspiration to create a 'blueprint' for a Place Based school.

Yet while the charisma of a particular person is certainly important, developing a vision of how schools could be different is also central to what schools like Sunnyside have accomplished. Greg Smith believes a 'both-and' approach is needed. Sharing this vision with others can infect new generations of educators with the enthusiasm and commitment they need to transform learning and teaching.

Another area of discussion revolves around whether Place Based education should be more 'deeply anchored in a critique of industrial civilisation'. This continues an email conversation between Greg Smith and David Greenwood which can be read in more detail at http://www.clearingmagazine.org/online/archives/2108. Interestingly, the various educators and school leaders whom I have spoken with about this tend to feel that perhaps it is nurturing the culture of love, respect and responsibility for oneself and the wider world and putting it into action locally that is most important. There are certainly risks involved in trying to impose parameters for Place Based Education. Its accessibility and the simplicity of its approach, its flexibility to local circumstances and the way in which it speaks to the hearts of a wide range of very different individuals are perhaps its key strengths.

11. Turning Stragglers into Leaders

A visit to Kennedy High School in Cottage Grove, Oregon on 18 November, turns out to be one of the most uplifting days I have spent in a school, perhaps ever.

Formally known as AL Kennedy Alternative High School, the school was founded in 1998 by a forestry teacher who wanted to help students aged 15 to 18 who were struggling in mainstream education. By 2008, when current principal Tom Horn took over, the school was sinking under an attendance rate sometimes as low as 23%, serious drug problems and alarming drop out rates. Now, little more than two years on, Tom's vision, and the perceptive and caring approach to the students which shines through the principal and his team of committed and talented staff, have completely transformed the culture of the school. Attendance rates are around 90% and the drop out rate has fallen dramatically, while test results show an upward trend. The school serves a maximum of 75 students, but there are 190 further students waiting for a place.

According to its vibrant website, (http://blogs.slane.k12.or.us/kennedy), the school sets out to help students from all backgrounds to, '*think, discuss, question and analyze, combine knowledge with goodness, and acquire the intellectual skills that ensure a love of learning and a lifelong commitment to helping others.'* The focus of education at

Kennedy is to '*prepare students to use the skills learned at school to tackle local, national, and global issues that focus primarily on economic vitality, social justice and environmental integrity.'*

The way Tom Horn himself expresses it is that he wants kids to leave the school *'with the creative energy to change the world*'. This would be no small aspiration for the most privileged products of private education, but seems to be reaching for the stars when it is applied to some of the most disadvantaged and oftentimes troubled young people of the District. Yet the energy, love and life that emanate as soon as one enters the modest building are proof enough that something very special is happening here. I hear one tough looking lad say with something like awe after Horn has passed him in the corridor, *'they should clone that guy - he could run the world*'.

The transformation has been the result of good leadership, but also a deep understanding, backed up by research, of what makes people switch on and enjoy learning and living. Building caring relationships between people within and outside the school has been key. One of the first changes was to do away with the seven period day where students moved from class to class and there was little accountability. Now every student is assigned a teacher. Rather than that teacher becoming their advisor, that teacher is their teacher every day for the whole trimester. This has been effective in reducing truancy and in building this culture of care. Kris Olsen, teacher, comments, *'As a teacher it is really important to be able to build relationships with kids, which we're able to do in the cohorts, having the same kids the whole time*.'

There are a myriad of small things that contribute to this caring culture. For example, Horn's approach to students who have been referred to his office, *'When a student has been sent to me, maybe there are difficulties with the teacher, they know to grab a cup of tea. Then they read the quote on the Yogi tea, and then they grab their journal and then they write. What that does is it diffuses the anger and the distress they are feeling, and then they relate this to their life and we have a conversation. There are no discipline*

problems around here.' Classes often begin and end with circle time, first an 'expectations' circle, where students and teachers state their hopes and expectations for their role in the class, and finally an 'appreciations' circle, where students are able to exchange thanks and appreciations for others' role.

An important element for Horn has been caring for his staff and giving them the space and time they need to develop their own practices. He is a hands-on leader who at least once a week will combine two classes and substitute for two teachers to free them up to do preparation. On Fridays, when the primary focus is on projects, community service and conservation, he takes over these activities to give his staff half a day for meeting and preparation.

A second step has been to build a strong school ethos based on sustainability and service, which builds not only self esteem but also practical skills and wisdom. School activities are structured around five themes of sustainability - Agriculture, Architecture, Energy, Forests and Water. Horn has sought to develop a range of programmes with community partners that address each of these issues. Within each theme there is a focus on practical problem solving, academic skills, and on creating future employment opportunities . According to Horn, *'Kennedy represents a new paradigm or a new way of thinking about education. It's project based, it's place-based and it allows students to engage in constructive activities that relate specifically to real-world issues, around sustainability and around environmental issues that are affecting us all'*. The wide range of ambitious projects in which students have been involved include:

- growing fresh organic food for the most in need in the community (over 3 tonnes to date), - partnering with the County to implement mitigation measures at a landfill site,
- gathering water monitoring data at industrial outflow sites as part of an annual canoe trip from Eugene to Portland,
- developing a low-cost energy efficient green housing prototype, which it is hoped could ameliorate housing conditions at the trailer parks on which many of the students live,
- learning how to build a straw bale house at the local energy research and education centre, Approvecho
- carrying out invasive species removal work through the school conservation corps, in partnership with the US Forest Service, the Bureau of Land Management, and the Coast Fork Watershed Council.

Both teachers and students find this approach stimulating and enjoyable. Kris Olsen again, *'One of the reasons I really love teaching at Kennedy is the focus on sustainability. Its also really important to be teaching material that's relevant and I really don't think there's anything more relevant than issues around sustainability. The reality is that the future that these kids have is going to be really different from what our lives look*

like right now. They need to be ready to deal with issues around energy and sustaining our forests and a more sustainable food system.'

A student named Morgan talks to me enthusiastically, *'I've been to all kinds of schools and this is best school I've been to. It's cool because you get to go out and do lots of great things, like growing stuff in the garden, forestry work, environmental work. It changes the way you see things. There's a lot more respect here too, between us and the teachers*.'

This place and project based approach has been essential for breaking down the barriers between school and community. As Horn says, *'my first thought was that you really need to engage kids in the life of the community, outside of the school. So if it's that segregation, where they walk in the front door of the school and they don't go out you really just have this little petri dish where it's difficult forkids to relate to the real world*.' The standing of the school within the community, and the sense of self-respect disadvantaged communities have for themselves, have also grown dramatically as practical projects have begun to make a difference to local environmental and social issues. Now parents wave as Horn cycles past some of the poorest and most challenged trailer parks in the area. One of his next plans is for a community garden and cafe right in the centre of one of these parks.

There is also a philosophy of helping others to learn. Kennedy students teach in local elementary schools. As Horn says, *'all of our kids have now taught agriculture, bee-keeping, water-testing, aquaculture with hydroponics. They're teaching third graders and fourth graders these skills. And what's happening is they have to prepare and they're nervous and you see these toughest of tough kids, you know their eyes tear up and their voice shakes when they're infront of a bunch of third graders. It's beautiful to see actually. And then they come back and go 'I'm never misbehaving ever again, that's really hard, that teaching'*.

Currently student performance is measured on the basis of State tests. In order to gain a sense of the broader learning that each student is gaining, Horn already ensures that each builds up a portfolio of written work. But he is also planning a more radical move away from narrow subject assessment to a mode of assessment that fits better with the personal and social development that the school offers, *'The one thing we're looking at doing next year is doing away with the grading system, the ABCDF and moving toward a narrative system. So each student will have a description of what they're good at and what they need to work on'.* This can take account of the *'portfolio of adventurous experiences'*, from beekeeping to winter camping to community project work to performing at an 'open mike' at the local Axe and Fiddle cafe, which Horn believes can have a transformative impact on a student's life.

Horn is also working on plans for a 'walkabout', which would be a prequisite for graduation. 'Walkabout' would be an experiential learning, self-driven, self-developed project that fosters good citizenship and also involves some sort of transformative experience. Horn says, *'It's not just 'go create a project and good luck'. There's a rubric, a step by step process. It's been highly successful elsewhere...And kids chronicle their transformation in the process. Where kids are self-driven and it becomes a part of the culture for them to participate in something that is meaningful to them, that has positive experience and has intentional positive effect on the community.'*

Finding resources (in addition to the allowance for salaries supplied by the State) to sustain school activities falls largely to Horn, but he is aware that the nature of the school and the kinds of issues it tackles give it a distinct advantage when it comes to finding funds. Partnerships with business and State agencies have proven highly successful. During the 2009-2010 academic year alone, for example, the school brought in approximately $700,000 to support its programmes and provide employment opportunities for its students.

Tom Horn and I spend the last hours of the afternoon at the local Axe and Fiddle, owned by the inspirational Hoedads founder Hal Hartzell, watching students perform at the monthly 'open mike'. There is no dedicated music teacher at Kennedy, but many of the staff sing or play instruments and have passed on their skills to the students. It is impressive how hard students have worked to rehearse songs and compose their own lyrics, and it clearly takes a lot of courage for some of them to stand up there in front of their peers. Horn himself is persuaded to take a turn on the guitar with a band of other staff.

The last word goes to Tom Horn, *'As a student teacher, I kept asking these fundamental questions – by raising reading levels are we seeing kids matriculate into college or do great things with their lives? And there wasn't necessarily a corollary between their academic scores and their potential as human beings.... And seeing five years down the road some of them are incarcerated – these were some risky kids. And at the same time you ask all these questions about the environment, whether its global warming or forest floor ecology and the issues we see in our own back yard here. Those are things I always thought about as an environmentalist. And there was a disconnect between the real world and education. Education was almost a form of segregation.... Now we are in a very interesting time in history educationally in this country. There were 6.9 million drop outs last year. Kids are feeling disaffected by the educational system. But kids [at Kennedy] are accepting responsibility for their role here because they understand that we are significantly different'.*

12. It's all about Relationships

It is the end of November when the wheels of our ancient Toyota corolla grind their way 30 miles east of Flagstaff across the deep red of the Arizona desert, into the Navajo Nation, and to the small settlement of Leupp and The STAR School.

Founded in 2001 by principal Mark Sorensen and his wife Kate, the STAR (Service To All Relations) School lies in the south west of the Navajo Nation, which at 26,000 square miles is the largest land area assigned primarily to a Native American jurisdiction in the US. STAR is a K-8 (4-14) charter school, off-the-grid, small, solar-powered charter school. Most of its around 130 students are Navajo.

According to its website, (http://www.starschool.org/) the STAR School's vision is to create a joyful learning community in which members develop the character, skills and attitudes for understanding themselves, living in balance and serving all our relations. Sure enough, as I walk in through the front door, the atmosphere is friendly and relaxed, and the students smile and greet me.

Kate & Mark Sorensen with Navajo elder

Sorensen has been involved with native teaching for almost 40 years and sees himself as a go-between, with a foot in both cultures. He says, 'I *have facility with the western system and so that's where a lot of resources are, and I have been able to translate the core of what the people here feel is really important into ways that western society would support it, in the form of a school*'.

This school was founded as a response to a homogenising State education system which not only lacks the flexibility to address Place or culturally-specific situations, but has not taken the opportunity to incorporate native cultural values. STAR is founded on sustainability, which Sorensen defines as, *'the relationships and resources that provide for the continuity of people and the environment from generation to generation'*, with humans and human cultures firmly part and product of the natural world (Gruenewald & Smith, 2008, Place Based Education in the Global Age, p.50).

STAR is largely solar powered

This concept of sustainability reflects the Navajo principle of K'e (kinship and interrelatedness) in which the ethos of the school is firmly grounded. Key to K'e is the recognition that every manifestation of creation is inextricably linked - human, plant, animal, mountain, river and rock - and that all have a respect for and responsibility towards each other. Within the school curriculum this ethos is expressed as the 4 R's (Respect, Relationship, Responsibility and Reasoning). The Sorensens have developed a rubric that allows students to evaluate their own personal and social development against these values as they progress through the school. While Sorensen contrasts this with a 'western' approach to sustainability that is about 'saving the world', with man in control, I sense that there are many out there who would strongly identify with this humbler and more reciprocal approach.

As Sorensen talks to me, a small boy named Ty comes in to check out a soccer ball. As the principal pumps it up for him he tells me that the STAR school's Navajo 4 R's also reflect what have been termed the '40 Developmental Assets'. These are 40 vital building blocks of healthy child development identified by the Search Institute in Minneapolis in 1990 (http://www.search-institute.org/). These well-validated building blocks, which include elements such as *'family support', 'service to others', 'adult role models'*, are designed to help young children grow up healthy, caring and responsible. In 2009 the Institute published 'The *3-3rd Project: Ensuring Developmental and Educational Success for Young American Indian Children, Vol. 1 Effective Strategies for Educators'*, which suggests practical ways of building the 40 building blocks into teaching practices. The Assets can also become an important catalyst for community transformation as communities attempt to improve outcomes for young people. Mark Sorensen played a key role in this publication, with contributions from the STAR school and two other local Navajo schools. While the focus of the book is native American Indian children, Sorensen believes the 40 Assets are applicable to children of any ethnic, social or economic background.

I spend time sitting in on a mixed class of 5, 6, 7 and 8 graders taught jointly by teachers Tom Thomas and Vicky. Each student has chosen a species of native animal to research in preparation for the publication of a class booklet 'Honoring our Animal Communities'. This will cover not only the ecology of the animals but their place in native lore, whether they have a medicinal or ceremonial significance and whether they are a 'messenger' for man, for example an indicator of climate change or changing seasons. The emphasis is not on the extractive human 'use' of each animal but on a dynamic relationship between the human and animal species, based on respect, Each student sits down with me in turn and begins their presentation on their chosen animal with their own genealogy and 'place' of belonging, in Navajo, ending their presentation with the ways in which one might 'honour' that species, for example restoring habitat. I open up the Honoring our Plant Community booklet produced last year and read, '*helping our plant community is taking care of our Sh7m1 (mother earth) and we have heard that the trees, bushes, shrubs and plants are our mother earth's hair. We have to take care of her just like our own mothers."*

drinking Navajo tea

What Sorensen calls 'Sovereignty through Service' is at the heart of learning about the 4 R's. In 2007 students received the Governor's Volunteer Service Award for the 'STAR School Learn and Serve Elder Help Project' they had designed themselves, which involved providing a range of help to Navajo elders, from home repairs to visiting nursing home residents. Students have planted fruit trees and distributed them around the community. The youngest students do a weekly cleanup around the campus and a monthly trip into a nursing home in Flagstaff where they feed the elders lunch, make gifts for them and play games with them. Each initiatives is designed by the students. As Sorensen says, *'We get them sensitive to the whole area and then they choose how they are going to express that*.' Of course, as they work, they are themselves creating and exploring relationships.

The school teaches both by subject and thematically. The whole school reading programme is structured around six thematic units per year - identity/awareness, perspective taking, conflict resolution, social awareness, love and friendship, freedom and democracy. Sorensen says, *'Right now the theme is conflict resolution. So in every grade they're reading different books but all those books have to do with conflicts and how to resolve conflicts... And at the beginning of our school year kids spend a lot of time focussing on their own clans and clan identities. That's an essential part of their identity.*'

I challenge Sorensen that focusing heavily on clan identity might make it more difficult to foster a sense of belonging within a wider multi-cultural world. His answer reflects my own personal view as a Scot, that strong cultural identity that leads to cultural self-esteem can be very positive in reducing conflict. Sorensen says, *'my feeling is that if you go very deep into your own Place you will come to these universal values and you do become aware of how to relate to people no matter where they come from... I think that*

wars are started by people thinking somebody's going to take something away from them. If you have a firm sense of identity that includes spiritual identity it is clear that no one can take that away from you. If you're not very sure of who you are that's when you tend to react violently.'

Navajo peacemaking is an important element within the school community, and is at the interface of the school's role within the wider community. Sorensen has recently initiated the Navajo Peacemaking and Safe Schools Project, aimed at reducing violence and truancy at five local schools through a character building reading programme and healthy activities. It brings students together with professionals from mental health and law enforcement with the support of qualified community peacemakers. The peacemaking process follows rituals of prayer, introductions, discussion of the issue, and agreed actions. Around 20 local Navajo peacemakers act as facilitators in the project.

Missy with her clan mosaic
The Man Who Walked Around

In the afternoon Keanu, a handsome 14 year old with a long ponytail, shows me some of the film he has scripted about the Navajo peacemaking process. He and other students are shooting it with the help of Place Based media/arts teacher Rachel Tso. I also visit an ambitious ongoing art project to decorate the outdoor amphitheatre with colourful ceramic mosaics depicting each native clan. Students of the same clan are collaborating under the enthusiastic eye of Juanita Hull-Carlson, a visiting art teacher. A girl called Missy shows me her striking mosaic of a figure pacing the edge of a circle - her clan name is 'The Man Who Walked Around'. Another shows a line of blue pottery to depict 'The Edge of the Water'. Another depicts the 'Salt Block' clan. The students are having a great time smashing pottery and carefully adding it to their creations.

The STAR School's Place Based approach is definitely improving State test scores relative to other local schools. Sorensen says, *'We have very interesting test results. 80% of the students who stay here 3 years or more meet the State standards, which is way higher than native kids elsewhere around here. But those students who have been here 2 years or less, 80% of them are in our category 'falls far below'...Now we're in a situation where most of our students do stay and those that do do quite well at State tests.*' Of course, academic achievement is only one element of what the STAR school

gives its students. As Sorensen says, *'what we expect here is that students will develop their character and their values equally with their academics*.' My conversations with teachers and students of all ages would suggest that this expectation is being fulfilled.

While there are outward differences between cultures, I am struck by similarities. At many points during the day I am strongly reminded of Gaelic culture in Scotland, of the concept of *duthchas* (land, place and heritage), of the tree alphabet, of a time not so long ago when many a Gael could recite his or her genealogy going back generations, when every hump and bump around a croft had its name, when ones sense of family and heritage provided a strong framework for good action. It seems no coincidence that many a prominent rock formation in Scotland bears an animate name.

I am also struck by how similar the values of K'e are to those I observed recently at Kennedy High School in Cottage Grove, a school for predominantly white, largely disadvantaged trailer park kids. It is perhaps not surprising that a Place Based approach, which fosters care and responsibility and is founded on a good understanding of what roots people emotionally and spiritually to their 'Place', finds similar solutions , despite the outward differences. I guess the human race is beautifully simple really...