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Abstract: This paper reports some findings from an investigation of educational practice in ten (formal and informal) education for sustainability (EfS) initiatives, to characterize exemplary practice in school and community education for sustainability, considered crucial to Australia's future. The study focused on rural/regional Australia, specifically New South Wales sites in the Murray-Darling Basin (crucial to Australian agricultural economy, under substantial environmental threat, undergoing significant social and demographic change). The research used and explored new developments in practice theory, aiming to achieve innovative rich characterisations of individual and extra-individual (cultural, discursive, social, material) aspects of practice. The study aimed to derive implications for theory, policy and practice in relation to sustainability and EfS, practice theory, education, and more specifically education for the professions (including the initial education and continuing professional development of educators).

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Education for Sustainability (EFS): Practice and Practice Architectures

There has been a debate over some years about whether Environmental Education – and, one might equally say, Education for Sustainability (EFS) – can be regarded as successful when and if it produces changes in people’s knowledge but not in their actions (Beck, 1995; Lenzen, 1997; Tilbury, 1995; Tilbury & Cooke, 2005). A special issue of this journal in 2002 (Volume 8, Number 3) was devoted to this topic. Fien (2003, p. 14) cautions that “among the most successful [Environmental Education] programmes are those that avoid the belief that awareness leads to understanding, understanding leads to concern, and concern motivates the development of skills and action”. We concur with Fien’s view. We think that the debate about the knowledge-into-action question in Environmental Education may sometimes have turned on an assumption – frequently invalid – that people can achieve what they intend; that is, if they *know* what they could and should do for the environment, that they can act on that knowledge.

In recent years, a new line of enquiry in practice theory offers a new way of thinking about this question. Among others, Kemmis & Grootenboer (2008) and Schatzki (1996, 2002, 2010) have sought to show how practices – like practices of Education for Sustainability or sustainable agriculture or sustainable ways of living – are held in place by preconditions that enable and constrain some kinds of action at the expense of others. Kemmis and Grootenboer (2008: 57-61) call these preconditions “practice architectures”. They identify, in particular, pre-existing cultural-discursive, material-economic and social-political orders and arrangements that enable and constrain practice, respectively, in semantic space, physical space-time and social space. On this view of how practices are held in place, we might draw

different implications about the knowledge-into-action question in Environmental Education and EfS. On this view, changing practices requires not only changing the awareness, understanding, concerns and skills of individual participants in the practices, but also changing the practice architectures that hold existing practices in place. Put bluntly, changing existing practices in areas like agriculture, energy and use of the Earth's resources means changing not only what individuals think and how they act but also the discourses through which people understand their world (a process well under way in the public debate about human-induced climate change, for example), changing existing material-economic conditions (for example, as is happening in the shift from coal-fired electrical power generation in Australia towards increased reliance on renewables), and changing the social-political relationships between people and between people and other living and non-living things in the world (as is happening in the troubled politics of water in Australia's Murray-Darling Basin). Advocates of critical, emancipatory and transformative approaches to Environmental Education and EfS like Huckle (1993), Thomas (2009) and Wals and Corcoran (2006), argue that Environmental Education and EfS are necessarily directed at transforming existing cultural-discursive, material-economic and social-political orders and arrangements that hold *non-sustainable* ways of living in place – that is, that Environmental Education and EfS must be directed at changing things over and above the knowledge and actions of individual people. Put in our terms, this means that EfS must necessarily be directed towards transforming both unsustainable collective social practices and the practice architectures that hold those practices in place.

The study

The ten EfS sites described in this paper were chosen for study because they were considered to be ‘exemplary’. Four of these initiatives were in schools (three secondary, one primary; two government, two non-government); two initiatives were in tertiary education settings (one vocational education and training site, one university site); and four were community initiatives. The actual names of people, places, educational institutions and companies described in this paper have been changed in order to preserve anonymity.

The study itself was a philosophical-empirical investigation employing case study methods (observation, interview, document analysis) to interpret evidence from research literature, documents and fieldwork in relation to the place and development of praxis (often understood as ‘informed, committed action’) in the context of EfS which we take to be an emergent practice – that is, one which is not long-established, not yet well-formed, not yet stable, routinised and institutionalised. Rather, we approached EfS as a practice which is ‘finding itself’ – rather fluid, taking a variety of shapes, perhaps ephemeral and perhaps contested. Insofar as our research was a study of educational and professional practice/praxis, we think we have much to learn from studying an emergent practice which may be on the road towards becoming established, rather than one whose purposes, form and content are long-established and ‘second nature’ to those who participate in them.

Taking a responsive approach (Stake, 1995), the study aimed to identify key issues relating to praxis and praxis development, as they are clustered and structured in and around the settings of EfS initiatives, as viewed from the perspectives of participants, documents and literature. Particular attention was given to exploring how five different dimensions of sustainability (environmental-ecological, material-

economic, cultural-discursive, social-political, personological) were represented or enacted in the actions and understandings of different participants and groups.

The study addressed five specific research questions:

- 1) Could a more advanced theoretical framework for understanding practice/praxis yield new insights for theory, policy and practice in EfS?
- 2) Is praxis realised in EfS initiatives and, if so, how?
- 3) Are there opportunities for/threats to educational praxis in these initiatives?
- 4) What, if any, elements of practice/praxis need (re)development in EfS initiatives?
- 5) Is any reconstruction needed in EfS theory, policy or practice?

In this paper, we offer some observations and interpretations regarding the first three of these questions.

Following fieldwork over nearly two years (from four to six visits per site), a brief case study of each initiative was produced. Each was sent to key informants for participant confirmation of the content and descriptions of issues included in the studies. The case studies were intended to be informative rather than evaluative in tone (although a firm distinction of this kind cannot be sustained in principle or practice).

Analysis of the data focused on understanding how EfS practices are formed, enacted and understood, and how they relate to the world in which they are situated, not only in a general or abstract sense, but also in relation to the specificities of particular places and times. In particular, our analyses explored how practices are constituted in individual actions – what we describe as sayings, doings and relatings – as these are enabled and constrained by the form (‘arrangements’, ‘set-ups’) and content of the world in three principal dimensions: the cultural-discursive, the material-economic, and the social-political. These three stable and significant dimensions of human sociality are identified by such theorists as Habermas (1972) in discussions of the three social media of language, work and power, and by Bourdieu

(1990, 1998) in discussions of cultural and symbolic capitals and fields, economic capital and fields, and social and political capitals and fields. The ‘philosophical’ aspect of this ‘philosophical-empirical’ investigation consisted in exploring features of the cases studied in relation to aspects of practice theory discussed in the literature, including literature concerning the philosophy of practice/praxis (see, for example, Bernstein 1971; Habermas 1974, 2003; Hadot 1995; MacIntyre 1983).

The ten cases studied

Four of the cases studied involved EfS in *community organisations*. In these cases, EfS is an avowed aim of those leading the organisations. From the perspective of those who participate in the activities of the organisations, however, EfS may be an informal rather than a formal process. For example, one of the organisations which maintains a permanently-occupied sustainable urban living demonstration site in Wagga Wagga, New South Wales, offers formal EfS activities for local school groups who visit, and a program of Open Days for community participants that include lectures on topics likely to be of interest like no-dig gardening, water-wise gardening and the use of local indigenous plants in gardens. A number of volunteers work regularly at the site in various capacities; their involvement in the development of the gardens and vegetable gardens, the maintenance of the site and the preparation of activities for visitors from schools and the community constitutes a continuing informal and intensely authentic experience of EfS. Two of the other cases studied were regional environmental action groups lobbying and taking direct action on environmental issues in their communities. In these cases, EfS is a continuing process of collective self-education for already-well-informed and enthusiastic groups. The fourth case involved a community LandCare initiative of revegetation and increasing biodiversity at a degraded and abandoned Travelling Stock Reserve, on the one side,

and, on the other, intensive use of the site by local school groups. For the former group, the EfS involved is an informal and sustained process of collective self-education, but also involves displays and events offering informal EfS to the local community. For visiting school groups, the site operates as an Environmental Education centre offering EfS activities; for the school across the road from the site, EfS is an integrated part of the school curriculum and children are involved in weekly activities concerned with the sustainability of the site and its ecology.

Four *schools* were studied. In each of these cases, EfS activities were integrated, though not necessarily securely, into the curriculum. Two secondary schools offered a sustained programs that contributed to greening initiatives coordinated by a local Council-supported committee. In one case, St Barnabas', students collected (with licensed seed collectors) and germinated seeds of indigenous plants, grew tubestock, and used the plants to re-vegetate degraded public land around the town. In the other, a small group of students was involved to a lesser extent in similar activities, but also in a local Stream Watch program. The third school was involved in re-vegetation projects on the school grounds, and also activities aimed at increasing biodiversity in bush areas at the edges of the school grounds – for example, putting up roosting boxes for micro-bats. In the fourth case, a central school (kindergarten to year 10) focussed on weed removal (connected with the LandCare 'Weed Warriors' program) and appropriate planting in school gardens and grounds, and also offered primary school aged students the opportunity to grow vegetables and flowers in school garden beds.

Two *tertiary institutions* were involved. Both offered formal courses in a variety of areas connected with EfS, including nationally-accredited Vocational Education and Training programs and university programs in such areas as

sustainable agriculture, waste management, environmental science and environmental management. Of particular interest in these two studies were the EfS activities involving staff and students in more sustainable use of energy and resources at the two sites involved, for example, in the development and maintenance of wetlands environments on the sites, and more sustainable use of energy in university buildings student accommodation.

The cases varied both in terms of educational levels and between formal (school, vocational education and training, university) and informal (community) educational settings and processes. They also varied widely, as will be seen, in the focus of their EfS discourses, activities and organisational arrangements. It was also the case that some cases of EfS studied involved target participants over a period of years (in community organisations, for example, or in the case of some of the school teachers involved), while others involved participants only for a few hours (students visiting an Environmental Education centre, for example, or participating only in the planting stage of a re-vegetation project).

Diverse approaches to Education for Sustainability

The EfS initiatives studied in the ‘Sustaining Practice’ project exhibit diverse approaches to issues of sustainability, in the kinds of overarching projects that orient them, and in the kinds of outcomes they achieve for participants and communities. Table 1 outlines some of the broad domains in which the initiatives operate. EfS can be understood as a broad, overarching integrated practice, but it also enables and constrains a variety of lower-level sub-practices like projects specifically concerned with energy or biodiversity. Both the overarching work of EfS and these lower-level sub-practices “hang together” (Schatzki 2002, 77) as comprehensible for those who share understandings about these practices within what Schatzki (2002, 80) describes

as “teleoaffective structures” – that is, their character as ‘projects’ is comprehensible for those who participate in them, galvanising a purpose and a set of commitments. Constructed in actions of ‘saying’ and ‘doings’ (in Schatzki’s view; to which we add ‘relatings’), Schatzki sees integrative practices like herbal medicine production – or, indeed, EfS – as composed of characteristic ‘bundles’ of sayings and doings that make participation significant and meaningful to, and highly valued by, those involved.

Because they coordinate the action and interaction of people in shared, inter-meshed sets of valued and meaningful activities, Schatzki makes the strong claim that practices are the site of the social (as the title of his 2002 book declares). That is, in his view, practices themselves are the site in which action and interaction are enabled and constrained; they are not held in place by an additional entity like a ‘social structure’. Action and interaction are made orderly through arrangements of sayings and doings, and (what Schatzki describes as) ‘set-ups’ of objects, but it is the actors who constitute practices through their action and interaction, not these pre-givens themselves. (Thus Schatzki objects to what he sees as Bourdieu’s structuralism, which suggests that social fields have an independent existence that structures action and interaction.) Nevertheless, Schatzki suggests that practices prefigure people’s activities, like a path through a forest offering an easier way through, but also itself able to evolve – as, for example, when a tree falls across the path and subsequent walkers make a new path around the obstruction. To stay with the metaphor, however, Schatzki insists that what makes the ‘path’ is the walking of those who pass down it, not principally the (externality of the) indentation in the ground that they tread on. Thus, we suggest, practices are, in a sense, ‘laid out’ for people to ‘inhabit’ in particular kinds of ways – in the way that the ‘set-up’ of an empty classroom with its furniture and resources is ‘laid out’ awaiting the teacher and students who will inhabit

it and go about the work of teaching and learning when the school day begins. But the practice of the teacher who comes to the room is made in and through action and interaction, not principally by the externalities of the classroom set-up as a ‘context’ for action. Following Wittgenstein (1974, 59-60, 72), Schatzki suggests that what makes a practice stable, and gives it its ‘orderliness’, is that people ‘know how to go on’ in it – they know how to enact its next steps and stages, learned through experience of the kinds of language games and forms of life that give the practice its meaning and significance.

A question for this study, then, is to explore the extent to which those practising EfS learn ‘how to go on’ in it, giving it more or less stable, characteristic shapes as a cluster of practices made meaningful by people coming to understand what they are doing and, more importantly perhaps, doing it so that it ‘unfolds’ in comprehensible actions and interactions between people (and between humans and non-human objects like plants and shadehouses). And, indeed, we have found families of bundled-together sayings, doings and relatings which (as we shall shortly argue) form more or less distinctive ‘practice architectures’ in which different practices of EfS ‘hang together’ while also still being identifiable as ‘members’ of the larger family of EfS.

Table 1 sets out some of the main ‘domains’ in which the initiatives we have been studying are conducting EfS, and some of the ‘bundles’ of activities that form ‘projects’ (‘teleoaffective structures’) for those who participate in them. These are some of the diverse forms of EfS practice.

Table 1. Examples of domains and types of EfS practices studied.

Education for Sustainability practice architectures

The EfS practices being explored in the ‘Sustaining Practice’ project and two related doctoral projects are being analysed using the notion of practice architectures introduced by Kemmis & Grootenboer (2008). According to this notion, the actions and interactions that constitute practices are shaped by ‘mediating preconditions’ that are like the living forest around and the earth under a path, in relation to which the path is a kind of ‘negative space’ – a space opened for the practice of walking through it.

These mediating preconditions enable and constrain the individual and collective actions of those involved in particular practices in characteristic ways, in three dimensions of human sociality: the cultural-discursive dimension (language – shaping people’s ‘sayings’ and thinking), the material-economic dimension (work – shaping people’s ‘doings’), and the socio-political dimension (power – shaping people’s ‘relatings’ to one another).

Such mediating preconditions (distinctive arrangements of language, work and power) are the product of practitioners’ past actions and interactions, and iteratively produce practitioners’ present and future actions and interactions. They are ‘laid down’ as ‘architectures’ both in the individual knowledge and subjectivities of participants, and in the collective solidarities and capacities for action of co-participants who share a ‘feel’ for the game of the practice and who ‘know how to go on’ in reciprocal ways to regenerate the practice anew each time it is practised. (Of course practices also evolve: different aspects and forms of a practice are reproduced and transformed in response to changing needs, opportunities, times, places and circumstances.)

Particular kinds of practices, like those constituting EfS, for example, draw upon particular, distinctive resources of language; particular, distinctive kinds of

activities (work); and particular, distinctive kinds of relationships between people and between people and the natural world – all ‘bundled together’ in particular ways that make them distinctive as EfS or some other distinctive kind of practice. These we call practice architectures.

The general theoretical structure of practice architectures is depicted in Table 2.

Table 2. The dialectic (mutual constitution) of action/praxis and practice architectures.

An example, at a very general level, of how people ‘inhabit’ the practice architectures of EfS is given in Table 3, which aims to give no more than a ‘feel’ for what practising EfS means (how it is comprehensible and significant to those enacting it).

Table 3. The general case of Education for Sustainability practices.

Of course, as the list of domains and types of EfS practices given in Table 1 suggests, each particular kind involves more detailed and extensive ‘bundles’ of arrangements of characteristic sayings, doings and relatings. It is remarkable, perhaps, that different participants in the EfS initiatives we studied have such very different levels of understanding (sayings) of the discourses of sustainability, such different kinds and levels of skill (doings), and such different kinds of relationships to each other, to third parties, and to different aspects of the environment – yet the practice of EfS still ‘hangs together’. This appears to demonstrate the sociality of the practice: that it is collectively, and not just individually, produced.

Distributed sayings

Knowledge (‘sayings’) about sustainability issues is distributed among participants in and around projects; not all the relevant knowledge is ‘in the head’ of any one participant. The teacher leading a revegetation project knows that it is important to

plant these particular indigenous plant species in this degraded creekscape because the appropriate species were identified by the local greening group leaders, who learned about them from plant ecologists in a local university, but in fact this teacher knows little about botany or local ecologies. The students involved in collecting seed, planting and germinating it, growing the tubestock and planting the young trees in the degraded creekscape know little about plant growth, horticulture or ecology (in general or locally). Yet, for them, too, the project hangs together in a shared belief in the justification that this project is worth doing (for the sake of preserving or enhancing biodiversity, for example), and with some level of understanding that the sequences of activities it involves are comprehensible (for example, as a practical response to an ecological crisis or even global warming – even though the local actions the students are taking are only tiny steps towards the global ambition of arresting climate change, and perhaps not among the most important actions that could be taken).

Distributed doings

The same sociality appears in relation to the ‘doings’ of such a project. The seeds the students collected were from the land of a farmer who is a member of the local Rivercare organisation. He has been establishing corridors for wildlife along the banks of the creek that passes through his property. He learned seed collection and germination from members of the local greening group, and knows what to do. He shows the teacher and the students, and they successfully collect seed, germinate it, care for and water the young plants over a period of a year or more, growing them to a point at which they can be successfully planted in the revegetation project.

Collectively, there is enough skill (‘doings’) distributed among members of the group for seed to be collected and for tubestock to be grown and planted out successfully,

even though, in the drought, only 40% of the young plants may survive more than a year. Of course it is also true that not all members participate in every phase of the overall project – some participate only in a few activities in a single year; others participate in many, and some for more than a year. Most experience the process as a kind of linear sequence of activities, but some see it in terms of an evolving series of cycles of activity – a spiral of sustainability activities that are together changing the look and feel of particular places in their community. The teacher has been going through these cycles from seed collection to ‘planting out’ for about ten years, and he is the one for whom this long, always incomplete, project has the greatest sense of rhythm and wholeness, embedded in the here-and-now of the community, but always measured against the scale of time in which habitats are transformed, and a scale of space that reaches out around the globe.

The activities (‘doings’) of the project also form part of economies that those involved participate or do not participate in. When they grow their own plants, from seed they have collected, they don’t have to buy tubestock from the local native nursery. On the other hand, the teacher did have to find funding for (or get recycled) materials and tools, use fuel for the school bus, and so on. They maintained the oil industry by using the school bus, maintained coal-fired power-stations by turning the lights on in the classroom, and used scarce water for the growing seedlings. But they also believed their activities were at least partial offsets for some of the sustainability issues raised by their activities – indeed, that belief (whether true or not) sustained them in the activity, and encouraged them to think differently about how their activities in school, at home, and in the world around them, was part of a general way of life that needed transformation to be sustainable for generations to come.

Distributed relatings

The same networks of sociality are evident in the ‘relatings’ of the project. Networks of relationships are established ‘within’ the project, between the teacher, the farmer and the students, for example, but they also stretch way beyond, to other teachers and students in the school, out into the community, and to a range of others quite unknown to those ‘in’ the project like experts in local ecology, experts on climate change, and even Al Gore and David Suzuki (whom the students know in the way they know other celebrities – a subjective and distant relationship). The ‘relatings’ involved in the project are not just relationships between humans, though; the initiatives also involve relationships between humans and non-human entities (and among non-human entities – as in ecological settings and places when humans are not present). The teacher and students have become agents in the natural world, for example in the reproduction of the species of plants they are working with. They have become agents in changing the geology of the creekscape by restoring an ecology in ways that changes the flows of rainwater runoff. They have left their mark on the physical world. These are among the indicators that give them a clear, concrete sense that they are making a difference, even in the face of human-induced climate change.

The significance of EfS as a practice

The ‘sayings’, ‘doings’ and ‘relatings’ of a project like this have discrete and distinctive meaning and significance for the people involved. Such a project is perceived as very separate (perhaps troublingly so) from the other activities of school life. Allowing students to participate in the activity can function as a reward for students, but participants regard participation as a reward in itself. The initiative does not exist without their action, and the gravely significant work of ‘world-saving’ on which the students understand themselves to be embarked does not – cannot – occur without them (and people like them) being involved. Such projects are thus inclusive

in a very particular sense of the term: the students become aware that each is part of all, and that no-one stands on the sidelines as a spectator when it comes to the sustainability of the planet – we are all constantly degrading or nurturing it by our ways of living. This authenticity and sense of the cosmological significance of their efforts makes participation in the initiative ‘special’ and highly valued. The students are eager to participate, even on very hot days when some might prefer the cool of a classroom or the shade of a tree. Similar benefits are fairly claimed for many initiatives in ‘place-based education’ (Sobel 2005).

‘Doings’: Forms of Education for Sustainability – Key activities

In general, EfS practices studied in our fieldwork fell into eight broadly different domains, as indicated in Table 1 presented earlier. These domains ranged from concerns with ‘Earth, soil, gardening and food’, for example, to concerns with ‘Education’ or ‘Spirituality’. Within each domain, various kinds of projects were undertaken – projects aiming to achieve something of a particular kind. Different case study sites involved different balances of different kinds of activities and projects. The kinds of ‘projects’ undertaken are what Theodore Schatzki speaks about in terms of ‘teleoaffective structures’ (from ‘teleo’ connoting ‘purpose’ and ‘affective’ connoting the association of particular kinds of values, emotions and commitments with projects of these kinds). The kinds of projects undertaken in the case study sites tended to form broad bundles of activities, as Table 1 suggests, so, for example, projects in the broad domain of ‘Water’ included projects and bundles of particular distinctive kinds of activities to do with ‘Water saving’, ‘Water quality’, ‘Water environments’, ‘Catchment management’ and ‘Salinity’.

‘Sayings’: Who speaks sustainability discourses?

In each domain listed in Table 1, and in relation to the different kinds of bundles of activities identified in each domain, participants use a range of particular discourses, both in the course of discussions in the work of the projects, and in justifying the activities of the projects in each domain. Table 4 lists a few (highly selective) examples of the kinds of discourses used in the cases studied.

Table 4. Examples of domains and types of Education for Sustainability practices studied, along with some key discourses used in (and to justify) the activities.

A crucial finding about the discourses of sustainability used at the sites studied is this: not every participant speaks all of the discourses relevant to the work of each site. Knowledge encapsulated in these different discourses is also socially distributed in webs of connection around the sites; not every individual – in fact, not any individual – has all the relevant knowledge or is a master or speaker of all the relevant discourses necessary to the conduct of EfS at the sites studied.

A simple example concerns the indigenous local plants being used in the revegetation projects of the St Barnabas’ College Case Study. Neil, the local farmer, helps John, the teacher, and some of John’s students to collect Casuarina seeds from Casuarinas along the creek banks on Neil’s property. These Casuarinas might reasonably be assumed to be locally indigenous plants, but are they? The willows along the streams around the town are introduced – why not these Casuarinas? Neil and John rely on local botanists and other key advisory groups (and their specialist botanists) to determine whether these particular Casuarinas are locally indigenous to riparian (riverside) ecologies along the local river. *Casuarina cunninghamiana* (River She-oak) seems the likely member of the Family *Casuarinaceae* appropriate for planting here, but there are other Casuarina species also found in the town and

surrounding areas that might equally be used in revegetation projects, particularly on sites more distant from the river.

In fact, no one who plays a very active role in the St Barnabas' College EfS initiative is an expert botanist able to determine with authority what local indigenous species it is most appropriate to plant in degraded environments around the town. For this, participants rely on specialist botanists who are removed from those working on the ground. The local council and greening organisation consult these specialists, and on the basis of the advice they receive, they in turn advise John, Neil and others involved in initiatives like the EfS activities of St Barnabas' College.

A similar case might be made about the educational knowledge of different participants in the activities of St Barnabas' College. As a teacher, John has a grasp of some educational philosophy and theory relevant to understanding EfS work as educational work (rather than 'revegetation work' or 'community activity', for example), and in this way, he is distinct from Neil, the Council and other people and agencies in the project, including the students. The latter have some experience of education, of course (as do Neil and others involved), but they are not masters or even (generally) users of the educational discourses which inform and form the EfS activities that John puts in motion. These others act in response to John's actions, and in many ways they do so knowingly, but they are not users of the discourses that justify EfS as educational work.

The orders (arrangements) of discourse used by participants pre-exist; participants come (ordering) to the discourses, make them their own, come to use/speak them. Of course they also make new utterances, very occasionally create a new idea, and of course their 'sayings' and EfS and practice in their settings are locally inflected, bearing unmistakable traces of local references and local voices. But

they also travel discursive paths and logics laid down in the logos of those discourses themselves. They come to a shared knowledge that the language itself provides and offers – a refuge, a path, a stream of thought that carries speakers and hearers in the direction it always already offers and sustains.

Relatings: Who is involved in EFS initiatives?

It turns out that many different people and groups are involved in Efs activities in every site studied. But not everyone involved in Efs activities is involved in all of the activities at a particular site, or even in all stages of the different kinds of projects involved. It appears that the overall ‘webs’ of activities occurring at particular sites involve different people and agencies at different stages so, for example, some provide the infrastructure or materials that make the activities of others possible. Very few people (often just one or two) are involved in every activity or most activities at a site, and they may orchestrate the activities of others. Some are involved only sporadically or episodically, or even just in a ‘one-off’ way (relatively unaware of the whole nature, purpose and structure of the activities being undertaken).

The pattern of dispersed involvement in the activities that make up an Efs initiative clearly shows the sociality of these initiatives – that is, that they are not produced in their entirety by single individuals, or orchestrated through the actions of single individuals acting alone. Rather, participants meet one another in an ecology of practices, carrying the baton of the overall purpose of the activity for a stretch of its conduct then handing the baton over to another participant or participants. The whole activity, however, demonstrates the interdependence of actors in the practice – they do not and probably cannot produce the whole practice alone.

By ‘ecologies of practices’ we mean distinctive interconnected webs of human social activities (characteristic arrangements of sayings, doings and relatings) that are

mutually-necessary to order and sustain a practice as a practice of a particular kind and complexity (e.g., a progressive educational practice). Such ecologies of practice are evident within particular social contexts and particular ‘site ontologies’ (Schatzki 2003, 2005), that is, as the product of the localised sites where they are enacted, which are simultaneously an intrinsic part of the broader social conditions under which they are undertaken. Arguably, these practices form practice ecologies that are differentially hospitable to different kinds of teacher educational practices and student academic and social practices, in the localised and broader sites where they play out.

The interdependence of action in a practice suggests that practices are not solely the products of individuals (although clearly individuals act, and their actions are orchestrated, within practices) but rather that they are social products. As the title of his book suggests, Schatzki (2002) asserts that practices are ‘the site of the social’.

If practices are social products, then the development of practices is not a matter of educating individual participants one by one or alone, it is a matter of orchestrating actions and activities so that people can “know how to go on” (Wittgenstein 1974, 59-60) in it, asking for and answering the actions of others through their own actions as part of the complex social whole that characterises the practice as a practice of that kind (EfS, for example).

In the St Barnabas’ College case study, for example, secondary school teacher John relates to a variety of other people and agencies in the conduct of his EfS initiative, and many of the people and groups also relate to one another in different activities of the project. Figure 1 gives an idea of the total network of relationships involved:

Figure 1. Total network of relationships in St Barnabas’ College EfS activities.

The initiative is made up of a variety of sub-projects or activities (which are roughly distinguished here, though they might be less distinct than they appear in the Figures to follow). For example, in relation to that part of the initiative that involves growing seedlings of indigenous local species for later planting, participants include only a sub-group of those depicted in Figure 1, as Figure 2 indicates. Local company, FarmVeg assisted with funding and support, local farmer Neil supplied local indigenous seed collected from his farm, a number of students (over a number of years) have been involved in germinating the seeds in trays, transplanting young seedlings to tubes, then preparing the tubestock for planting out. The students sometimes work alongside Conservation Volunteers and the local Green Corps in these activities, which also involve the local community – often as spectators and recipients of the plants, parks and other places in their neighbourhoods. The principal and school administration gave permission for the work to proceed.

Figure 2. People and groups involved in the 'seedlings' element of St Barnabas' College EfS activities.

Figure 3 indicates the people and groups that were involved in the construction of the project's shadehouse/ greenhouse that has, for several years, been used to raise indigenous local plants from seed collected at the property of a local farmer and Rivercare coordinator, Neil. Readers' Digest appears in the role of sponsor of the project, which also involved the teacher (John) and a small group of students. The principal and administration of the school gave permission for the construction to proceed.

Figure 3. People and groups involved in the construction of the shadehouse/ greenhouse at St Barnabas' College.

We have made analyses of other webs of relationships involved in particular activities that contribute to the practice of EfS as it is realised at St Barnabas'.

Each of the people and groups depicted in Figures 1 to 3 is or is not involved in relationships (a) in one or another of the separate activities of the project listed in Figures 1 to 3, and (b) with specific other people or groups involved in the overall activities of the project (these specific relationships are indicated in the Figures by a line connecting one person or group with another in Figures 1 to 3). Some people have many more relationships in the overall activities of the project than others, and some are more intensely involved in those relationships than others.

It is important to notice from Figures 1 to 3 that not every person and agency involved in the EfS activities at St Barnabas' College are involved in all of the activities of the project, yet each may be critical to one or more particular activities and aspects of the overall conduct of EfS at this site. In practice, the work of EfS at this case site does not cohere in the thought – and much less the action – of one key participant (like teacher John), but rather it is distributed socially among participants who collectively realise the work of EfS through their mutual and reciprocal action and interaction. While no doubt dependent on the actions of individuals, orchestrated in relation to one another in the practice, EfS is nevertheless a collective achievement, not the achievement of a single individual or group. As a practice and in practice, EfS is necessarily a collective social achievement – an order, an arrangement, an orchestration – in which individuals orient their actions in relation to the actions of others to produce something that can only ever be collectively produced: a practice.

Is Education for Sustainability transforming Education?

Everyday observation of the media and news make it clear that contemporary concerns about environmental issues and global warming, for example, are changing the broad cultural-discursive, material-economic and social-political fields in which EfS initiatives like the ones we are studying originally arose. While Environmental

Education in various forms has long been addressing such issues, concerns about sustainability (from more than twenty years of concerns about sustainable agriculture to more recent concerns about intergenerational justice) have given Environmental Education a new point and purpose – and new fields for action, especially in relation to energy use highlighted by issues to do with greenhouse gas emissions and abatement, and human-induced global warming. Arguably, EfS has re-oriented Environmental Education; the question then arises of whether EfS will replace it.

Against this background, EfS, especially in its place-based forms, offers a sense of urgency and purpose to education. Indeed, at times the ‘action’ element, justified on the basis of the need for individuals, communities and nations to do what they can to rehabilitate the planet, seems to obscure the ‘education’ element – perhaps especially in settings like the informal, adult, community action and education projects and initiatives we studied. In Landcare and other kinds of community action initiatives, restoring landscapes, saving energy and supporting recycling (for example) are regarded as justified in themselves and for the sake of the planet, and the education that goes on within the action may be regarded simply as incidental learning, though we would argue that it is far from ‘incidental’ and much more – collectively speaking – than simply ‘learning’. It is the shared construction of new ways of life.

We believe that the education ‘inside’ such community action projects seems very clearly to align with what we understand education to be. On our view, *education is a process by which children, young people and adults are initiated into forms of understanding, modes of action and ways of relating to one another and the world, that foster individual and collective self-expression, individual and collective self-development and individual and collective self-determination, and that are, in these*

senses, oriented towards the good for each person and the good for humankind. The informal adult and community action and education initiatives we studied seem to conform to this definition, though participants in these initiatives may be surprised to hear it. Nevertheless, it seems to us that, although they appear to be focused ‘outward’ on issues of sustainability in their local environments, they are also (and perhaps as much) focused ‘inward’ on their own workings as educational processes for members individually and collectively. This accords with our view that social movements are always simultaneously educational movements.

As Kemmis (2007, 8) indicated, movements like these involve

... people acting together in the first-person (plural) as ‘we’ or ‘us’. Decisions about what to explore and what to change are taken collectively. In this case, however, people explore their patterns of sayings, doings and relatings [that is, their practices – SK] as socially-constructed formations which may need to be transformed as a whole. They would require transformation if the character, conduct or consequences of the practices involved were found to be unsustainable in any of five ways:

1. Discursively unsustainable: incomprehensible or irrational, relying upon false, misleading or contradictory ideas or discourses.
2. Morally and socially unsustainable: excluding people in ways that corrode social harmony or social integration; unjust because it is oppressive in the sense that it unreasonably limits or constrains self-expression and self-development for those involved or affected, or dominating in the sense that it unreasonably limits or constrains self-determination for those involved or affected (Young, 1990).
3. Ecologically and materially unsustainable: ecologically, physically and materially infeasible or impractical, consuming physical or natural resources unsustainably.
4. Economically unsustainable: too costly; costs outweigh benefits; transferring costs or benefits too greatly to one group at the (illegitimate) expense of others; creating economic disadvantage or hardship.
5. Personally unsustainable: causing harm or suffering; unreasonably ‘using up’ people’s (including one’s own) knowledge, capacities, identity, self-understanding, bodily integrity, esteem, privacy, resources, energy or time.

On this view of dimensions of unsustainability, EfS may not be as distinctive as it seems. Insofar as it focuses on environmental and ecological sustainability, it may be distinctive, but sustainability has the other dimensions listed, too. And an education, as we understand it, is a form of initiation which not so much leads us ‘into the light’ (as the tradition of the Enlightenment might once have suggested), as lead us ‘out of the darkness’ of our misunderstandings, misperceptions and mistakes regarding the social and natural world we inhabit – that is, the five kinds of

unsustainability listed above. Insofar as it addresses all five of these dimensions of unsustainability, EfS may be a fuller realisation of the practice of Education than many taken-for-granted practices of schooling in Australia (and the world) today.

We have argued that the relatively new practice of EfS is a collective achievement, changing more than the knowledge-into-action of the individuals involved. Still more, EfS involves transforming people's unsustainable social practices by changing not only the participants in those practices but also the cultural-discursive, material-economic and social-political orders and arrangements – the practice architectures – that hold unsustainable ways of living in place. Our case studies of ten EfS initiatives allowed us to see how people were changing the sayings, doings and relatings characteristic of unsustainable ways of living, and adopting sayings, doings and relatings characteristic of more sustainable ways of living. It was possible for them to do so because broader societal changes were taking place in the practice architectures available, offering alternative ways to think about, act on, and relate to others and the world. Changing these practice architectures is a collective social achievement which is as necessary to achieving more sustainable ways of living with the ecology of our planet as changing individual minds and actions. The theory of practice architectures may offer a way to understand social practices as living entities that relate to one another in ecologies of practices, and to understand that our unsustainable practices are well-adapted to practice architectures of unsustainability. It is not just people that need to change but the circumstances under which we relate to one another and the Earth – circumstances that we, collectively have created, and that we, collectively, must change.

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