
Education for Sustainable Development and the Eco-school Initiative in Two Primary and Two Early Years Settings in the North East of England

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Abstract

Eco-school is an international initiative that offers schools the opportunity to develop practices on education for sustainable development (EfSD). Such practices need to focus on nine areas, namely: energy, water, biodiversity, school grounds, healthy living, transport, litter, waste and global citizenship. Acquiring the green flag status is the ultimate stage (silver and bronze are the other two) that is awarded by a committee external to the school and it lasts for two years. Our project focused on two such primary schools and early years settings that had acquired the green flag status. The project aimed to describe how teachers perceive sustainability through the eco-school agenda. We focused on the settings' approach of becoming an eco-school and the practitioners' role in promoting the values and principles of such endeavours. Sustainability is a term mentioned in the eco-school literature in a number of different instances. Thus, we chose eco-schools because this gave a straightforward way to identify a setting with an interest in EfSD. Our interest in this project and the conscious choice we made not to use explicitly the term sustainability to invite the settings to our project are due to other scholars' work in the field such as Green and Somerville (Environ Educ Res, 2014), Davies (Environ Educ Res 15(2):227–241, 2009), Gayford (Can J Environ Educ 8:129–142, 2003) who have highlighted issues that teachers and early years practitioners face when it comes to EfSD (e.g. lack of confidence, skills, knowledge, etc.). This is a qualitative project that used a multiple case study design to focus on the practices of four educational settings to gain a green flag status. A semi-structured interview was

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used with the lead teachers/practitioners of the schools; an audit was also conducted as part of a tour of the settings' premises highlighting the initiatives, curriculum work, projects undertaken as well as resources available to school. Interview transcripts were analysed with the creation of response categories by the two researchers first working individually and then collaboratively; the findings of the project reflected issues that concerned: (a) pupils' cognitive, physical and socio-emotional development, (b) the wider community and (c) the lead practitioners' role and status in school. In relation to EfSD, our findings indicated that its impact upon these settings was rather minimal; a mismatch was identified between the eco-school practices and a holistic understanding of issues that EfSD aims to achieve. This mismatch between eco-school practices and EfSD is discussed with regard to: (a) pupils' understanding of the sustainability dimension in the topics they addressed; and (b) teachers' knowledge of sustainability and willingness to keep on such work in schools.

Keywords

Eco-schools · Environment · Primary schools · Early years · Sustainability education

1 Introduction: Education for Sustainable Development and Eco-schools

Education for sustainable development (EfSD) is 20 years old; over the last two decades it has gained a prominent status in the international and national literature linking environmental, social and economic dimensions. In England, EfSD has been included in the different versions of the National Curriculum thus far; internationally, it has started to appear as a dimension that needs to be included in early years settings too (Arlemalm-Hasger and Sandberg 2011; Davies 2009; Cutter-Mackenzie and Edwards 2013; Reynamo and Suomela 2013). Although EfSD is put forward in rhetoric, in reality things maybe different; for instance a UNESCO brief policy report (2013) discussing EfSD in the UK context highlighted that the Teaching Agency in England which is responsible for the curriculum for school teachers does not have any interest in sustainability; while studies such as that of Barrett (2007) showed that practices with a focus on environmental education activities reflect mainly individual teachers' interests. Here lies one of the current project's interests in the role of the lead teacher/practitioner in the implementation of the eco-school initiative and consequently the implementation of EfSD.

Schools address EfSD in different ways (e.g. project work, topics, cross-curricular approaches, etc.). 'Eco-schools' is an initiative that reflects one such approach towards achieving practices relevant to EfSD. The eco-schools initiative is an international initiative that is managed in Britain by the organisation 'Keep

Britain Tidy'. This initiative aims to inspire and help schools achieve different levels of environmental and sustainable practices. There are three such levels—namely, silver, bronze and green flag status—which schools can achieve based on different actions. Schools that decide to become an eco-school need to follow a number of steps where they have to register, form an eco-committee, conduct an environmental review and draft an action plan. The environmental review needs to address environmental topics identified by the Eco-school agenda. There are nine such environmental topics and depending on the kind of flag a school aims to apply for, they need to review either all nine or a number of these at different stages. These topics include: energy, water, biodiversity, school grounds, healthy living, transport, litter, waste and global citizenship.

These nine topics resemble the eight 'doorways' of the National Framework for sustainable schools in England (DCSF 2009). These 'doorways' include: Food and drink, Energy and water, Travel and traffic, Purchasing and waste, Buildings and grounds, Inclusion and participation, local well-being and global dimension. The overlap between the eco-school themes and the national framework 'doorways' is evident as similar themes and terminology is used in both cases; This parallel between the eco-school initiative and the National Framework for sustainable schools has been drawn because the current project—while focusing on the eco-school agenda—aims to investigate sustainable education practices in these settings. We chose to do so via the eco schools initiative because it gave a straightforward way to identify settings with an interest in EfSD. This interest in sustainability was surmised based on information provided by the eco-school initiative; for instance, in the eco-school webpage (<http://www.eco-schools.org.uk/aboutecoschools/theprogramme>) we read that the eco-school initiative aims to: "... guide schools on their sustainable journey...", that it provides "...a simple framework to help make sustainability an integral part of school life.", and its mission is to "... help make every school in the country sustainable...". The reason we did not explicitly use the term sustainability when we approached the settings was due to a concern that practitioners might have declined to talk to us. Scholars in the field such as Green and Somerville (2014), Davies (2009) and Gayford (2003) highlighted barriers to EfSD that relate to practitioners' training, knowledge, skills, etc.

Furthermore, this interest in EfSD via the eco-school initiative may provide a limited context within which EfSD is viewed. Scott (2013, p. 185) argued that: "... the fragmented view of sustainability which eco-schools present, the way that success is possible without the whole-hearted involvement of the entire school, along with the relative ease with which such flags are obtained, mean that this will not, in and of itself, suffice. Neither will any of the increasing number of awards that are readily available for UK schools to collect." Scott raises here an interesting point that relates to the way that initiatives/policies attempt to 'attract' schools' and teachers' interests in embracing particular educational aspects, EfSD in this instance.

2 Methodology and Conceptual Framework

This is a qualitative study that used semi-structured interviews to discuss with particular practitioner(s) the issues concerning their schools' interest and practices in the eco-school, within a multiple case study context. This strategy is interested in examining a phenomenon within a real-life context (Demetriou 2013) aiming to describe the case(s) as accurately as possible; our case studies were instrumental/exploratory case studies (Stake 1998) where a case is examined to clarify further an issue; our case studies helped to gain insights as to how practitioner(s)' work has contributed to changes in a setting, in this instance pertaining to an eco-school and EfSD. The focus in all the settings we visited (two primary schools and two early years settings) were on the practitioner(s) who have started and developed the eco-school initiative. There seems to be a dearth of studies that focus on teachers as McNaughton (2012) has highlighted that the 'voices' of teachers who develop and implement EfSD topics have not been heard as much in the literature. Thus, this study seeks to describe and explain why/how practitioners/teachers become interested and involved in initiatives relevant to environmental and sustainability issues.

The main method used to collect data was semi-structured interviews; the researchers were also shown around the school premises where the practitioners/teachers demonstrated the different resources they had acquired for their setting in relation to the eco-school status. All settings chosen are located in areas within the north east of England (referred to as School A and B, early years setting A and B onwards).

School A is in an underprivileged area while School B is in an affluent area of the North East of England. In School A the lead practitioner was a high level teaching assistant known to one of the researchers; six years before she had studied for a foundation degree in the university where the researcher worked. In School B we talked to a qualified primary school teacher. Even though, our participants had different teaching qualifications, they were the 'lead person' in their schools when it came to the eco-school initiative. Similarly, the Early years setting A was a private day care provision situated on a city centre university campus, newly constructed and purpose built with energy efficiency features (e.g. living roof). The lead practitioner who talked to us was one of the managerial staff. The Early Years setting B was a local authority, community nursery school situated in an under-privileged area. The lead practitioner who talked to us was the head-teacher.

The transcribed interviews were read through thoroughly by the two researchers separately; we followed an inductive approach where the focus was on the content the lead practitioners wanted to communicate. A descriptive/narrative analysis of these transcripts (guided by the data, hence exploratory) led to three emergent topics, namely (a) how the setting became interested in the initiative and the lead practitioner/teacher's role in that, (b) the impact upon pupils and (c) the impact upon the wider community. The narratives with the emergent topics from each interview were compared between the two researchers and there were no significant

differences. Finally, one narrative for each setting was produced which described and further contextualized the above three topics.

3 Results and Analysis

The results from the two schools will be presented together and then similarly the results from the early years settings. The results will be presented under the three emergent topics mentioned already.

4 Schools A and B

4.1 Topic 1: *How the Schools Became Interested in the Eco-school Initiative—The Lead Practitioner/Teacher's Role*

In school A the participant was a teaching assistant and her starting point emanated from a realization that the grounds of the school were not good enough for pupils' learning. She felt competent and autonomous to look for funding in order to start buying equipment and changing the schoolyard (e.g. nature garden, something to climb on, a picnic table). She was introduced to the eco-school initiative and she started pursuing its agenda. In school B the participant was a qualified teacher, a Key stage 1 teacher. The teacher and school became interested in the eco-school initiative via an email or letter that alerted the school about the initiative. The teacher clearly explained that she took the eco-school project under her supervision without though clarifying that she did so because of any environmental or other particular interests.

In school A even though parental involvement was rather passive (e.g. parents not complaining going outside in mud) and the practitioner found difficult to 'recruit' parents and governors to be part of the eco-ambassadors' team and participate in the meetings, her vision and determination was not diminished. She talked in the first person highlighting her dynamic role in all this.

In school B, the teacher did not remember how the school became involved in the initiative; she believed they had received an email or letter alerting them to the initiative. In terms of support from the rest of the school, the teacher highlighted that their school's ethos is such that if people are asked to help in something, they usually and readily become available—this happened with the eco-school agenda and other staff members (teachers, head-teacher, dinner-ladies) have been briefed and contributed one way or another. The senior management seemed to be also interested as long as the initiative 'paid back'.

According to self-determination theory (Ryan and Deci 2000) competence, autonomy and relatedness are three necessary elements for intrinsic motivation to

occur. In school A, the participant had a sense of competence, she felt autonomous enough within the school to pursue her goals but relatedness that refers to the support given by the wider context was not really present. The principal of the school was not against her but leadership is an important factor for introducing and further developing initiatives that can contribute to effective teaching and learning (Kadji-Beltran et al. 2013). In a Cypriot study (ibid.) it was revealed that there were a number of different constraining factors for successful sustainable schools like: *“Principals’ reported lack of confidence in administrative skills for sustainable schools, limited willingness to challenge the status quo and limited frequency of engaging in actions important for supporting ESD [education for sustainable development] activities such encouraging networking with external groups...”* (p. 318). In our participant’s case (from School A), she mentioned the principal had been helpful without giving any details of particular actions; however, as the principal’s record of detentions indicated fewer detentions since the start of the eco-school activities, his interest in our lead practitioner’s work was mostly linked to the management of his school rather than to assisting the practitioner in her endeavours for outdoor learning within the eco-school agenda. Similarly, with school B senior management was on board as long as the endeavour ‘paid back’.

4.2 Topic 2: Impact upon Pupils

4.2.1 Emotional Development

In school A the lead practitioner discussed how/why the new school yard premises might have affected pupils’ behaviour—she argued that: *“...I’ve done millions of playground duties and I only ever had one playtime when I thought there hasn’t been a little incident happened; there’s always something but it is how you can approach it and what you can divert that child to, that is important.”* She makes an interesting point that reflects how inclusion and participation—one of the eight ‘doorways’ from the National framework for Sustainable schools—can be facilitated with equipment and activities that can become relevant to children’s interests and needs. The school’s revamped outdoor area—one of the nine eco-school agenda topics ‘school grounds’—provided teachers and pupils alike with a context that were able to take advantage of and use it both for learning and for leisure. As a result children felt more comfortable and able to play and work in an environment they enjoyed. The literature also shows how play in natural environments contributes to more diverse and creative play activities for children (Fjortoft and Sageie 2000). The changes that occurred in the school’s outside area included: an orchard (where pupils planted trees with their parents), a butterfly garden, two sets of benches with matching seating and a bigger ‘wildlife’ garden with a bridge and containers with plants and flowers. The physical environment was used both as a resource—education IN the environment—and as an object—education ABOUT the environment according to the distinction made by the environmental education remit.

In school B there were not any statements clearly indicating how the eco-school agenda the school followed actually impacted upon pupils’ emotional development

as there were with our practitioner in School A. There were mostly on cognitive development.

4.2.2 Cognitive Development-Sustainability Issues

In school A, the practitioner mentioned that the use of the outdoor environment can contribute significantly on teaching academic aspects of the curriculum. During our conversation around the benefits of the outdoors in the teaching of the school subjects, the term ‘sustainability’ was mentioned (almost half way through our overall conversation); it was mentioned by a colleague of our lead practitioner (a teacher who joined our conversation for a short time) in an instance that she was explaining about the kind of visitors they had at school and the kind of invitations they had received to participate in ‘sustainability networks’. At this point, we asked them to talk to us about sustainability in terms of what they think it is, how they understand it and how they take it under consideration when planning the curriculum. They acknowledged that sustainability is what it is all about; Our participant said: *“Well, that’s what the nine out of ten are...this is what you are trying to do, promote sustainability within...”*. They went on to describe sustainability as something that needs to be meaningful and on-going. Our participant claimed: *“It’s also got to be something that you can keep on doing because you can’t take the children out for one week and then think that’s it. So, you’ve got to have all your ideas, you’ve got to feed of how you develop the school grounds and see the opportunities that you can take the learning further out there.”* It seems that both our participant and her colleague thought of sustainability as something on-going and mainly realized in the outdoors. Here are some examples of the sustainability dimensions they mentioned.

They were aiming to cover issues about the rainforest, deforestation, engendered animals, etc. When we tried to probe further and more about the way they plan these activities, our participant’s colleague said: *“Because of the type of topics we do and now across the school really, there are such a vast range of topics that are being done across the school, its...is almost not planned and because we are so used using our school grounds, it becomes part of what you do, in the same way.... that you don’t say that I have to teach maths...we know that we are going to take children on visits and trips and things...it just happens because we are so used working in that way”*. This reply highlights the use of ‘hands-on, experiential learning approaches as widespread and successful in their school fitting as well the eco-school agenda. There was nothing more explicit said that related to how particular sustainability dimensions emerged and taught respectively under the topics; the weight seems to fall more on the ‘hands-on’ pedagogy which is important for pupils’ learning but not clearly linked to how it contributes to the teaching of sustainability dimensions.

In our effort to investigate further aspects of sustainability that may be taught, we asked how children, especially older children in Year 6, understand links they make to community, to potential employment and to the wider context of their life. Our participant claimed that all the work they do in the community certainly helps and makes children feel part of this community; also, she commented on children’s

enthusiasm to become part of the eco-team, she stressed how children ask her almost every day if they can be an eco-ambassador (an essential part of the eco-school agenda).

Another example relates to a project they did, entitled ‘Living Streets’; this is a walk to school initiative. This project tied really well with the Travel and Traffic theme (again common theme between eco-schools and eight ‘doorways’). Under this project our participant described to us how they updated the school’s travel plan. Our participant formed a questionnaire that included questions about how children and adults travel between home and school. The questionnaire was administered by one of her eco-ambassadors—she said: “...*even though I wrote the questionnaires out for her she went around other classes and she gave that questionnaire to teachers, to children....to identify some...sort of issues about how when you walk to school, what you like, what you don’t like, had any ideas how to make the journey better...*”. When we asked her whether the children understood why is better to come to school on foot or by bike, our participant said that during assembly all children have heard about the importance of the ‘walk to school’ initiative and if asked, children should be able to “...*give you the healthy answer*”—that is, it is good for one’s health to exercise. When we further prompted her with questions about issues like traffic, pollution she did not give a straight answer—she talked about the man from the ‘walk to school’ initiative and how he contributed to their travel/traffic theme. The sustainability dimensions of this topic seem to have been introduced to pupils via an assembly (lecture-like format) and the prominent issue projected to children was the one that related mostly to them (be healthy) rather than taking into consideration a more holistic approach (humans, environment, pollution, economy, etc.). The term ‘sustainability’ is presented as the ultimate goal of all the topics and the work they do for the eco-school agenda but we never really got a clear picture of what and how they perceive ‘sustainability’ to be.

Another interesting issue concerns pupils’ active participation which may not be as ‘active’; our lead practitioner mentioned that she wrote the questionnaire in the ‘walk to school’ project which pupils then administered. In another project on the ‘green procurement policy’ that the school needs to have for the eco-school agenda, the practitioner explained how she wrote again that policy in ‘child speak’ after she talked about it with the children in a meeting they had. This is not unusual; Katsenou et al. (2013, p. 244) argued that: “...*pupils become involved, either in participatory actions while continuously guided by teachers, or activities planned solely by teachers.*” While it is not within the remit of this project to evaluate the active or not participation of pupils, it becomes relevant to ask whether the practitioner’s sense of competence and confidence may have, unwillingly compromised pupils’ active participation.

In school B, they work with different topics through the year and for the eco-school initiative the school as an institution seems to have a ‘priority’ over making sure that all pupils engage with these topics. When asked whether the eco-school related activities are mapped against the curriculum, the teacher said that they do so in retrospect; that is, there is no specific planning and cross-referencing

because this is how the school works anyway. Similar to School's A practices as well.

During our conversation over the energy awareness week the school had, we had the opportunity to initiate a discussion around the notion of 'sustainability'. We asked how they identify and link the sustainability dimensions of the topics they do, energy in this instance. The teacher said: "*Sustainability was a bit harder, that was all about energy*". That is, she differentiated between sustainability and energy as two different topics with sustainability being the harder to do. The teacher was aware of the term 'sustainability' as an element that was mentioned in the eco-school website; she clearly stated that there were a number of things teachers could do in relation to 'sustainability'. She claimed: "*...I asked where sustainability was happening. Each year group had a sheet to fill in, what curriculum area it was and what activity it was that they did.*" The aforementioned quote indicates that sustainability is viewed as an activity/element that takes place in a particular instance rather than as an overall idea that can permeate different activities. Further on, the teacher identified as well the three curriculum areas that these sustainability activities/instances took place, namely: Design and Technology, Science and Art. She did highlight that the 'sustainability ideas' were taken by the eco-school website—they were not devised by the teachers in the school. She actually said that: "*...they were there for ideas if people hadn't achieved sustainability across the year, that they could then 'Oh I'll do that idea' and quickly put that in, so it could be ideas for them to work on.*" At this point we asked how teachers feel about the notion of sustainability (since it was mentioned that they found it hard to implement); the teacher said that they were all on board with it because they want to offer pupils more than just the curriculum.

With the environmental review that the school has to do as part of the eco-school agenda, the teacher very clearly stated that she takes leadership here. They take the questions from the eco-school website, she makes them more child-friendly and then pupils start asking the prescribed questions and along with the help of the teacher they work on an action plan. The teacher's 'presence' is very 'prominent' in most steps of the initiative just like it was in School A. She actually said: "*...I created an action plan and then we shared it with the Eco-friends [the eco-committee], we've shared it in a staff meeting, so the other members of staff could add to it.*"

While we had the chance to see the questionnaires and action plan used for the conservation area topic, we prompted with another question as to how much understanding pupils have about conservation and why it is important. Her reply was that pupils do not question any of these; they accept the eco-school activities as something they have to do as part of their school engagements. She actually said: "*I think they just accept that it's part of learning. If we said...we are going to learn about electricity, they don't say 'why are we learning about electricity? Like we do PE, we do eco-schools.'*" Thus, the teacher seems to assign 'sustainability' a status similar to the status of the rest curriculum subjects.

Overall, it seems that activities are mostly focused on educating pupils ABOUT the environment (e.g. recycling paper, learning about the water/energy and how to be sensible consumers, etc.) and IN the environment (e.g. being outside the class, going to the lighthouse, visiting local centres, etc.). Activities that highlight the connections between the choices humans make and the implications these have on the planet have not been readily available. For instance, when the teacher (from School B) talked about the school's use of local produce, she did not highlight how such an approach can be linked to issues of carbon emissions, consumer patterns, etc. Similarly, when the same teacher mentioned pupils' knowledge about recycling, healthy eating, energy conservation, globalisation there was no indication that pupils learn to value something inherent in these activities; they learn and do these things (recycling, cycling to school, etc.) as they learn anything else in school.

4.3 Topic 3: Impact upon the Community

In school A, the participant highlighted in a number of different instances how she turned to the community that the school belonged for help. She had links with a local country park that she took pupils over for activities. Other initiatives she took included contacting a landscape gardener, a landscape architect—all of whom were quite expensive to use but they did offer her ideas about the way she could address the school's outdoor area. When she talked about a local resource they were using with pupils, she referred to a partnership they had created. This resource was a local community centre and at some point they were inviting schools to visit and do all sorts of activities, e.g. gardening. Our participant said that every time they were invited she made sure they went and their latest activity just a week before our discussion, was to plant an orchard which they named 'Whispering trees' as part of a name competition. She explained that part of the eco-school agenda is to explore and create community partnerships (also reflecting the eight 'doorways'). She described a number of activities pupils did in the community centre (e.g. cooking with chefs, talking to the community police, etc.) and highlighted how all these activities not only raised the school's profile and partnerships but also made children feel that they are part of a community. Inclusion and participation (one of the eight 'doorways' of the National framework for sustainable schools) is an important aspect that schools with sustainability interests need to promote.

In school B, the eco-school initiative has certainly given the school opportunities to open up to the community. The teacher mentioned a number of such instances; for instance, the school organized the eco-festival the summer before. Another activity which fostered closer links with the community emerged from Northumbrian Water; they came to school, they gave water saving kits and they talked to pupils about looking after the water and how to take care drains and sewers.

5 Early Years Settings A and B

5.1 Topic 1: *How the Settings Became Interested in the Eco-school Initiative—The Lead Practitioner/Teacher's Role*

In setting A, the lead practitioner had worked at the setting for many years and explained that she began to act upon her personal interest in environmental issues 12 years ago when she introduced recycling to the setting. Over time her interest developed, staff became more involved and this was gradually becoming embedded into nursery routine. She eventually recognised that their practices need to be highlighted. Through her leadership and active modelling, staff became more conscious of their practice. Underpinning the practitioner's development of practice and pursuit of the Eco-school status was her question to staff and children, "*What do you think we could do better to support children and look and sustain, well, sustain life, really?*" This kind of question is at the heart of sustainability education but this was the only instance a term relevant to sustainability was used explicitly within the conversation at this setting.

In setting B, the head teacher talked to us; there was not one 'lead' person like in the other settings. They were always interested in such things namely '*outdoorsy*', '*nature park*', '*nature*', '*do the best for the world*', '*environment and how to look after it*'. The journey to the eco-school started with a litter check in the yard conducted by someone from Keep Britain Tidy. The person who started the initiative is no longer at the setting but their rationale to go after the Eco-school initiative reflected: "*...something we could do and it was just going to be really recognition of what we were trying to do already.*" So it started as an activity that could further add value to children's experiences.

5.2 Topic 2: Impact on Pupils

5.2.1 Emotional Development

In setting A, the ethos and staff commitment to environment and sustainability education are embedded into everyday routines and practice. The 'voice of the child' and active engagement is thoughtfully promoted by the staff. In considering the development of the outdoor environment the lead practitioner explained, "*...we look at what the children want so... we have the children draw plans*". Through asking their opinions, engaging the children in conversation and looking at their drawings, the children were able to convey what they "*...wanted to see in the garden.*" The practitioner explained their practice is to give children responsibility at the "*right level*", to "*make it fun*" by using "*small steps*". Thus, empowering children's agency is one of the main approaches, in this setting, towards the eco-school agenda.

In setting B, there was not much discussion and reference to children's emotional development.

5.2.2 Cognitive Development-Sustainability Issues

In setting A, the lead practitioner highlighted a number of examples explaining how their pedagogical approach and use of resources/materials helps children develop their understanding of environment and sustainability issues. She noted the importance of helping children's imagination to flourish by using reusable materials, books and involving children in their own story creations. She linked children's imagination with helping children to develop their thinking skills; she said "*it's basically all about getting children to use their imagination. I think that's the main thing. Getting them to think about things.*" In this way children acquire not only a sense of responsibility for tasks within the setting but also an understanding of the importance of these tasks (switching off lights, water etc.). Children's involvement in an environmental review highlighted the importance of focusing not only on particular learning outcomes, but more crucially, on the process that contributes to their thinking. She said, "*It's the process and getting them to think that... they have to look after and they have to save energy and we have to look after the planet.*"

Staff is conscious to embed these principles and this pedagogy across the curriculum citing examples such as when they collect the recycling from each room, saying "*They find the numbers or they write the numbers and they stick them onto how many bags they've collected.*" Using recyclable materials to create junk model dragons for Chinese New Year and using stories such as Loony Little illustrate this application to developing knowledge and understanding of the world. Thus, by the time children leave this nursery they hopefully have emergent scientific understandings of 'change' as they have experienced for instance waste products breaking down and being used in a different way for another purpose.

In setting B, their overall philosophy is to have all different aspects of the eco-school initiative embedded in their everyday life and classroom learning. Through their regular staff meetings, their medium term planning, their whole school assemblies they plan to have everyone involved in the different activities. From a point onwards this holistic approach becomes sort of a 'given' in the sense that it is not easy to talk about their activities separately. She said: "*Its sometimes quite hard within our setting to think "well, this is healthy eating, this is eco-schools, this is early years" because it's actually just all part and parcel of our ethos.*" While such a statement does reflect a cross-curricular, holistic pedagogical approach, at the same time it does highlight a feature that may be problematic—where are the distinctions between the eco-school and the healthy eating activity? Such distinctions could have been helpful to identify particular features relevant to bigger issues like sustainability for instance.

'Sustainability' as a term was not discussed in any particular way by the practitioners; the practitioners did not make any reference to the term. We brought it up when we asked how the term 'sustainability' that is found in the eco-school literature is implicitly or explicitly introduced to young pupils. Their response indicates a rather weak and limited understanding of the term. They said: "*...I certainly think the nursery promise about not breaking sticks off trees, and we've got very definite rules in the yard of what things can be picked where and why. That's*

sustainability...[the practitioner's name] has put big smiley faces, which you can see for areas that they can pick things for the mud kitchen."

Another example where the 'weak' link to sustainability can be shown is when we were discussing the gardening and planting activities; the practitioners talked about the joy that young learners experienced when they dig up the potatoes for instance; they said how they give to pupils information about the digging circumstances (e.g. temperature, etc.) needed for the vegetables to grow but there was no mention about the 'seasonality' or the 'locality' of the vegetables used. Similarly, when discussing composting, the practitioner described the session they had with pupils as one where they shared fruit and put their peels in the bin in the yards without making any other point about the activity.

Overall, the topics they worked on included: recycling, composting, healthy living, packed lunches, bringing to school only water for drinks, school grounds (with mud kitchen, bug holes, mini beasts, etc.) and biodiversity. The topics they found harder to work on because of the age of pupils were energy and water for which they try to do as much and as best they can. These topics they found easier to work on were also topics that were further supported by activities relevant to Forest school. A number of the staff had training in Forest school activities and so they made the best of these by using both the school grounds and a nearby park.

The practice of eco-school activities were mainly adult-led; the practitioners mentioned how for instance, they tried to involve children in the environmental review. They had a list with pictures and they were asking children to identify the things they did in the school grounds; thus children were able to identify that they did recycle paper but no bottles. Such an approach is interesting because it can be challenging to involve pre-literate children in such activities. At this point, the practitioners did highlight that a number of the eco-school activities seem to be geared towards older children and they need to tailor them to their settings needs.

5.3 Topic 3: Impact upon the Community

In setting A, developing parental involvement is a point the lead practitioner and staff have reflected and acted upon. The lead practitioner acknowledged that parents "... haven't got the time to come and offer the support they would like to...". But she explained that over time they have grown to make use of mascots, props and story-books used in the setting as a vehicle for informing parents and including parents in the environment and sustainability 'message'. They make effective use of 'Handa' a snail hand puppet, 'Garbage' and 'Scoop', mascots made from recyclables as well as story-books such 'Loony Little' as vehicles to enable the children to talk about what they are learning and doing in the setting. Parental involvement may include collecting recyclables to bring to nursery and some families have begun recycling at home as a result of the children talking about how and why they do it in nursery.

Similarly, in setting B, the practitioners talked about mainly the involvement of parents. Even though they have only one parent in their eco-committee, they have

involved more parents in a number of different activities they did like cooking and gardening activities. They described the parents' group as a very lively and dynamic group comprising both local Geordies and people from other nationalities like Iraqis and Iranians who are also very proud of their school having acquired the Green Flag.

6 Discussion and Conclusion

6.1 Practitioners and Settings

6.1.1 Eco-school Is Seen as an 'Add-on' Rather Than a 'Built-in' Activity

All practitioners had different starting points but they all seem to view the eco-school agenda as an 'add-on' rather than a 'built-in' aspect of the curriculum; practitioners in both schools tried to capitalise on the eco-school initiative as something that would bring added value on pupils' learning. Practitioners in both the schools and early years settings had outdoor interests in general and they wanted to give something extra to their pupils. None of the practitioners had a strong, inherent interest in environmental/sustainability issues; they were mostly interested in their pupils' learning and experiences, especially in the outdoors.

Scott (2013) when discussing how sustainable schools can contribute to UK sustainable development, talked about different stages that a sustainable school may go through. He described four stages starting from stage zero to stage four. Within these stages one can see the role that different people/professionals can play within an organization. Drawing a parallel between the eco- and sustainable schools that Scott (2013) described, we can argue that all settings in this project may be found somewhere between stage one and stage two. Stage one "*...is characterized by the work of individuals, with isolated curriculum inputs...school leaders...are reasonable tolerant...*" (Scott 2013, p. 186); while stage two is "*...where the school leadership has accepted the idea that a broad view of sustainability needs to be taken seriously in relation to school's curriculum and supports the opportunities that exist for mutually beneficial links with the local community... providing active leadership...*" (ibid.). Practitioners from all settings had their work acknowledged by the principal and other staff of the school, they had their moral support and support for pursuing further developments but not in a dynamic manner where more concerted efforts could be planned to contribute financially, structurally and educationally both for pupils and the other teachers.

6.2 Sustainability

Knowledge ABOUT the environment (e.g. recycling, planting activities, learning about energy, etc.) and working IN the environment (e.g. being outside the class,

visiting local centres, etc.) are more prominent features within the topic work approach that settings used than activities that highlight the connections between the choices humans make and the implication these have on planet.

In terms of what ‘sustainability’ is, all participants seem to understand ‘sustainability’ as something that is ‘on-going’, as the ultimate goal, that takes place mainly in the outdoors, highlighting ‘hands-on’ approaches; links and references to the National Curriculum subjects or early years learning areas are not necessarily planned out, while links made between society, economy and the environment are rather difficult to detect.

Lead practitioners were not in a position to clearly and explicitly discuss sustainability dimensions in the curriculum. They were able to discuss the topics of the eco-school agenda in relation to the knowledge imparted to pupils (education ABOUT the environment/potential content for sustainable development), in relation to the pedagogies used (hands-on, cross-curricular, integrated approaches—education IN the environment) but less so in relation to values and principles that should permeate a sustainable school (education FOR the environment/a commitment to care).

A school’s job is first and foremost to educate pupils rather than save the environment and the planet (Scott 2013). This latter aspect is certainly harder to achieve; in this instance, the obstacles against EfSD were due to: this whole endeavour being mainly one person’s ambition, vision and work (hence, ‘added on’ rather than ‘built in’); lack of pertinent knowledge around sustainability; pupils’ active participation being restrained to a reactive approach; lack of leadership for sustainability from senior management and community’s passive support. On that last element (community support) it is worth mentioning that Green and Somerville (2014) in their study of sustainability education in primary schools in Australia noted that: “*The layering of webs of connection between schools and their local community members and organisations produce an active school ecology of place that underpins sustainability education practice.*” (p. 12).

Mapping these against the notions of Education for sustainable development 1 and 2 (ESD 1–ESD 2) (Vare and Scott 2007) we can claim that all practitioners in their settings have promoted changes in pupils’ behaviour and knowledge about environmental issues; but in terms of ESD 2 which is characterized by building a capacity to think critically and explore contradictions inherent in sustainable living, they do not seem to have succeeded. This is because they have highlighted learning more as an outcome rather than as a process via which such outcomes may come about. In order for practitioners to be able to develop and focus on the process, knowledge/skills on sustainability need to be enhanced and understood before they are able to implement these in their pedagogical approaches.

Nevertheless, one also needs to highlight positive aspects/seeds for developing a systemic view of the local and global space/environment. These included the value they posed upon outdoor, experiential learning, the ‘tangible’ links they made with the local community and the work towards issues that go beyond the traditional learning aiming to enhance social cohesion.

7 Limitations

The nature of an exploratory case study and the sheer number of these (four in this project) cannot allow us to claim generalizability of our results. However, these four case studies may reflect similar settings in the UK in terms of practitioners' training; training that does not necessarily take into consideration EfSD. Practitioners with different levels of engagement with environmental/sustainability issues and training can lead to varied results in schools. Finally, our main source of data came mostly from the practitioners' input via the interviews and we did not have the chance to observe some of these activities when they were taking place to further enhance/complete or illuminate different aspects of our findings.

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Athanasia Chatzifotiou has gained her Ph.D. from Durham university in the UK. She examined primary school teachers' knowledge and awareness of environmental education in two European countries, namely England and Greece. Her subsequent work addressed issues concerning the status of education for sustainable development in the National Curriculum in England and Greece. She teaches in the BA Hons Childhood Studies degree in Sunderland University where she is a Senior Lecturer in the Department of Social Sciences.

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