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Pupil perceptions, practices and levels of participation in an Eco-School

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ABSTRACT

Eco-schools aim to promote pupil agency and embed sustainability in the life of a school. This article draws on research examining pupil participation in an Eco-School. Social practice theory involves looking at meanings, materials and competency and is used as a lens for exploring how sustainability practices are carried out in the school. The study used an ethnographic approach and included observation and interviews with children and staff at the Eco-School. Environmental awareness varied within the school and perceptions of agency and the power to contribute to decision-making raised questions about the success of the programme. Although shared practices were observed and described by participants, there were also anomalies that indicated that commitment to the practices was inconsistent. The authors argue that to increase environmental awareness and sustainable practices for the benefit of their own future, pupils should be afforded more opportunities to participate meaningfully in everyday school practices.

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Introduction

Urgent action is needed to reduce emissions in accordance with the goal of limiting the world temperature rise to no more than 1.5 degrees (United Nations 2022). Calls for mitigation and adaptation in the face of the global threat of worsening human-induced climate change come at a time of increasing numbers of wildfires, droughts, floods, thawing ice, shifts in the seasonal activities of species and lowered crop yields. In addition to overfishing, increased use of natural resources, pollution and slow progress regarding energy efficiency, the pressure on human and natural systems is unsustainable (IPCC 2014). It is the long-term, challenging goal of many governments and voluntary groups to tackle climate change and protect the planet and people. While sustainability is a complex term, environmental sustainability is explained straightforwardly by Greenpeace (2025) as: 'a way of using resources that could continue forever, like renewable energy. A sustainable activity is *able to be sustained* without running out of resources or causing harm.'

Education might be viewed as a critical component in addressing the issues arising from climate change. Indeed, it seems reasonable to suggest that schools are well-placed to provide environmental knowledge, offer modelled behaviours and develop awareness. Children spend an extensive amount of time in school, where sustainability can be modelled through a range of approaches (Higgs and McMillan 2006). However, it is difficult to imagine how such a complex global issue can be translated into practical, relevant, and understandable measures that are applicable to

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young people and can lead them to engage in environmentally responsible practices. In response to this challenge, several organisations developed environmental education (EE) programmes to foster an understanding of environmental responsibility and prepare pupils for living a more sustainable life. In the UK, these have included the World Wide Fund for Nature (WWF-UK 2009), the charity Sustainability and Environmental Education (SEEd, n.d.) and the Eco-Schools programme (Eco-Schools n.d.). Environmental education initiatives such as these have been popular with schools, and Eco-Schools (managed by Keep Britain Tidy since 1994) state that 1.4 million children in England attended an Eco-School in 2023 (Keep Britain Tidy, n.d.a).

Ideally, the programmes seek to develop a whole-school approach to fostering environmentally responsible behaviour and to encourage a participatory approach to learning (Torsdottir et al. 2023). For example, WWF-UK (2009) aims to encourage ‘whole-school culture change’, whilst SEEd (2016, 2) focuses on ‘bringing together all stakeholders within your institution’. Meanwhile, the Eco-Schools programme aims to encompass the whole school and wider community in its environmental activities (Eco-Schools Northern Ireland n.d.).

Research on which this article is based took place in an Eco-School in England between 2015 and 2020. During and since that time, various changes to the Eco-Schools programme were made, but it still operates under the same general principles.

Eco-Schools and pupil participation

In the UK, the Eco-Schools initiative operates a programme of environmental education which is designed to be largely pupil-led, leading to awards gained via a self-assessment process. The programme uses curriculum-based learning to assist pupils’ knowledge and understanding of environmental issues and to develop young people’s awareness of sustainability. Additionally, pupils are encouraged to participate in the formation of action plans, perform a range of sustainable activities, and monitor progress. Schools registered with the programme are expected to demonstrate their commitment to sustainability by adhering to various environmentally conscious criteria (Madsen 2022), including the formation of a pupil-led Eco-Committee, an Environmental Review and the prominent display of an Eco-Board and Action Plan. This display outlines the school’s Eco-Code, targets and achievements and potentially serves as a visual reminder of the sustainability ethos of the school. Forming practices to reduce waste and conserve energy are key elements of a registered Eco-School. Staff and pupils are expected to be mindful of their actions through regular Eco-Committee communications to inform and involve the whole school about their plans, targets and actions, thereby promoting sustainability throughout the school (Transform Our World n.d.).

A notable feature of the Eco-Schools programme is its avowed determination to empower pupils to develop the confidence and competence to offer ideas and implement environmental changes. EE programmes such as this aim to improve or develop the ‘environmental literacy of participants’ (Stern, Powell, and Hill 2014, 581) and ensure active engagement in decision-making, actions and monitoring to support their capability to understand and tackle environmental issues (Short 2009). Indeed, the importance of considering *how and why programmes work* was emphasised by Rickinson, Hall, and Reid (2016), who argued that identifying the resources and processes within a programme that enable it to influence change must be considered when evaluating its success. The Seven Steps framework of the Eco-School programme asserts that at its centre is the learner, with adults acting as facilitators (Eco-Schools n.d.; Dzerefos 2020; Madsen 2022). Research suggests that such positioning enables ‘a sense of shared community and purposeful participation’ and makes children ‘more willing to question environmental practices in their school and suggest alternatives’ (Owens 2005, 328). Yet it was concluded by Cincera and Krajhanzl (2013) that the most important factor in children’s development of critical and reflective thinking (action competence) was not belonging to an Eco-School per se, but their experience of active involvement in purposeful decision-making.

In addition, the Eco-School ethos emphasises embedding sustainability into the curriculum (Madsen 2022) to develop environmental literacy. This is described by Krnel and Naglic (2009) as

consisting of three levels: awareness, knowledge (a combination of awareness and action), and a depth of skills and information. However, they found little difference in the knowledge and behaviour of pupils in an Eco-School when compared with those found in an ordinary school, a conclusion also drawn by Boeve-de Pauw and Van Petegem (2013) during their investigations of Eco-Schools. The embedded, whole-school approach (WSA) is advocated by the Eco-Schools programme (Madsen 2022) and ‘aims to make environmental awareness and action an intrinsic part of the life and ethos of a school’ (Eco-Schools Northern Ireland *n.d.*, 11). However, there is evidence of variation from school to school in terms of approaches to enable pupil participation and motivation (Schröder et al., 2020).

This paper focuses on research in one Eco-School, which investigated pupil and staff perceptions of environmentally responsible practices (Davenport 2022). An aspect of the study was pupils’ perceptions of their opportunities to participate in environmental decision-making, which might be assumed to affect the development of competency to direct environmental practices in their school. Hart’s (1992) eight-point scale (or ladder) of participation illustrates the range of levels at which children can be involved in projects or initiatives. More recently, Lundy’s (2007) model of child participation has aimed to focus the attention of decision-makers on the four elements of participation: space, voice, audience and influence. The Eco-Schools programme appears to position children relatively highly on Hart’s Ladder and on the face of it, the elements of Lundy’s model are also apparent. Certainly, the initiative’s designation as pupil-led and its aim to equip children with agency and the development of transferable skills offers pupils a range of benefits and opportunities for participation (Keep Britain Tidy, *n.d.b*). However, this research also investigated differences between expected and actual levels of participation of pupils in school environmental decision-making processes and actions.

While there is much research exploring values or behaviour, there are few qualitative studies examining actions relevant to environmental responsibility and the perceptions of pupils in an Eco-School. Furthermore, given the context of a changing climate and recognition of the need for pupils to learn about global warming, its impact and how to adapt to sustainable living, it seems appropriate to listen to pupils and recognise their capability to articulate their own knowledge and perceptions. Yet despite children having the competency to participate and act as agents of change, there can be contextual issues that contribute to an apparent reluctance to enable children to contribute to meaningful change.

By using a combination of methods, including observation, one-to-one interviews and questionnaires, this study gave insight into pupil perceptions of waste, recycling, reuse, consumption of energy and what they understood by environmentally responsible actions. Importantly, it allowed the respondents’ voices to be heard, as the children were given the opportunity to share their beliefs and views regarding the school practices designed to reduce consumption.

With these elements in mind, this study explored the following research questions:

- a. What are pupil perceptions of environmental responsibility in an Eco-School?
- b. What practices are taking place to encourage environmental responsibility in the school?
- c. What is the extent of pupil participation in environmental decision-making in the school?

Methods

As a means of understanding routine practices and participants’ beliefs, a broadly ethnographic approach was adopted. The first author’s background as a primary school teacher was helpful for making sense of school culture, such as lesson procedures, responsibilities and expectations, and available facilities and resources for staff and pupils. Being a relative ‘insider’ enables an ethnographer to perceive events through the eyes of the individuals in their distinct school context. However, there is also a need to be conscious of how past experience and beliefs may influence the interpretation of events observed during data collection and analysis, and ongoing reflexivity is critical (Hammersley and Atkinson 2007).

Social practice theory (for example, Kadibadiba, Roberts, and Duncan 2018; Røpke 2009) informed the approach taken, because it was seen as a useful framework for understanding relationships between the context and the differentiated skills, reasoning and beliefs of pupil participants regarding practices designed to develop environmental responsibility in their school (see Figure 1). Meaning (reason), competence (know-how) and material (apparatus) are the three elements identified as necessary for a practice to take place, and, for a person to be motivated to routinely perform a practice, these elements must work concurrently (Delaney and Fam 2015). By applying a social theory approach to the analysis of practice, links (which may have previously remained unnoticed) are shown between the three elements and with related infrastructure, power relations and other practices. This insight into the breadth of conflicting or connecting practices and social interactions in everyday life is helpful for understanding how social practice shapes the lives of individuals.

Ethical approval for the research was granted by the university ethics board, which required Disclosure and Barring Service certification, and appropriate information and consent forms for participating staff, pupils and their guardians. It was important for children to understand the purpose and nature of their participation, that they did not need to answer all or any questions, and that their identities and responses would remain anonymous. Due to the unequal power balance between adults and pupils, it was very important that pupils felt at ease with the researcher and the activities, and an introduction to the research was provided by the first author before any recruitment took place. A number of local primary schools were invited to take part and one eco-school agreed to participate. Through negotiation with the school and in line with the author's experience of teaching Year 5 (age 9–10) pupils and recognition of their ability to articulate views and opinions, the target population was a class of Year 5 pupils. This age group also allowed for the research to continue into a second year without 'losing' the children through transition to secondary school. Although the whole class was approached to take part in the research interviews, the participant pupils (who gained permission from their parents/guardians to take part) did not, to the researchers' knowledge, have additional needs. Informal observations around the school and particularly in Year 1 (aged 5–6 years), where the lead researcher was a voluntary classroom assistant, involved all pupils.

In order to learn more about the environmentally responsible actions and beliefs of pupils and staff in a primary school, the following qualitative methods were chosen to collect data:

- Observation to provide indications of staff and pupil participation, engagement and consistency of actions;
- Interviews to provide insight into perceptions of sustainability and involvement in environmentally responsible practices;
- Questionnaires to explore participants' relationships with resources and facilities found in school;
- Documentary sources of written and visual evidence, such as policies, newsletters, notices and display boards, to provide information relating to approaches, progress and actions.

Observation of the class pupils was undertaken over a period of two school terms, starting with unstructured observations during initial visits to the school and when acting as a volunteer in a Key

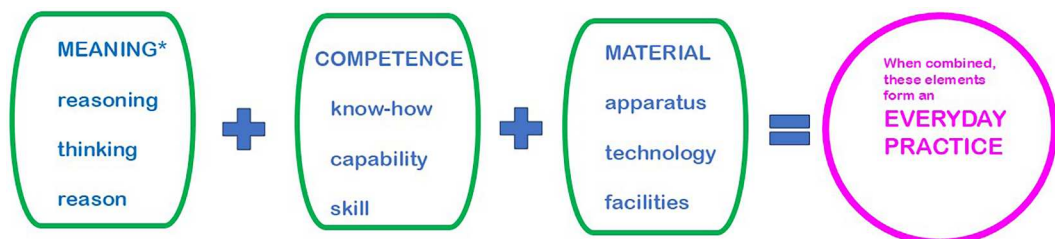


Figure 1. Elements of social practice theory, developed from Delaney and Fam (2015).

Stage 1 classroom. Observations took place in the Year 1 classroom and in and around other areas of the school site, such as the hall, entrance area, outside, corridors, but not in other classrooms when lessons were taking place. The visits enabled the researcher to build a rapport with participants and become a *familiar face*, while also becoming acquainted with the setting, and the interactions, facilities and performance of routines during a school day. Observed actions or points of interest, e.g. pupil comments, explanations or behaviour, were recorded in a field notebook and typed up at the end of the day.

Interviews and questionnaires were completed with seven Year 5 pupils to enable the pupils to offer their views, beliefs and ideas. Six adults (school site supervisor, the headteacher, two class teachers and two teaching assistants) were also involved as participants. These six adults comprised all the members of staff who offered to take part, although the invitation was open to all staff. Although the focus of the study was pupil perceptions, the adult participants provided supplementary information from their perspectives. The interview questions were designed to encourage participants to articulate their understanding, as well as provide opportunities for them to offer supporting examples. The interview was divided into several sections and explored the following areas:

- Perceptions of environmental responsibility
- Range of environmentally responsible activities taking place in school, including forms of energy and resource consumption
- Approaches to learning about, experiencing or demonstrating environmentally responsible actions in school
- Barriers and drivers to the development of environmental awareness and responsibility, including practices of adults and pupils.

The individual interviews with children and adults were conducted face-to-face in school, during the school day. Each interview took approximately fifteen minutes and, unless otherwise requested, were digitally audio-recorded. Only those who provided verbal assent and written consent from parents/carers were interviewed.

Limitations to using interviews were acknowledged. For instance, although participants were asked for their own point of view, it was important, particularly with children, to consider power imbalance, and associated expectations and assumptions (Charmaz 2006, 33). Consequently, gentle, further questioning was sometimes required to ascertain understanding, while taking care to remain as neutral as possible to avoid bias.

It was important that the pupil questionnaires, provided as paper copies, were understandable and accessible. Questions were posed using age-appropriate language and included photographs of school facilities and resources familiar to the pupils. An introduction was included, designed to put respondents at ease and encourage them to answer candidly. Questions were short and simple, with reminders regarding the source of the photographs and the purpose of the questioning, in addition to a statement that there were no *right answers* (Bell 2007).

Documentary evidence included display boards which prominently presented Action Plans and an Eco-Code; these elements forming part of the Seven Steps to becoming an Eco-School (Eco-Schools n.d.). These visual displays demonstrated ways in which the school aimed to develop a sustainable lifestyle in school. Further documentary sources of informal and formal written and visual evidence were also collected for analysis, considering questions of why, how, by whom and for whom such documents were produced (Ahmed 2010; Bowen 2009). Notes were made and documents photographed (if appropriate), to aid later analysis.

Data analysis

A qualitative approach to data analysis was used, whereby transcribed interviews were coded to arrive at commonly occurring themes. Notes made during informal observations and document searches were similarly analysed to inform understanding regarding the thinking, opinions and

proficiencies of staff and pupils. Furthermore, the maintenance of a reflexive approach during analysis supported the development of trustworthy interpretation (Hammersley and Atkinson 2007). The concepts of validity and reliability required asking key questions about how 'sound' are the judgements and how appropriate the choice of methods (Noble and Smith, 2015). To aid this, the use of triangulation enabled a richer understanding of research findings (Denscombe, 2021), i.e. analysing data collected from staff, student and institutional perspectives.

Analysis of data from the interviews, together with information garnered from informal observations, and supported by evidence from the examination of questionnaires, written and visual sources, resulted in furthering understanding of a range of aspects of social practices relating to the children's perceptions of environmental awareness, agency and participation. The underpinning theoretical framework of social practice theory informed the analysis so that it included examination of aspects of social practices, including what, when, by whom, how, and why practices that were presented in the data took place. Following Delaney and Fam (2015) (Figure 1), the elements of meaning, competence and material were identified as requisites for everyday practices. The various types of 'meaning' identified by Delaney and Fam (2015) include the following:

- *Historical meaning* suggests a method that has been 'passed down, taught or observed' (181).
- *Cultural meaning* suggests the way a practice may be viewed by other people, and this may be considered acceptable/unacceptable (182).
- *Emotional meaning* may lead to a positive or negative response (e.g. joy, guilt), which may mean the practice is or is not reproduced.

Findings

The findings showed that children's meaning-making processes varied, often representing historical meaning (practices that were passed down, taught or observed) rather than based on their own reasoning. The influence of the eco-school ethos was a form of cultural meaning that was also imposed rather than actively understood, and the influence, therefore, was not necessarily positive. The children's competence (know-how, capability or skill) was not always acknowledged by adults, meaning they were not necessarily regarded as agents in their own right; and the material (apparatus, technology and facilities) available to enact environmentally practices was sometimes but not always in place, but clearly impacted on whether and how everyday environmental practices were carried out.

The interconnections of these elements are discussed in the next section under the central themes of:

- The influence of the Eco-School ethos;
- Competency and capability;
- Pupil perceptions of environmental responsibility in school;
- Compliance and agency.

Discussion

Influence of the Eco-School ethos

As mentioned, the Eco-Schools programme goes beyond teaching environmental issues as part of the curriculum (Eco-Schools Northern Ireland n.d.) and aims to link processes to ensure sustainability is viewed as a key part of the whole school's ethos (Lewis 2012). So, it is somewhat surprising that the programme, although adopted by the school, was rarely referenced by respondents and some of its elements were apparently unfamiliar to them. This suggests that although certain routines and procedures associated with the programme were recognised, the meaning of the programme itself had created a limited, or even negative, emotional response from individuals. According to social practice theory, over time, this lack of positive engagement might lead to changes within practices or to the

formation of new practices, not necessarily in line with the Eco-Schools programme (Delaney and Fam 2015).

As a participatory group, the Eco-Committee offered a selection of pupils the opportunity to become involved in making decisions as stakeholders. This ostensibly gave pupils a voice, as set out in Article 12 of the United Nations Convention on the Rights of the Child (Lundy 2007; UNICEF 1989), and a chance to believe their views would be taken seriously by adults. An observed Eco-Committee meeting was largely concerned with targeted reduction in energy use and indicated potential opportunities for pupils to review the school's performance regarding sustainability goals and to discuss future goals and actions. However, the meeting was led by an adult, and the Committee's passive acceptance of outcomes and pre-determined initiatives suggested that pupils were not influencing change. Involvement throughout the process of decision-making is necessary to ensure the maintenance of active participation and to facilitate pupil empowerment through increased confidence in their ability to make changes (Percy-Smith 2010). This was clearly not the case in this meeting. Further, the Eco-Committee had been tasked with litter-picking. Although the removal of litter is a valuable activity, it is not necessarily empowering or innovative. Its value may have been increased if it had involved more children in making meaningful changes such as surveying litter in the community or campaigning for a deposit scheme (Percy-Smith 2010). Instead, it seemed that the school setting and its inherent power relations (Warde 2005) had influenced the practices associated with becoming aware of waste and its effect on the environment.

The research found that the views of pupils varied from acceptance to criticism of the school's everyday efforts to foster environmental awareness. On the one hand, a belief was expressed that the Eco-Committee effectively informed and involved the whole school, concurring with the expectations of the Eco-Schools programme. Yet on the other hand, it seemed that efforts to develop environmental awareness and action were ineffectual. Some pupils felt they could communicate with the Committee members, while others felt the Committee did not reflect their views. Clearly, there were differing pupil assessments of the Eco-Committee as the delegated body intended to drive sustainable actions and give pupils a voice.

A key aspect of genuine participation is motivation, whereby a child feels inspired to develop their competences further due to a feeling of involvement (Hart 1992). With regard to routine participation in actions, it was evident that pupils acted as agents to continue the practices of environmental responsibility, in so much as they had the know-how to perform routines and procedures. It is doubtful they had the opportunity to be motivated by their level of involvement to make further changes. It seemed that despite the intention of the Eco-Schools' ethos to empower pupils, the dominance of adults in the school context (where staff held positions of greater authority and responsibility compared with pupils) eclipsed the views of pupils and contributed to a passive acceptance of routines and procedures (Robinson and Taylor 2012).

The participatory principles of the Eco-Schools programme should offer opportunities for pupils to develop environmental literacy and a commitment to sustainable behaviour. It was evident that pupils did engage in various actions during the course of a school day; for example, selected pupils had been assigned responsibilities for applying a range of energy-saving functions to computers. The pupils understood that the choices of modes or functions supported energy conservation, although it was debateable whether they had been involved in deciding which of these functions to apply. According to Hart's Ladder of Participation (1992), this level of assigned and informed involvement could be determined to offer a low level of genuine participation. If pupils had the opportunity or choice to provide further input, such as determining the most effective means to conserve energy, this would offer a higher level of participation. Nevertheless, this application of their skills to use the available computer settings to reduce energy consumption was a demonstration of pupils engaging in an environmentally responsible practice. However, if pupils are to gain the skills needed to become capable of tackling complex environmental issues, then such participatory behaviour must also be viewed in terms of its impact on environmental quality and not simply as a staff-prescribed action to develop their environmental behaviour (Short 2009).

Competency and capability

Analysis of the data using Social Practice Theory (in this case, pupil interview data), led to an understanding of the practice of collecting used paper. A pupil was confident that this routine collection would take place following activities in the classroom:

or when I've done it, we've probably done the questions and then someone comes round with the bin, and then if it's like been cut out of and we can't use it again, it will be, erm, it will be put in, in the bin, which will be going to the recycle bin.

This pupil demonstrated their knowledge of the steps (competence) and facilities (materials) involved in performing this procedure, in addition to believing that during the course of the school day, the routine would be repeated and would involve the collaborative action of their peers and staff. However, the same confidence was not shown by another pupil who was frank about the perceived amount of waste: 'Erm, well resources being wasted is kind of a common one, because like normally everybody would put it in the normal bin, nothing's recycled'. This indicated a recognition that waste equates to items being thrown away rather than recycled, and showed knowledge of actions designed to avoid waste and the facilities available to enable these actions. Unfortunately, it also demonstrated a perception that the practice was not routinely carried out.

To what extent pupils in the participating school had been given the opportunity to voice their opinions regarding the effectiveness of the Eco-Committee or the implementation of the Eco-Schools programme is unclear. It is also unclear why viewpoints differed so markedly regarding the Committee. Perhaps the members were unprepared for the task of representing their peers or were unambitious regarding their targets. But it was evident that pupils' mixed feelings about the sustainability efforts of the school, including those of the Eco-Committee, signalled a need to consider how effectively the Eco-Schools programme facilitated the progress of environmental awareness and action, whilst empowering pupils to lead change. Bearing in mind that EE programmes aim to improve or develop the 'environmental literacy of participants' (Stern, Powell, and Hill 2014, 581), a successful programme should ensure participants are actively engaged in decision-making, actions and monitoring to support their capability to understand and tackle environmental issues (Short 2009). It was apparent that some pupils had reservations about certain decisions that had been made, suggesting they were capable of evaluating decisions, rather than accepting them because they were *a class rule*, i.e. taken at face value. Pupils such as these who possessed skills of critical thinking and were able to consider the reasoning behind decisions would be 'more willing to question environmental practices in their school and suggest alternatives' (Owens 2005, 327). Actively participating in the process of decision-making would therefore enable pupils to act as agents of change. But for this to take place, it is necessary for the capabilities of pupils to be recognised both by the pupils themselves and by staff who have the power to give pupils a voice.

Light green activities, such as collecting used paper or switching off lights, tend to require minimal changes to lifestyle to achieve them (Zsóka et al. 2013) and so they may be viewed supportively by both staff and pupils. As a result of this reasoning, the actions would be repeated, together with the associated application of know-how and use of recycling amenities (Delaney and Fam 2015). However, such narrow opportunities for pupils to develop their understanding of environmental responsibility in school potentially limit their understanding and awareness of making meaningful, sustainable changes.

Pupil perceptions of environmental responsibility in school

Prior studies have noted the influence of the setting on the development of school-based sustainability (Evans, Whitehouse, and Gooch 2012; Wilson 2012). In a primary school, where power relations based largely on hierarchy (adult-child) are at play, pupil understanding of the thinking, skills and actions behind environmentally responsible practices may be influenced by the knowledge of staff or their

willingness to view pupils as active participants in decision-making related to their learning (Ahonen et al. 2014). Pupils and staff in this eco-school were exposed to and performed a range of easily achievable actions, but environmental literacy appeared to be variable. For example, in response to a point raised in the questionnaire, a pupil expressed some strength of feeling regarding their peers' environmental responsibility: 'Some (not all) people still disrespect the environment. I wouldn't say much has changed'. Clearly, the pupil recognised that the views of others sometimes differed from their own, and there was an indication that they believed existing environmental reasoning and practice had not positively altered since their face-to-face interview 12 months earlier.

The findings also exposed conflicting beliefs regarding the environmentally responsible practices of paper recycling and reuse. Teaching staff were identified as responsible for creating *scrap paper* for reuse. One pupil highlighted an example of this somewhat contradictory behaviour:

It's not normally us [that deposits printed paper into the scrap paper box] because there's, erm, the teachers normally print it off, erm, out the printer and if they've not, if something's done with the not used [paper], erm, they put it in the scrap paper.

The respondent understood that the paper was collected in order to be reused by pupils, but it had been created by staff who had printed a surplus number of copies: a pupil explained that although paper was reused and was not thrown away, they 'print off spare'. Moreover, they had observed their peers and some staff carrying out these actions. The routines, which required know-how (the capacity to know what to do with the printed paper), reason (the intended reuse and recycling of the paper) and apparatus (facilities to collect the paper), were seemingly accepted as the norm. However, the teaching staff were largely responsible for what happens to paper, both in terms of printing on it and deciding whether it should be reused. The children, even though they noticed the irony in generating scrap paper from over-printing, complied with the practice.

As with the recycling and reuse of paper, pupils revealed some inconsistency in practices relating to conserving energy. For example, a pupil noted that 'normally in class we will always have the lights on, even if it's quite sunny'. Another pupil concurred with this perception:

Sometimes and, when we're in class and the teachers sometimes leave the lights on when we don't, don't need them on and like, and sometimes waste quite a bit of electricity.

Additionally, there was evidence of differing reasoning from pupils regarding lighting and energy conservation:

We do [carefully use resources and energy] normally but then sometimes it might just be a once or twice we might just forget to do something like turn off a light in the classroom when we've just gone out to church or something.

It appeared the respondent felt that pupils and staff behaved in an environmentally conscious manner for the most part and so occasional lapses were acceptable. Reference to being 'careful' implies a level of emotion associated with energy conservation, combined with a willingness and competency to perform the routine of switching off unnecessary lighting. However, the duration of time spent away from the classroom apparently influenced engagement with the practice, and on occasions, the practice was not reproduced. This strongly suggested that the practices were not embedded in the life of the school, either by staff or by pupils.

Insight into thoughts about heat loss and emissions was offered by a pupil participant who considered why the heating may be turned off rather than opening a window to cool a warm room, stating, 'Erm, it's so that we don't waste any like, I mean don't cause more pollution'. Making this connection between wasting heat and the creation of emissions indicated a more sophisticated understanding of energy conservation. Moreover, it was apparent that the respondent had an understanding of actions and their environmental impact. However, in order to effectively form and express their opinions, children must have access to information regarding environmental responsibility – a point that should not be underestimated (European Commission 2022).

Compliance and agency

Reasoning for switching off electrical items generally stemmed from a desire or intention to conserve energy and is demonstrated by compliance. Pupils had the know-how (competency) to routinely perform a simple action with the intention of conserving energy, and believed their peers would do the same. One stated:

Well, we do ... everyone like helps out ... and ... if Miss asks one of the, erm, people in the class to turn off the whiteboard we'll do it and then, erm, if like the class are leaving the classroom, erm, the person at the back of the line will turn the light off if no-one else is in the classroom.

The pupil certainly appeared willing to assist the class teacher ('Miss') in the conservation of energy, and in addition, they viewed this assistance as a responsibility shared with their peers. It seemed that the respondent believed that all pupils were aware of the responsibility, given that it was likely that the last person in the line would vary. It was likely that the norms within the school setting played a part in providing a rationale for the action; that is, pupils would be expected to comply and follow instructions from staff.

As practices require individuals to routinely perform actions and procedures, there is a reliance on agents or practitioners to sustain it (Røpke 2009). Although some children indicated a degree of agency in carrying out these actions, there was also evidence of a feeling of powerlessness due to the need to rely on changes being made by representatives. For example, a pupil doubted the effectiveness of the Eco-Committee to act on their ideas or perhaps to be representative of their beliefs: 'Again there is no point [listing the Eco-Committee members on the noticeboard] because they don't really do anything'. Clearly, a negative emotional meaning had been attributed to the Committee and their competency to lead actions. This lack of confidence and uncertainty regarding the Committee's ability to effectively represent pupil perspectives suggests the lack of real participation of children in Eco-School initiatives. It indicates a lack of appropriate space for children to express their views, and no guarantee of a listening audience or subsequent influence (Lundy 2007).

Although it has been suggested by Dunlop et al. (2021) that the curriculum could be justifiably used to develop the reasoning skills needed to form arguments and voice environmental concerns, by intentionally or unintentionally restricting the size and nature of actions, the school had reduced the opportunities for pupils to become actively involved in more significant initiatives, such as writing to and meeting local councillors to discuss the impact of traffic on levels of pollution (Aarnio-Linnanvuori 2019). Staff did not suggest any reasons for pupils' contributions being limited to a relatively narrow range of easily attainable actions. Instead, it was taken for granted that routine actions such as recycling and switching off lights would be performed by pupils. This concurs with Gifford and Nilsson's (2014) review of factors that influence environmental behaviour, which concluded that subjective norms represent the behaviours that are expected from others. In this case, school staff expected pupils to dutifully perform the actions and the pupils recognised this expectation. Such social interactions between staff and pupils served to shape practices and although acting as individuals capable of carrying out these practices, pupils were not necessarily viewed as agents of change by either adults or children.

Furthermore, when staff modelled sustainable actions, pupils observed these routines being practiced by those with social power and so were likely to emulate them (Frayer and Klausmeier 1972). It was possible that pupils performed such environmentally responsible tasks because this compliance was the expected behaviour in a school setting. In other words, pupils completed actions that were viewed as typical or familiar in a setting where tasks, roles and rules would be introduced, reinforced and accepted as part of everyday life within school. Indeed, it was found that pupils emulated staff who demonstrated environmentally responsible behaviour as this was trusted to be an example of good practice and also because it was considered to be a *class rule* and therefore an expectation (Davenport 2022).

Conclusions

This paper aimed to explore the environmental perceptions and practices of pupils in an Eco-School and to consider their levels of participation in the process of environmental decision-making and leading actions. Although there are bold statements from the Eco-Schools website advocating the life-long environmental behavioural patterns conveyed to pupils via the programme (Foundation for Environmental Education *n.d.*; Madsen 2022), there are contrary views regarding the programme's impact on pupils' environmental literacy and their capacity to tackle complex environmental issues.

Despite the collective, participatory ethos of the Eco-Schools programme, the study has shown that pupil participation has barely reached a level of involvement where they are assigned meaningful roles and are fully informed of the reasoning behind actions (rung 4 of Hart's Ladder of Participation, 1992). Nevertheless, the study found that pupils can offer important insights into the efficiency and value of environmental practices in school. Yet it seems they seldom have worthwhile occasions to share their thoughts and contribute towards refining practices.

The opportunities for pupils to develop the competency to become increasingly involved are limited. Instead of facilitating the empowerment of pupils to be involved in consultations regarding actions or engaged in the decision-making process and able to influence targets (rungs 5–7; Hart 1992), it seemed the school had (intentionally or unintentionally) cultivated a largely passive involvement of pupils with few opportunities to voice their environmental understandings. In so doing, the school has missed opportunities to develop skills pupils need to tackle environmental issues. As noted by Torsdottir et al. (2023, p. 4), 'Rather than simply teaching solutions to problems ... students need to be supported to investigate the sustainability issues they are interested in'. Additionally, the school was failing to benefit from the valuable pupil perceptions necessary to improve the effectiveness of environmental practices in school.

Within the Eco-Schools programme, the Eco-Committee's key role is to drive sustainable actions. Therefore, the varied responses to these actions (and to the Committee in particular) signal a need to assess the effectiveness of the Eco-Schools programme at facilitating sustainable practices whilst empowering pupils to lead change. Given that successful environmental education programmes aim to develop environmental literacy rather than simply extending the environmental knowledge of participants (Stern, Powell, and Hill 2014), the active participation of pupils in purposeful decision-making is critical (Cincera and Krajhanzl 2013). The findings demonstrate that pupils are capable of evaluating decisions that have already been made, and therefore indicate they have the skills of critical thinking necessary to question practices in their school (Owens 2005). For these skills to be developed in preparation for tackling increasingly urgent environmental issues, it is necessary for pupils and staff to recognise and nurture these capabilities.

Children's responses in this study demonstrate that pupils have the capability to understand, question and evaluate the practices taking place around them. Yet pupils tend to be positioned as merely complying with procedures largely directed by staff. Whilst it is debateable whether participation in determining actions that matter to them would give pupils a genuine opportunity to make an impact on the unequal power relations in school (Robinson and Taylor 2012), it can help to develop the skills and motivation necessary to become further involved in the process of making changes (Hart 1992). This process requires staff to facilitate and support pupils' decisions and actions, while also recognising their competencies and being willing to develop truly collaborative approaches to making change (Percy-Smith 2010).

If schools hope to prepare pupils for appropriate adaptations (IPCC 2014), a holistic approach to environmental responsibility must be embedded in all aspects of school life. Furthermore, all pupils should have the opportunity to participate regularly and genuinely in environmental decision-making, including expressing their views and knowing these will be acted upon (European Commission 2022; Hart 1992; Percy-Smith 2010). In the longer term, if sustainable practices were indeed embedded in school life, there would (arguably) be no need for delegated representatives such

as those on the Eco-Committee. Rather, all pupils and staff would have a full understanding of the implications of all their actions, and would have the capacity to decide both individually and collectively on the best practices to adopt.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Ethical statement

Full ethical approval was granted by the University of Lancashire Ethics Committee, Ref. BAHSS 326.

Data available statement

Data are available on request from the authors.

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