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Moving outdoors: further explorations of 'child-initiated' learning in the outdoor environment

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This article reports on a study in which eight Foundation Phase teachers were supported in exploring Reggio-inspired projects in the outdoor environments of their settings. The study found that the teachers did adopt more child-initiated/centred approaches although it is maintained that in part this was related to the outdoor context in which the explorations took place. However, supporting such approaches was not easy for the teachers while many did not make regular use of their outdoor spaces. It appeared that 'real work' was seen to take place within classrooms and was focused on the learning of subject content.

Keywords: Foundation Phase; outdoors; Reggio Emilia

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Introduction

Following devolution in 1999, concerns were raised by the Welsh Assembly Government (2003) about the use of overly formal, sedentary activities in early years classes. Drawing on evidence from Australia, New Zealand and across Europe (including Reggio Emilia in Italy), proposals for a 'Foundation Phase' for children aged from 3 to 7 years were developed (ACCAC 2004; Welsh Assembly Government 2003). The subsequent Foundation Phase framework (DCELLS 2008a) advocates an experiential, play-based approach to learning in which practitioner-directed activities are balanced with those initiated by children. Seven 'areas of learning' are specified and while specific outcomes are identified in relation to each of these, it is maintained that it is personal and social development, well-being and cultural diversity that is 'at the heart of the Foundation Phase' (2008a, 15) with the child placed 'at the heart of any planned curriculum' (2008a, 6). The framework also states that a greater emphasis should be placed on the outdoor environment as a resource for children's learning while it is noted that both indoors and outdoors children should be given opportunities to 'take risks' and 'become confident explorers' (2008a, 16). Within the framework, then, there is a specific requirement that practitioners allow time for, and find ways of supporting, 'child-initiated' learning in both indoor and outdoor environments.

The study described in this article is built on two previous projects reported by Maynard and Waters (2007) and Maynard and Chicken (2010). The first of these studies – the 'Outdoor Play and Learning' (OPL) project – aimed to gain a snapshot

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of practitioners' use of the outdoor environment while the second study – 'Exploring Reggio Emilia in a Welsh Context' – was more interventionist in that it aimed to support practitioners in exploring new approaches (Reggio-inspired projects) that held resonance with those outlined in the Foundation Phase. While working from different philosophical, theoretical and methodological standpoints, both projects broadly focused on the issue of 'child-centred' learning and enabled us to gain insights into practitioners' current thinking and practice and what might be needed for the successful implementation of the, then proposed, Foundation Phase for Wales.

The first project (OPL) revealed that the teachers' initial understandings about what the outdoor environment may offer as a context for supporting children's play and learning were vague and ill defined. The teachers only considered using the outdoor environment in good weather; little use was made of natural environments even when these were available, and most teachers implemented the same kinds of activities outdoors as they did indoors (Maynard and Waters 2007). In the 'Reggio' project, it was noted that even with the support of the research team, teachers found it extremely difficult to 'let go' and allow children to take the lead in their learning (Maynard and Chicken 2010). In both projects, it was found that the teachers' thinking and practice appeared to be strongly influenced by a perceived pressure to meet externally imposed targets.

The current research intended to extend both these studies by asking a group of eight Foundation Phase teachers to support Reggio-inspired projects in the outdoor environments of their settings. The main aim of this research was to identify whether, and if so how, teachers' practice differed when supporting child-initiated/centred learning outdoors compared with their 'normal' classroom practice and to consider the implications of this for the successful implementation of the Foundation Phase. This study reports on and discusses the findings of this project.

It should be noted that the Foundation Phase framework (DCELLS 2008a) refers both to 'child-initiated' activities that emerge from children's interests and play and 'practitioner-directed' activities – planned activities that focus on the direct teaching of a new skill (DCELLS 2008b). We recognised, however, that activities that are 'initiated' by the teacher may be 'directed' by the child and vice versa and we were interested in exploring this distinction in our research. As a result, for ease, the term 'child-initiated/centred' (DCELLS 2008b, 2008c) is used to describe practice that focuses 'more on children's interests, development and learning rather than the curriculum and pre-determined outcomes' (e.g. 2008a, 52). Our interpretation of how this may look in observed practice is described below. First, however, in order to understand our interpretation of 'Reggio-inspired' projects, we briefly consider some of the principles and practices of Reggio philosophy and outline some of the benefits that have been ascribed in using the outdoor environment.

Reggio-inspired projects

Within the infant and toddler centres of the municipality of Reggio Emilia, children are seen as active participants in their own socialisation and knowledge building (Rinaldi 1998) – they are viewed as 'rich in potential, strong, powerful and competent' (Malaguzzi 1993, 10) – while the relationships, communications and interactions children have with their parents, other children and practitioners are seen to be at the heart of the teaching and learning process (Rinaldi 1998). These relationships form a 'partnership of learning' (Gandini 1993, 06) as children,

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practitioners and the wider community create an emergent curriculum, the *progettazione*. This, in part, takes the form of project work (Malaguzzi 1998).

Throughout the 'projects', children use symbolic languages to explore their interests and ideas from their observations, memories, predictions and hypotheses about the world around them (Katz 1998). Children are encouraged to represent these ideas through a variety of different media including drawing, dance, music, singing and modelling. Significance is given to the emergence of shared understandings that enable children to examine and reconsider their thinking, rather than specific learning outcomes that follow linear paths to a clear, pre-determined objective (Rinaldi 1998).

Practitioners are seen as partners – co-researchers – in this learning process; their role includes the ability to 'set up situations, and make choices that facilitate the work of children' (Malaguzzi 1998, 91). They also collate journals, transcriptions of children's dialogues, photographs and representations of the children's thinking and learning to document the educational process. Documentation is not seen as an assessment tool to monitor individual progress, but as a form of explanation detailing the vitality of the children's learning and the underlying principles of the activities (Forman and Fyfe 1998). Documentation also creates a visual discourse that enables children and practitioners to revisit ideas and construct new interpretations (Rinaldi 1998).

Outdoor play and learning

The claims made for the benefits of using the outdoor environment are well rehearsed. For example, outdoors children can explore the world at first hand and experience natural phenomena such as the weather, the changing seasons and shadows (Ouvry 2003) while the increased space normally afforded by the outdoor environment allows them to construct on a bigger scale and move around freely (e.g. Rivkin 1995). Given the association between movement and young children's construction of conceptual understanding and their place in space (Tovey 2007) this is clearly of importance.

Movement also supports children's physical development – their agility, stamina, co-ordination, strength and balance – and helps them to gain control of their bodies (Cleave and Brown 1991; Tovey 2007). Such benefits may be enhanced when children are allowed to play in wild, natural environments (Fjørtoft 2001, 2004). Movement – particularly moderate to vigorous physical activity (MVPA) – may also be a factor in combating childhood obesity – particularly in girls (Brown and Summerbell 2009) – although research findings are inconsistent. That said, physical activity has been found to have numerous other health benefits in children and young people who are deemed to be obese (Janssen and LeBlanc 2010). It is of significance, therefore, that researchers have commented that when in childcare centres, children are often engaged in sedentary activities and that there is little MVPA (Reilly 2010). Dowda et al. (2009) maintained that the pre-schools in their research that were rated as of 'higher quality' (using standardised measures) were found to have lower sedentary time and higher MVPA.

A further benefit of using the outdoor environment is that here children are able to satisfy the need for challenge and excitement (e.g. Bilton 2010; Little and Eager 2010). Stephenson (2003) maintains that children's physical risk taking, and learning how to deal with risk, is a part of children's natural development and an important life skill, enabling children to develop self-confidence and the disposition to manage risk effectively. She suggests that it may also positively enhance dispositions for

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learning such as resilience, playfulness and reciprocity (Carr and Claxton 2002). It has been suggested that play in natural, wild environments may especially support the development of children's risk-taking behaviours (Sandseter 2007, 2009; Waters and Begley 2007). However, researchers have commented on the overly controlled nature of outdoor play in early years settings in, for example, Australia, New Zealand, the US and the UK (e.g. Little 2006; New, Mardell, and Robinson 2005; Stephenson 2003; Tovey 2007).

Finally, it appears that adults have different expectations for children when outdoors. Rivkin (1998) notes that while indoors children may be expected to sit still and be quiet, outdoors they are allowed to run around and make a noise. This means that when outdoors children can push the boundaries of who they are and what they can do without fear of being admonished for being too boisterous, loud or messy (Bilton 2010; Ouvry 2003). Given these different expectations, and the greater potential to get away from confrontation afforded by most outdoor environments, it is unsurprising that outdoor play has also been associated with more co-operative play (Ouvry 2003) and with enhanced emotional and social development (e.g. Tovey 2007; Waller 2007).

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The research

As stated above, the main aim of this research was to identify whether, and if so how, teachers' practice differed when supporting Reggio-inspired projects (child-initiated/centred learning) outdoors compared with their 'normal' classroom practice and to consider the implications of this for the successful implementation of the Foundation Phase. As in a previous study (Maynard and Chicken 2010), we did not intend that practitioners attempt to adopt the Reggio philosophy (even if this were possible) but to use this philosophy as a lens through which to view (and review) their own practice and that embedded in the Foundation Phase Framework.

The project involved eight early years teachers (of children aged 3–7 years) working in eight primary schools in two local authorities in South Wales. In one school (School A), the teacher had access only to a tarmac yard; the other teachers all had access to one or more 'natural environments' including a school field, an identified wild area or woodland. Five schools provided children with wet weather gear and three did not. Each of the selected schools (selected by the Local Authorities as funders) was given a grant to enable the participating teacher to attend university-based seminars and to have time for preparation and reflection.

The project was divided into two phases. In phase 1 (March–August), participating teachers attended a series of five seminars that aimed to support the development of knowledge and skills related to Reggio Emilia philosophy, outdoor play and learning and particular research methods. They were also asked to complete five tasks designed to support the development of their thinking, practice and research skills. In phase 2 (September–January), the teachers introduced Reggio-inspired projects in their schools so as to explore the potential of child-initiated/centred learning in the outdoor environment.

While recognising the risk of over-simplification, in our work with teachers we drew on Reggio philosophy to emphasise the 'strong, powerful and competent' child, the 'emergent curriculum' and of practitioners developing 'partnerships of learning'. We therefore characterised child-initiated/centred activities as those that were both initiated and led by the child; which did not have pre-determined (subject content) outcomes; in which the activity centred on play or self-chosen investigation; in which

the teacher acted as supporter/facilitator or co-researcher; where the level of physical challenge and activity was likely to be high; and which involved open interaction and possibly also 'sustained shared thinking' (SST).

SST emerged from the Effective Provision of Pre-School Education (EPPE) and extension Researching Effective Pedagogy in the Early Years (REPEY) studies' data (e.g. Siraj-Blatchford and Sylva 2004; Sylva et al. 2004). SST is defined as an interactional event in which 'two or more individuals "work together" in an intellectual way to solve a problem, clarify a concept, evaluate an activity, extend a narrative etc. Both parties must contribute to the thinking and it must develop and extend the understanding.' (Sylva et al. 2004, vi). This was of particular relevance to our study given 'sustained shared thinking' is mentioned in the Foundation Phase documentation (DCELLS 2008b, 35). We were also aware that in the EPPE and REPEY projects an association was found between SST, open questioning and higher cognitive outcomes; that staff in 'excellent' pre-school settings and the most qualified staff were more likely to engage children in SST and that SST was most likely to occur as part of one-to-one interaction and as part of freely chosen, child-initiated, play activities (e.g. Siraj-Blatchford and Manni 2008; Sylva et al. 2008).

Data collection and analysis

Initial, interim and final semi-structured interviews were undertaken with the eight participating teachers. In addition, we planned to observe (to video-record) teachers twice in each phase: a total of 32 indoor and 32 outdoor observations. Difficulties with arranging visits meant that 30 indoor sessions and 31 outdoor sessions were recorded; on each occasion, this was of 20–30 min of 'normal' indoor and outdoor activity. Not all observations (and not all project work) took place during timetabled sessions or involved the class teacher: in one school, two project sessions took place during children's playtime, and in four schools, three inside and four outside observations were of a teaching assistant or supply teacher supporting children's learning. Field notes were made on site and during seminars in order to provide contextual details and capture comments, gestures or movement that could be used to inform data analysis. Documentary evidence (photographs, practitioners' plans and evaluation notes, reflective journals, etc.) was also collected.

Interviews with teachers were transcribed (approximately 18 hours of audio recording) and were subject to analysis using NVivo. Coding was initially focused around our specified areas of interest (a priori codes), that is teachers' use and their perceptions of the benefits, limitations, challenges and impact of the outdoor environment and of more child-initiated/centred approaches to learning. However, as Creswell (2007) suggests, we remained open to the emergence of new codes. Data from field notes and documentary evidence were also analysed around these issues.

Video-recorded observations were analysed using a specially designed observation tool (see Appendix). The tool, which was an extension of the observation tool used in the previous two studies, describes nine aspects of activity within early years settings. The tool was not intended to act simply as a rating scale but as a way of supporting our individual and collective seeing and thinking. When reviewing the 'observation', the research officer made judgements in relation to each category and recorded a justification for her decision. A second researcher repeated the process with a random sample of observations. Discussing our interpretations enabled us to moderate our findings and also to deepen our understanding of the practitioners' ways of working.

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Onwuegbuzie and Teddlie (2003) suggested that greater meaning can often be generated through 'quantisizing' observational data. In this study, analysed data from the observations were recorded numerically ('reduced') in relation to each of the nine categories identified in the observation tool across both indoor ($n = 30$) and outdoor ($n = 31$) observations and for phases 1 and 2. Descriptive statistics, which were also subjected to statistical (χ^2) analysis, enabled us more easily to compare observational data with findings from interviews and field notes and to explore the differences between teachers' practice when inside and out. Descriptive statistics were also used to compare aspects of the practitioners' practice during phases 1 and 2 of the project. This was of interest as while we had been discussing child-initiated/centred practice from the start of the project, and practitioners had undertaken a number of related tasks within their settings, they did not begin to implement and document Reggio-inspired projects until phase 2.

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Findings

Moving outdoors

At the start of the study, seven of the eight teachers commented that they enjoyed being outdoors, often referring nostalgically to their own childhood experiences. One teacher stated, for example:

> I love it. I just wish I could get out there more. I really enjoy being out, it's lovely. The children, the fresh air and just the feeling of being out. I've always loved being out from a little child. When I grew up I was always out. I had the opportunity to go climbing mountains and things like that. My walk to school was always through big ferns and it was all the smells ...
>
> *(Teacher B, Int 3)*

All the teachers also spoke with enthusiasm about the children's enjoyment of the outdoors:

> They absolutely love it. The looks on their faces, their voices change, their body language is different, they're off running, excited, the whole energy is different .... .
>
> *(Teacher D, Int 3)*

In addition, the teachers all referred to the perceived benefits of being outdoors; in particular, to the increased learning possibilities provided by the rich and diverse outdoor environment as well as the opportunities for children to work on a bigger scale and to experience a sense of freedom. For example:

> I mean it's all going on out there, isn't it. The weather ... it's all you know real life is out there. It's not made and put on a board, a pretty picture by me. You know, the planes in the sky and the clouds and weather and wildlife ...
>
> *(Teacher D, Int 3)*

> I feel children feel a little bit more free to do things outside rather than inside. I mean there are particular rules inside like ... noise level or running ... When they are outside they've got a lot more space so they can move around.
>
> *(Teacher A, Int 3)*

The teachers commented that when outdoors some apparently shy or quieter children became more confident while boisterous or aggressive children became calmer and more focused and were better behaved. For example:

> ....some of the more boisterous children, the more difficult children, they do behave better outside generally speaking.
>
> *(Teacher G, Int 1)*

> Thomas usually stands around crying if somebody looks at him ... whereas he was a leader out there today.
>
> *(Teacher H, Int 2)*

Three teachers referred to changes in their relationships with children when outdoors. These teachers commented that outdoors they felt less pressurised and more relaxed, they became less of an authority figure and more like a parent or grandparent, less constrained by targets and outcomes and less concerned about mess or noise. In the first interview, one teacher commented, for example:

> I'd say that I feel more authoritative, is that the right word? Indoors ... I'm more like the practitioner indoors whereas outdoors sometimes I forget I'm the practitioner and I feel like I'm just going for a walk with you know, some children.
>
> *(Teacher G, Int 1)*

Despite their stated enthusiasm for the outdoors, some of teachers acknowledged that other than for project activities they generally made little use of their outdoor environments – especially their natural outdoor environments: four of the eight teachers took the children outside at least twice a week but the other four took the children outdoors twice, or less than twice, a month. The teachers referred to various constraints: these included weather, difficulties with supervision and preparations for Christmas as well as accessibility, vandalism and safety. However, perceived constraints were not found to be associated with the use of the outdoor environment by practitioners.

Supporting 'child-initiated' learning outdoors – planning

Five of the eight teachers mentioned the impact that projects had on their planning. One teacher commented that while trying to remain flexible in her approach, supporting child-initiated/centred learning outdoors required greater organisation and had significant implications for staffing and thus required more detailed planning of activities. Four others maintained that, in terms of identifying outcomes, planning had decreased, become looser and more flexible or was undertaken in retrospect. For example,

> There's a lot more planning in the outdoor environment. I mean we do planning as a sorting out where the teachers are and when to swap over and make sure there is an adult or at least two adults in the classroom and in the outdoors.
>
> *(Teacher A, Int 1)*

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> I'm keeping my planning loose. It's a general learning intention and then based on what I've seen the time before I may introduce different stimuli.
>
> *(Teacher H, Int 3)*

Initiation of activities

Data indicated that whether working inside or out, most observed activities ($n = 61$; 87%) were initiated by practitioners (Table 1).

Outcomes

In addition, teachers tended to identify learning outcomes in advance, although when planning for outdoor activities, they were less likely to do so than when planning for indoor activities: 67% for outdoor activities ($n = 31$) and 87% for indoor activities ($n = 30$). It was found, also, that in relation to outdoor activities teachers were more likely to include, or focus solely on, outcomes such as social skills or collaboration/team work (68% outdoors and 41% indoors) or not identify any outcomes in advance (33% outdoors and 13% indoors) while indoor activities were more likely focus solely on subject content to be learned (59% indoors and 32% outdoors).

A comparison of outdoor activities in phases 1 and 2 revealed, however, that in phase 2 of the project the percentage of activities for which teachers pre-determined the outcomes dropped (from 88% to 47%). However, of these ($n = 21$), there was a increase in the percentage of observed activities that focused solely on subject content (from 7% to 57%). An increased focus on subject content was also reflected in a comparison of indoor activities undertaken in phases 1 and 2 (from 43 to 75%) (Tables 2 and 3).

Practitioner or child led

In relation to who predominantly controlled the direction of activities – how far they were practitioner or child led – data indicated that when outdoors over half of all

Table 1. Initiation of activities.

Activities initiated by	Outdoors phases 1 and 2 ($n = 31$)	Indoors phases 1 and 2 ($n = 30$)	Total ($n = 61$)
Practitioner (%)	87	87	87
Practitioner/child (%)	3	9	6
Child (%)	10	4	7

Table 2. Outcomes.

	Outdoors phases 1 and 2 ($n = 31$)	Indoors phases 1 and 2 ($n = 30$)	Total ($n = 61$)
Pre-determined outcomes	67% ($n = 21$)	87% ($n = 26$)	77% ($n = 47$)
Subject (%)	32	59	45
Subject and non subject (%)	47	37	42
Non-subject (%)	21	4	13
Outcomes not pre-determined (%)	33	13	23

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Table 3. Outcomes by phase.

	Outdoors phase 1 ($n = 16$)	Outdoors phase 2 ($n = 15$)	Indoors phase 1 ($n = 16$)	Indoors phase 2 ($n = 15$)	Total ($n = 61$)
Pre-determined outcomes	88% ($n = 14$)	47% ($n = 7$)	88% ($n = 14$)	86% ($n = 12$)	77% ($n = 47$)
Subject (%)	7	57	43	75	45
Subject and non subject (%)	64	29	57	17	42
Non-subject (%)	29	14	0	8	13
Outcomes not pre-determined	12%	53%	12%	14%	23%

Table 4. Practitioner or child led.

Activities led by	Outdoors phases 1 and 2 ($n = 31$)	Indoors phases 1 and 2 ($n = 30$)	Total ($n = 61$)
Practitioner (%)	35	73	54
Practitioner/child (%)	6	4	5
Child (%)	59	23	41

observed activities (59%) were led by the child whereas when indoors around three quarters (73%) were led by the practitioner (Table 4).

Cognitive challenge

From the observational data, the cognitive challenge of outdoor activities appeared to be higher than those that took place indoors. In the outdoors, nearly three quarters of the activities were rated as being of intermediate or high cognitive challenge (73%) and around one-quarter (27%) of low cognitive challenge; indoors, around half (51%) were of intermediate or high cognitive challenge and half (49%) were of low cognitive challenge.

A comparison of data from phases 1 and 2 suggested that in both indoor and outdoor environments the cognitive challenge of activities fell in phase 2. This appeared to be particularly noticeable for indoor activities where 19% of activities in phase 1 ($n = 16$) and 79% of activities in phase 2 ($n = 14$) were categorised as of low-cognitive challenge. Data suggested that this difference was related to the provision of routine activities for children while teachers were involved in preparations for Christmas. Only four observed activities were judged to be of high cognitive challenge: two inside and two outside (both Teacher C) (Tables 5 and 6).

Table 5. Cognitive challenge.

Cognitive challenge	Outdoors phases 1 and 2 ($n = 31$)	Indoors phases 1 and 2 ($n = 30$)	Total ($n = 61$)
Low (%)	27	49	38
Inter (%)	67	45	56
High (%)	6	6	6

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Table 6. Cognitive challenge by phase.

Cognitive challenge	Outdoors phase 1 ($n = 16$)	Outdoors phase 2 ($n = 15$)	Indoors phase 1 ($n = 16$)	Indoors phase 2 ($n = 14$)	Total ($n = 61$)
Low (%)	13	40	19	79	38
Inter (%)	81	53	75	14	56
High (%)	6	7	6	7	6

Physical activity and physical challenge

Children's physical activity increased when working outdoors: 90% of outdoor activities were rated as intermediate/mixed or high (taken as broadly equivalent to MVPA); indoors 100% were rated as none/low. However, only two of the outdoor activities were categorised as 'high'; both took place during the children's playtime. Similarly, in relation to physical challenge; 88% of outdoor activities were categorised as intermediate, mixed or high while all indoor activities were categorised as having no/low physical challenge. Only one activity was rated as high physical challenge – this activity also took place during playtime. It was unclear to the observer whether this activity was intentionally 'risky' (Table 7).

Pedagogy and approaches to teaching and learning

Four types of activity were identified in our observation framework: these had emerged from our previous studies and guided our analysis of observed activity. The first was the direct teaching of content: this was not observed outdoors but found to account for just over one third (34%) of indoor activity. The second was an activity for which the teacher had identified a content-based learning outcome but this was presented in the form of a game or problem to be solved: this accounted for around two-fifths of both outdoor and indoor activity (42% of outdoor and 39% of indoor activity). The third was a problem, investigation or game where the intended learning was not immediately obvious or only loosely planned and included 'authentic' activity such as building a den: 10% of both outdoor and indoor activities were of this type although no authentic activity was observed. The fourth category was free

Table 7. Physical activity and physical challenge.

	Outdoors phases 1 and 2 ($n = 31$)	Indoors phases 1 and 2 ($n = 30$)	Total ($n = 61$)
Physical activity			
None/low (%)	6	100	53
Inter (%)	84	0	42
Mixed (%)	4	0	2
High (%)	6	0	3
Physical challenge			
None/low (%)	12	100	56
Inter (%)	80	0	40
Mixed (%)	4	0	2
High (%)	4	0	2

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or structured play: nearly half (48%) of the outdoor activities observed but less than one fifth (17%) of the indoor activities were categorised as play (Table 8).

Role of practitioner

In the interviews, five of the eight teachers reported that when supporting project work outside there was a change in their role: they spent more time listening and observing and became a supporter and facilitator of learning rather than an instructor. For example:

> I've been trying to listen and watch and try and get that ... sort of from them.
>
> *(Teacher A, Int 2)*

> My relationship with them then has been far more ... of a supportive role than a leading role.
>
> *(Teacher C, Int 2)*

> My role at the moment is mainly as an observer. The children have control over initiating activities and experiences. We try not to intervene other than gently guiding them if we feel more could be gained from doing this.
>
> *(Teacher G, Int 3)*

Observational data indicated that this was the case: overall, when outdoors, in just under half of the observed activities (49%), practitioners acted as 'facilitator/supporter' while taking on the role of 'instructor' in 13% of activities. When indoors teachers acted as instructor in 64% of observed activities – this rose from 56% in phase 1 to 72% in phase 2 – and as 'facilitator/supporter' in only 16%.

This change in role was seen as challenging: teachers referred to the difficulty of closely observing the children in order to identify their interests and ideas; of restraining the desire to 'take over' (Table 9). For example:

Table 8. Pedagogy and approaches to teaching and learning.

Type	Outdoors phases 1 and 2 ($n = 31$)	Indoors phases 1 and 2 ($n = 30$)	Total ($n = 61$)
Direct teaching (%)	0	34	17
Direct teaching ... as game etc. (%)	42	39	40
Problem/investigation etc. (%)	10	10	10
Play (%)	48	17	33

Table 9. Role of practitioner.

Practitioner role	Outdoors phases 1 and 2 ($n = 31$)	Indoors phases 1 and 2 ($n = 30$)	Total ($n = 61$)
Instructor (%)	13	64	38
Mixed (%)	32	16	24
Facilitator (%)	49	16	33
None (%)	6	4	5

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> I'm trying to support them as much as possible. I'm trying not to lead although I'm finding that very, very hard ... If I'm honest I've still got ideas myself of things like the size of the house, the shape of the house and I'm just finding it so hard not to lead.
>
> *(Teacher E, Int 3)*

> It's harder, not leading, because you've got to be all eyes and ears to try and pick up on what they are saying and run with it. It is far easier to go out there and say 'right we're going to do this' and 'this is how we're going to do it' and to have that control.
>
> *(Teacher H, Int 3)*

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Adult–child interactions

The desire not to take over appeared to be closely related to questioning: four teachers referred to the difficulties of asking the 'right kind of questions' at the 'right time' in order to support the children's thinking and not 'shut down' their interest. For example:

> From the start I noticed I asked some very silly questions. Very closed questions as well. Even though you think you are asking the right questions when you listen back you think I'm giving them the answers here. I've been trying to be a lot more open.
>
> *(Teacher A, Int 3)*

Despite this difficulty, in relation to their interactions with children, observational data indicated that practitioners were more likely to use open questions and less likely to use closed questions when outdoors: in 58% of outdoor activities, interactions were found to be predominantly open and in 16% they were predominantly closed. In relation to indoor activities, this was reversed: in 16% of activities, interactions were predominantly open while 58% were predominantly closed. The 'open' interaction category included SST although this strategy was observed on only one occasion indoors and one occasion outdoors – both by teacher C (Table 10).

Documentation

All the teachers noted changes in the way they recorded children's learning when undertaking project work outdoors: children's activities were documented using photographs and video cameras and transcriptions or notes were made of children's interactions. However, several teachers referred to the challenges of 'making sense' of this 'evidence' or were sceptical about its value. For example:

Table 10. Adult–child interaction.

Adult/child interaction	Outdoors phases 1 and 2 ($n = 31$)	Indoors phases 1 and 2 ($n = 30$)	Total ($n = 61$)
None (%)	3	3	3
Closed (%)	16	58	37
Mixed (%)	23	23	23
Open (%)	55	13	34
SST (%)	3	3	3

> I suppose the children have looked at it and said 'oh, look that's my picture and I remember when I drew that'.
>
> *(Teacher D, Int 3)*

Five teachers maintained that they were using documentation 'as a tool' to enhance and guide their planning: to consider how they could extend children's thinking and understanding.

> When I go home and I read what I have written of the children's quotes of what they've said and I've thought about the things they've said in discussions. If there was something from that that I thought could lead us to more questioning or we could look into that further.
>
> *(Teacher C, Int 2)*

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Chi-square analysis

Chi-square analysis indicated statistically significant associations in relation to the following six aspects of observed activity:

- Wholly or partially child-led activities were more likely to occur outdoors and teacher-led activities were more likely to occur indoors ($\chi^2 = 7.33$, df = 1, $p < 0.01$);
- Teachers were more likely to take on a facilitator or 'mixed' role when outdoors and an instructor role when indoors ($\chi^2 = 16.44$, df = 2, $p < 0.005$);
- Investigation/authentic activity and play were more likely to occur outdoors and the direct teaching of subject content was more likely to occur indoors ($\chi^2 = 13.15$, df = 2, $p < 0.005$);
- Open interactions were more likely to occur outdoors and closed interactions were more likely to occur indoors ($\chi^2 = 13.88$, df = 2, $p < 0.005$);
- Intermediate to high physical activity (broadly equating to MVPA) was more likely to occur outdoors and less likely to occur indoors ($\chi^2 = 53.49$, df = 1, $p < 0.005$);
- Moderate to high physical challenge was more likely to occur outdoors and less likely to occur indoors ($\chi^2 = 46.87$, df = 1, $p < 0.005$).

Discussion

As we noted above, both researchers and policy makers appear to recognise the benefits of taking children outdoors and of practitioners using more child-initiated/centred approaches in both the indoor and outdoor environments of their early years settings. Our research found that when exploring Reggio-inspired projects in the outdoor environment the teachers were more likely to support approaches that could be described as 'child-initiated/centred'. Teachers referred, for example, to changes in the way they planned and documented children's learning while observed differences between teachers' practice indoors and outdoors were found to be statistically significant in relation to the type of activities that were planned or allowed to take place; who controlled the direction of these activities; the role adopted by the teacher; the nature of adult–child interactions; the level of physical activity and the level of physical challenge. In each case, more open, flexible and child-initiated/centred

approaches were adopted when outside and more closed, structured and subject-centred approaches were adopted when inside. This is important given the benefits ascribed to, for example, movement, risky play and open questioning as well as the associations established between higher quality early years settings and those that encourage MVPA and, in their adult–child interactions, make use of SST.

It is likely that the differences noted in the observed practice of teachers when outdoors were related to their involvement in this research project: to the sustained support they were given in exploring Reggio-inspired projects in the outdoor environments of their settings. To some extent, similar – although less obvious – changes in teachers' practice were observed in the Reggio project: for example, it was noted that as the project progressed some teachers became more 'laid back' in their planning and made more use of open questioning (Maynard and Chicken 2010). However, data from this study indicate that teachers' explorations of more child-initiated/centred approaches were supported – amplified – by the outdoor context in which these explorations took place. That is, there are indications from this study and others that practitioners are more likely to adopt such approaches when working outdoors.

On what do we base this assertion? First, differences were noted between observed practice indoors and outdoors in phase 1 of our project; even before they introduced Reggio-inspired project work in their settings, data revealed that teachers were more likely when outdoors to allow children to play, to adopt a supportive role and to ask open questions. In the initial interviews, the teachers commented, also, that they recognised that they had different – less rigid – expectations for children's behaviour in the outdoor environment; as indicated above, such differences have been noted by numerous researchers. Similarly, the teachers maintained that when outdoors their relationships with children were different – they felt less like a 'teacher'. This reflects the findings of Stephenson's (2002) study of children's play in the indoor and outdoor environments of a New Zealand child care centre. Stephenson found that when indoors, practitioners valued stability, routines and rules; when outdoors, activities tended to be open and less structured.

Why practitioners respond in this way is unclear. It could be, as some researchers suggest (Kaplan 1995; Wells and Evans 2003), that the green environment has a calming and restorative effect. It may also be, as Maynard (2007) has argued elsewhere, that teachers' professional subjectivities are in part held within the school building and that as a result, when outdoors teachers may be more willing and able to move away from 'targets and outcomes'.

This is not to say that the adoption of such approaches was easy for the teachers; the use of more child-initiated/centred approaches when outdoors was not consistent across teachers' individual profiles (where it was possible to ascertain this) nor were they apparent in relation to all aspects of observed practice. For example, it was noted, as in the previous Reggio study, that projects largely remained teacher-initiated rather than child-initiated; that when planning activities teachers tended to pre-determine the outcomes; and that teachers emphasised their difficulties with documenting children's learning and with 'letting go' – relinquishing control to the children – particularly given the perceived need to meet statutory curriculum requirements in a limited time frame. Indeed, in phase 2, as teachers were encouraged to adopt more child-initiated approaches, and as 'teaching time' was taken up with preparations for Christmas, in those activities for which they continued to pre-determine outcomes, some teachers were found to be more likely to focus solely on or include

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subject-based outcomes and less likely to identify non-subject outcomes. This resonated with the findings of the Reggio study where teachers felt the need to supplement project work with the direct teaching of 'factual knowledge' (Maynard and Chicken 2010, 35). Similarly, despite maintaining their own and the children's enthusiasm for going outdoors and describing the positive benefits to be gained from doing so, it was noted that, as in the OPL study, half of the teachers appeared reluctant to take the children outdoors.

For many teachers, it appeared that the outdoor contexts of their settings were not valued; 'real work' was seen to take place inside the classroom and was focused on the learning of 'subjects' – content knowledge and skills relating to the specified learning outcomes. Like the teachers in the previous two projects, then, these teachers – to an extent this applied to all the teachers in this study – appeared to be 'subject centred'; their practice seemed to be influenced by a felt need to remain in control of children's learning in order to protect their own professional identities and to meet prescribed outcomes. This commitment may also have been reflected in the observed use of support staff to supervise children's outdoor play while teachers worked with children inside the classroom on activities that incorporated the direct or indirect teaching of subject content. This is of significance given that, as noted above, the EPPE/REPEY studies found that SST – associated with higher cognitive outcomes – was more likely to occur in one-to-one interactions with the most highly qualified staff and as part of children's self-initiated play. It may also explain why, in our study, SST was observed on only two occasions.

Conclusions

We recognise that our findings are only indicative given, for example, the relatively small sample size and that analysis involved reduction and simplification of data. We recognise, also, the challenges of convincing practitioners that child-initiated/centred learning outside counts as 'real work': identifying associations between child-initiated/centred practice and the outdoor environment are of little use if practitioners are not convinced of the value of such approaches and do not take the children outdoors.

Nor are we meaning to imply that the more child-initiated/centred approaches, we observed when outdoors were necessarily useful in supporting children's thinking and learning. Exploring Reggio-inspired projects may have encouraged teachers to reflect on the apparent dominance of content-led learning in their thinking and practice – important given the approach advocated in the Foundation Phase framework – but we observed some structured play that was fairly routine and of low cognitive challenge and also some open questioning that appeared to us to be lacking in purpose and direction. We became convinced that providing children with the opportunity to explore and play in the outdoor environment and asking children open questions about their activities and investigations is not, in itself, enough. In order to ask questions and sustain interactions that challenge, support and extend children's thinking, practitioners need to be highly skilful (see Maynard and Chicken 2010). Achieving this level of skill takes time and may relate to practitioners' willingness and ability to reflect on and develop their practice. It may also be, as the EPPE/REPEY studies suggest, that child-initiated/centred approaches are at the same time both highly significant and one among a number of approaches that may be utilised within the outdoor and indoor environments of excellent early years settings.

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Appendix. Framework for analysing observational data

(1) Initiation: Was the activity initiated by the practitioner (P) or child (C)? Did it emerge from shared activity (P/C)?

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(2) 'Outcomes': Were these identified before the activity (PDO)? If so, were the outcomes related to subject content (S) and/or non-subject content (NS) (e.g. relating to children's emotional or social development)? If outcomes were not pre-determined record ONPD.
(3) Practitioner/child led: Was the activity predominantly practitioner (P) or child led (C) or was it shared between them (P/C)? (Who determined the direction in which the activity develops?)
(4) The level and nature of cognitive challenge – was this:
- Low (routine activity);
- Intermediate (requires some thought and application of skills or ideas);
- High (requires extensive thought and high level of problem solving/and creativity)?

(5) The level of physical activity – was this:
- None/low (e.g. children mainly seated or walking slowly);
- Intermediate/sporadic (e.g. children moving around most of the time, occasionally at a running pace);
- High (e.g. children involved in vigorous physical activity – getting out of breath and red in the face)?

(6) The level and nature of physical challenge – was this:
- None/low – normal day-to-day activity or nominally outside this (e.g. walking across the playground; walking through long grass or over tree stumps);
- Intermediate – a moderate level of physical challenge (e.g. rolling down a slope, jumping across a small stream; balancing on a low branch);
- High – risky activity (e.g. climbing high into a tree or over rocks; using adult tools)?

(7) What type of activity was it?
- The direct teaching of content knowledge/skill (e.g. how to write a particular letter) (DT);
- Content (knowledge/skill) was identified but presented as a game, investigation or problem (e.g. the practitioner gives the children an addition sum and children have to run and stand in the correct chalked square) (DTAG);
- A problem, investigation or game where the intended learning is not immediately obvious (P/I);
- Play (P) – either structured play (where the practitioner has a specified learning outcome in mind and has prepared the play environment to support children's learning of this outcome) or free play (play that is child initiated and child led and for which the practitioner has no specified learning outcome).

(8) The role adopted by the practitioner – was this:
- Instructor;
- Facilitator/supporter;
- Both (mixed)?

(9) Practitioner/child interactions – were these:
- Closed/predominantly closed (C) – children were rewarded for the correct answer;
- Open/predominantly open (O) – children's ideas were encouraged and explored;
- Mixed (M) – there was a balance of closed and open questioning;
- Sustained shared thinking (SST) – extended, purposeful adult–child interactions?

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