Learning outside the classroom: An inquiry into how Outdoor Learning can assist in the school's mission statement to meet the needs of the learners.

William Goldsmith

A Research & Development Project Submitted for the MSc in Learning & Teaching 2019

DEPOSIT AND CONSULTATION OF THESIS

One copy of your dissertation will be deposited in the Department of Education Library via the WebLearn site where it is intended to be available for consultation by all Library users. In order to facilitate this, the following form should be completed which will be inserted in the library copy your dissertation.

Note that some graphs/tables may be removed in order to comply with copyright restrictions.

Surname	Goldsmith
First Name	William
Faculty Board	Education
Title of Dissertation	Learning outside the classroom: An inquiry into how Outdoor Learning can assist in the school's mission statement to meet the needs of the learners.

Declaration by the candidate as author of the dissertation

1. I understand that I am the owner of this dissertation and that the copyright rests with me unless I specifically transfer it to another person.

2. I understand that the Department requires that I shall deposit a copy of my dissertation in the Department of Education Library via the WebLearn site where it shall be available for consultation, and that reproductions of it may be made for other Libraries so that it can be available to those who to consult it elsewhere. I understand that the Library, before allowing my dissertation to be consulted either in the original or in reproduced form, will require each person wishing to consult it to sign a declaration that he or she recognises that the copyright of this thesis belongs to me. I permit limited copying of my dissertation by individuals (no more than 5% or one chapter) for personal research use. No quotation from it and no information derived from it may be published without my prior written consent and I undertake to supply a current address to the Library so this consent can be sought.

3. I agree that my dissertation shall be available for consultation in accordance with paragraph 2 above.

Learning outside the classroom: An inquiry into how Outdoor Learning can assist in the school's mission statement to meet the needs of the learners.

Abstract

This study investigates the potential use of Outdoor Learning, specifically Beach School, as a way to meet the needs of the learners. A Beach School Unit of Inquiry was developed following the principles of the International Baccalaureate Primary Years Programme Curriculum in the local area. Two year 5 classes participated in the Beach School Unit of Inquiry once a week. Both classes followed the same Unit of inquiry on the topic 'Diverse Scotland'. Findings suggest that Beach School is an effective way to assist in the school's mission statement to meet the needs of the learners; however, other factors were also important. Using a local area played a key role in motivating pupils, and in turn helping them to develop socially and cognitively. Specifically, both classes showed a substantial increase in the International Baccalaureate Learner Profile areas of Open-minded, Enquiring and Risk-taking. However, the study also highlighted some of the challenges in Outdoor Learning, confirming the importance of establishing an understanding of the concept of Outdoor Learning. Overall, Outdoor Learning has significant potential to support learners when using the local environment by making learning real-life.

Contents **Page**

1. Introduction 1

1.1 Research context 3

2. Literature Review 6

2.1 Outdoor Learning 6

2.1.1 How is Outdoor Learning defined? 6

2.1.2 What is the role of OL in education? 10

2.1.3 What is the place of OL in Scotland? 13

2.2 Outdoor learning benefits 15

2.2.1 What are the benefits of OL to pupils? 15

2.2.2 What are the links between OL benefits and the IB curriculum? 17

2.3 Outdoor learning challenges 18

2.3.1 What are the key barriers to OL? 18

2.4 Summary 20

3. Methodology 22

3.1 Research design 22

3.2 Participants 23

3.3 Collaboration 24

3.4 Ethical considerations 24

3.5 The inquiry 25

3.6 Data collection 27

3.6.1 Survey 27

3.6.2 Observations 28

3.6.3 Interviews 29

3.7 Qualitative analysis 31

4. Findings and Discussion 32

4.1 What are the benefits of Beach School to Grange School pupils? 32

4.1.1 Finding 1: participants have a mixed understanding of OL 32

4.1.2 Finding 2: pupils experienced many benefits of Beach School 33

4.2 How can Beach School be incorporated into the curriculum? 38

4.2.1 Finding 3: Beach school is an effective way for pupils to connect their learning 38

4.2.2 Finding 4: staff integrated Beach School successfully and there are still barriers to overcome 40

4.3 How and to what extent does Beach School meet the needs of the learners? 43

4.3.1 Finding 5: pupils showed overall positive change in how they demonstrated the learner profile 43

4.3.2 Finding 6: other factors were important: importance of the school environment 48

5. Evaluation 50

6. Conclusion 52

7. References 55

8. Appendices 61

1. **Introduction**

Learning outside the classroom, specifically Outdoor Learning (OL) is gaining traction in the UK, with considerable interest from Government, policy makers and teachers (Christie et al., 2016). Indeed, there is growing consensus amongst educationalists of the benefits of OL, for example in raising attainment and pupil wellbeing, and much has been written to support this (Fairclough, 2016; Fuller et al., 2016; Department for Education (DfE), 2017). Of particular significance is the growing concern surrounding the emotional wellbeing and mental health of pupils, and there is evidence to suggest OL can be a protective factor against the onset of mental health issues (Ryan, 2010; Robertson, 2014). A number of studies have highlighted the decline in young people engaging with the outdoors (Natural England, 2009; RSPB, 2012; Hunt et al., 2016), and, combined with the onset of social media, technology, reduction of opportunities for sport, exercise and after-school clubs and activities for children, I believe that OL can plug this gap.

Using the outdoors 'makes a major contribution to physical and environmental education and enhances many other curriculum areas. It contributes to personal growth and social awareness and develops skills for life and the world of work' (English Outdoor Council, 2019: 1). More recently, research has focussed on how to use OL as a pedagogical approach to deliver the curriculum (Christie et al., 2016), as some believe that 'outdoor learning is not a subject or topic; it is a way of teaching' (Plymouth University, 2016 in Niman and Kerwin-Nye, 2019: 4). OL is therefore an important topic in education. Arguably, given the challenges the UK education sector face, OL could be a useful pedagogical approach whilst simultaneously plugging the gap in pupil wellbeing and engagement with the outdoors. Indeed, schools are increasingly 'being encouraged to address pupil health and wellbeing and engagement within and across all other curricular areas' (Mannion et al., 2015: 4).

However, whilst OL has been included in policy and curriculum related documents across the UK (for example in England DfE, 2012, and in Scotland, Learning and Teaching Scotland, 2010), there is limited research or evidence in several important areas. This has resulted in key curriculum and pedagogical challenges, leading to the 'fragmented provision and the under-realisation of increased levels of deeply embedded and connected outdoor learning experiences' (Thorburn and Allison, 2010: 97). An approach to OL that makes it a central part of the curriculum, rather than peripheral, is therefore needed (Thorburn and Allison, 2010; Fiennes et al., 2015).

What appears to be lacking is an approach to OL that is school-based, and that connects the learning that takes place in the classroom with learning that takes place outside the classroom. OL does not have to take place on costly residential trips; I believe that valuable OL can take place during the normal school day, within the local community, when it is central to the curriculum and pedagogical practice of the teachers. This study therefore seeks to address this issue through an inquiry into the potential of using a school-based Beach School OL model to empower teachers to implement OL as part of their everyday practice in order to meet the needs of the learners. Beach School is an approach to learning outside the classroom that is facilitated through OL on the beach, as shown in Figure 1. Beach School connects OL to the curriculum within the local environment and community. If the potential of OL can be developed through a Beach School model, then another application of OL will have been identified and the results will inform the ongoing debate about OL as a pedagogical tool.

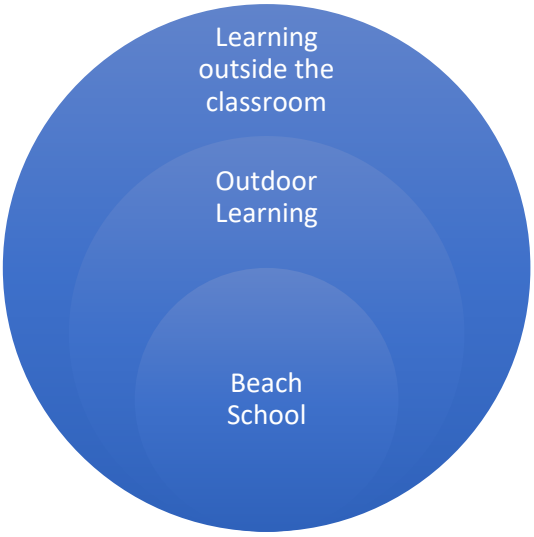


Figure 1: Beach School and its relationship to OL and learning outside the classroom.

1.1 Research Context

The research took place in a co-educational boarding school in Scotland with approximately 540 five to 18 year olds and where I was in my third year as Head Teacher of the Junior School (age five to 12 year olds), referred to as Grange School. The school aims to prepare 'boys and girls for life…by providing an internationally recognised qualification for life. We are educating all pupils to learn effectively, communicate articulately, respect others and participate with purpose' (Grange School, 2019). The goals of the school are for 'deeper learning, wider options, richer minds' (Grange School, 2019). The school achieves this through adopting the ten core values of the International Baccalaureate (IB) curriculum (see Appendix 1) and aims for all to be: Inquirer, Knowledgeable, Thinkers, Communicators, Principled, Open-minded, Caring, Risk-takers, Balanced and Reflective (Grange School, 2019). Whilst these values are developed in the classroom through the IB curriculum – which is now embedded throughout all age groups – it is also developed outside the classroom via the extra-curricular programmes on offer. However, up until this study, there was no formal OL programme to assist in the school's aims in meeting the needs of the learners.

Whilst there was a clearly a gap for OL, there are four key reasons why I felt it was appropriate, and indeed essential, to introduce OL at Grange School. Firstly, during my second year as Head

Teacher, I set out to formulate the central ethos and core learning strategy of the school. The Grange School objective was to develop curiosity, imagination and compassion in our pupils, within a curriculum that allowed us to stray off course, and deviate beyond the constraints of the Curriculum for Excellence (CfE). The school follows the IB Primary Years Programme (PYP), and is one of only 13 Primary Schools in the UK to do so. The PYP is a concept-driven curriculum that supports the central notion of Inquiry, and I feel OL supports the core aims and mission of the IB. The cross-disciplinary curriculum and teaching of the IB PYP suits OL as 'it has the capacity to provide an organising framework for learning outdoors which encourages teachers to make more use of the flexible course programming arrangements and students to review what is of value to them' (Thorburn and Allison, 2010: 104). There was therefore significant support to formalise an OL programme. In doing so the school would support the guidance from the Scottish Government and the General Teaching Council Scotland (GTCS), which specifically stated that teachers must use the outdoors, to ensure that OL is embedded into the educational experience (Scottish Government, 2012; GTCS, 2013).

Secondly, I have previously worked in schools that support OL and have seen the benefits first hand to children of this age. I am very interested in the emotional wellbeing of pupils (which was the focus of my earlier studies: Author (pseudonym), 2016) and can see a link between OL and raising wellbeing in pupils. I am passionate about the outdoors, outward bound and have seen the impact it makes on children. Indeed, it is thought that 'adult's childhood memories of the outdoors may affect the sort of provision they are likely to consider for children in their care' (Waite, 2011: 69).

Thirdly, I was involved in formulating the core marketing strategy to boost admissions to the school. It is clear OL has the potential to be a key facet of the school's product, and I saw the promotion of OL to act as an incentive for prospective families. Several independent schools in Scotland 'have a long tradition of [OL] provision…and most make a feature of their commitment to the outdoors and exhort its personal development potential' (Higgins, 2002:

159), and we wanted Grange School to show such commitment through formalising an OL programme.

Lastly, the geographical location of Grange School lends itself perfectly to OL. On a local scale, Grange School is located 200 yards away from the coastline, and as such I felt it was very important to utilise this natural classroom and develop a Beach School OL model. This would be a Scottish coastal interpretation of the Forest School model, a well-documented and researched specific model for OL (for example see Knight, 2016). Being able to connect classroom learning to the local environment through OL offers a powerful educational tool for teachers. This is supported by the OL literature that argues 'for the need for a place-responsive, personally relevant, and increasingly autonomous learning experience' (Christie et al., 2016: 423).

2. Literature Review

In line with the focus of this study, the literature review looks at three key areas. Firstly I established what the scope and nature of OL is and how it is understood and defined within the wider educational context. Secondly, the opportunities and benefits of OL were reviewed. Lastly, the challenges and known barriers to OL, specifically curriculum and pedagogical, were reviewed, as well as research that has overcome these. The following research questions were devised to guide my reading:

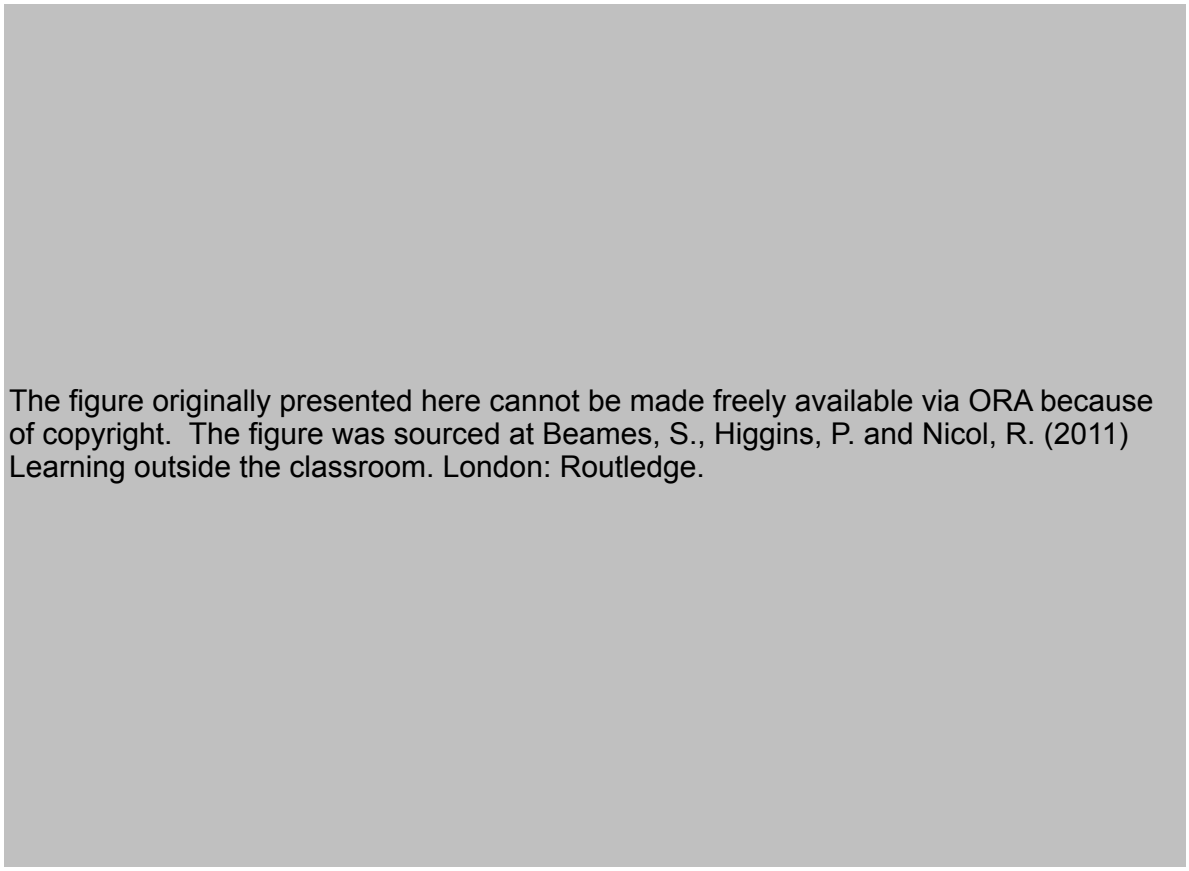
1. What are the key features of OL?
2. What are the educational benefits of a OL?
3. What are the challenges of OL?

2.1 Outdoor Learning

2.1.1 How is Outdoor Learning defined?

There is apparent confusion and lack of consensus in the literature regarding the concepts of 'learning outside the classroom', 'outdoor learning' and 'learning outdoors' (Higgins, 2002; Rickinson et al., 2004). For example, it is spread across all ranges, and across many topics, from visits to farms and city farms; to school gardens (Passy, 2014) and using green space as a classroom (Bentsen et al., 2013); Bushcraft and Forest School; field study centres; residential trips and adventure expeditions. Research has also assessed OL in specific areas, for example Maths (Hattie, 1997) and Science (Gill, 2011). Subjects such as Geography, Biology and Environmental Studies frequently occur in the literature since their subject content involves fieldwork. Such a broad range of activities have led some to describe OL as 'an overlapping patchwork of interests that differ in what is offered, to whom and where …[and therefore]…is not captured by a single, unifying survey of activities' (Fiennes et al., 2015: 11).

However, this wide and complex spectrum of OL activities can be categorised by three types: fieldwork and outdoor visits; outdoor adventure education (OAE) and school-based projects (Dyment, 2005). As a result, there are different ways in which schools define, characterise and practice OL, depending on which type of OL they adopt. Figure 2 shows a concentric circles model of OL, as identified by Beames et al. (2011). The model represents a phased approach to OL that schools can take, with each phase being represented by a zone. The first zone is school-based OL before using the the surrounding local area for OL as the second zone. The third zone represents OL day trips and the fourth zone is the furthest afield, using residential centres for OL. Using Dyment's (2005) categorisation with Beames et al.'s (2011) model, fieldwork and outdoor visits would include all zones, OAE relates to the fourth zone and school-based projects include the first and second zone.



Such overlap and confusion highlights why it is so important to establish a clear understanding of OL for the purposes of this study, and give clarity to its characteristics. As this study is not

focused on any form of OL that involves either fieldwork and OAE (residential and non-local activities), such OL experiences have been excluded from the definition.

I explored some of the literature from outside the UK, where OL is arguably more well established, as this offers a valuable insight. Scandinavian countries have long practised different types of OL, and it plays a central role in the development of children: physical, emotional and intellectual (Humberstone and Stan, 2011). Their approach to OL involves 'an emphasis on free play, exploring activities, place-based knowledge, local natures and cultures, and sustainability' (Gurholt and Saunderud, 2016: 319). Some have suggested that the UK's OL provision is, partly, inspired by their different types of outdoor school (Knight, 2009; Gurholt and Saunderud, 2016).

It is interesting to look more closely at how the concept of 'outdoor school' in understood in the Scandinavian literature. As an example, in Denmark, OL has been characterised by '*compulsory* educational activities outside the school buildings on a *regular* basis and can take place in various settings' (Bentsen et al., 2013: 561, original emphasis). Bentsen et al. (2013) did define OL within a rigid framework, stating that it:

> Took place outside the walls of the school (buildings); took place on a regular basis (every or every other week); was structured (integrated into the teaching plan for the school year); had a specific duration over a certain period of time (minimum half a day and minimum half-year round), and formed a part of the formal curriculum in combination with indoor teaching (with specific subjects and curriculum areas) (Bentsen et al., 2013: 563).

They argued this ensured their results reflected the best practice and concluded that results would have been even higher (in terms of school provision) had they adopted a looser definition. This methodological consideration further highlights the difficulties in defining OL, particularly if the results are to be useful to the wider education community.

In Scotland, Mannion et al. (2015), in their report for the Scottish Natural Heritage (SNH):

> Took outdoor provisions to mean formally delivered educational experiences that took place outside the school building, capturing activity in the school grounds, in local areas, and residentially too whether delivered by teachers or other staff (Mannion et al., 2015: 7).

An investigation into Outdoor Journeys, a school-based OL programme for Geography and Mathematics in primary and secondary schools, refers to the key characteristics of OL. They state that OL must be place-based, within school grounds and local communities, to enable learning about the human and physical forces that have shaped the landscape, and to 'provide participants with the power (and associated responsibilities) to learn across a curriculum that is determined by their local landscape' (Beames and Ross, 2010: 96). These characteristics have been used as definitions in other research, for example Christie et al. (2016), who adopted the Outdoor Journeys vision 'whereby outdoor learning is regarded as a pedagogy - a means to deliver the curriculum from across many disciplines in authentic contexts' (Christie et al., 2016: 418). These definitions generally align with each other, and is further reinforced in a report to the Scottish Government by Higgins et al. (2013) who stated that OL is 'usually interdisciplinary, integrated across these areas and often practical, interactive and reflective with the role of the teacher being to encourage students to take responsibility for their learning' (Higgins et al., 2013: 1).

There is a strong emphasis on the importance of local in these definitions, similar to the practice in Scandinavian countries (Bentsen et al., 2013). For OL to be effective, many have argued that it must be firmly rooted in the local history, ecology and culture of that place, and take place over long time scales (Baker, 2005; Knapp, 2005; Nicol and Higgins, 1998; Beames and Ross, 2010). It needs to be 'place-responsive, personally relevant, and increasingly autonomous' (Christie et al., 2016: 423). Using local environments can help to foster a sense of place as the learning involves engagement with the 'real-world'. Beames and Ross (2010)

refer to this as a 're-engagement with 'place'' (Beames and Ross, 2010: 95). Such re-engagement with place develops a sense of connectedness and a sense of belonging, both of which can 'promote positive learning identities and attachments to community' (Cumming and Nash, 2015: 296). Not only is such re-engagement with place an outcome of OL in itself, but Rickinson et al. (2004) found that localised 'school grounds/community projects have the capacity to link with most curriculum areas' (Rickinson et al., 2004: 6). A secondary school study found that thinking skills were improved through using real-world localised OL (Marin and Halpern, 2011). There is strong consensus that OL experiences that are rooted in real-world, local environments are productive areas for learning (for example Mannion and Adey, 2011). Therefore, re-engaging with place creates opportunities for positive learning outcomes and cognitive development.

In light of the literature, there are three main characteristics that are important to include when defining OL. Firstly, OL must be rooted in place; in the school community and local environment. Secondly, whilst the spatial scale of such work is local, the temporal scale at which it takes place is longer, i.e. over the duration of a school term. The details of that depend on the precise nature of each school, and the guidance from Bentsen et al. (2013) can help give clarity to other educators. Thirdly, the nature of the OL must be linked to the local school and their curriculum. Given these core characteristics, and that OL is such a multidimensional approach (Scrutton, 2015), the working definition that this study will take is the vision of Christie et al. (2016), whereby OL is 'a means to deliver the curriculum from across many disciplines in authentic contexts' (Christie et al., 2016: 418).

2.1.2 What is the role of OL in education?

As OL can take many different forms in education, there is wide variation in the scale and nature of OL research in the UK. For this study, I focus on the primary sector research as it is the most relevant here.

Some have argued that the focus of OL research within the primary sector is 'spread fairly thinly' (Fiennes et al., 2015: 21) and 'remains sporadic' (MacQuarrie, 2018: 346). This could be due to a range of reasons, for example lack of funding at primary stage, or, given that a significant number of research studies are residential focussed and in turn more suited for older pupils, the fact that the primary pupils are too young a population for meaningful study. As previously discussed in section 2.1.1, it could also be due to confusion surrounding the concept of OL, and therefore some studies would be categorised as 'other'. However, within the Scottish context, an audit of OL carried out by Christie et al. (2014) led them to suggest that OL was recognisable within the pre-school and primary sector, thus supporting the current Scottish Government policy (Scottish Government, 2012).

There are very few examples of Beach School that have been used in a research study. However, there is some information on the Guardian and Times Educational Supplement (TES) website of teachers' experiences of running a Beach School, based on the well established Forest School model. I discuss the latter first, as the same principles apply to the examples of Beach School that I found.

Forest School is an approach to learning that is facilitated through outdoor experiences within woodland grounds, and has been found to create enjoyable learning experiences for pupils (Knight, 2009; Knight, 2016). Whilst 'debates rage about how to define UK forest school' (Knight, 2011: 2), it is based on several key elements. Forest School is usually introduced during lesson time in schools, where children can visit woodland in school grounds or the local community, depending on the geographical location of a school, but it must be different from the usual school setting (Ridgers et al., 2012). For those schools who do not have such an environment locally, they try to use local authority education centres or transport pupils to other green spaces. Ideally, learning would take place in the school grounds, thus connecting the pupils to their local surroundings, and creating a meaningful, real-world authentic experience (Beames and Ross, 2010). Some schools are able to lead this learning with their

own trained Forest School teachers, whilst other schools who do not have trained teachers nor the grounds may use trained staff at outdoor education centres. Forest School models vary in length, depending on the particular school, but they take place over time and most on average run for a school term (Knight, 2009). Importantly, the Forest School approach 'offers an alternative way of delivering the curriculum and embedding outdoor learning pedagogies into the school's education framework as a whole' (Cumming and Nash, 2015: 298). In the forest pupils will do a range of activities, such as 'building shelters, cooking on camp fires, and identifying plant and wildlife' (Ridgers et al., 2012: 50). Therefore, pupils can learn Science, Maths, Art and many more subjects in the natural environment of a forest, all within an environment that supports a range of learning styles (Davis et al., 2006) due to the 'focus on the whole child and their experiences' (Ridgers et al., 2012: 50).

In addition to curriculum subjects, pupils have opportunities to take part in team-building activities; take risks; be involved in decision making processes; and simply play, explore and be curious about the world around them (Knight, 2009). Given the rapid decline in opportunities for children to connect with nature, Forest School is important in providing a safe space to protect free childhood play. Knight (2011) refers to this space as being 'safe-enough…where children can learn to keep themselves safe by taking manageable risks' (Knight, 2011: 2). Within this space the learning is focused on their needs and is playful, for example, nature walks and art. The importance of 'curious play' outdoors, such as climbing trees and playing in running water, was highlighted by Gurholt and Sanderud (2016). Their ethnographical study was inspired by the increasing interest in research that seeks to develop an OL framework for schools to adopt (Knight, 2009; Beames et al., 2011; Waite, 2011). Whilst only based on analysis of two empirical examples, the study highlighted 'curious play' perspective should be adopted to acknowledge 'the role of curiosity as a motivating factors for children's free play' (Gurholt and Sanderud: 2016, 326). Forest School does support the notion of 'curious play', as it 'stimulates imaginative play through hands-on engagement with the natural environment' (Coates and Pimlott-Wilson, 2019) and various studies have noted

the value of it in Forest School programmes. For example, in a systematic review of 61 studies, Gill (2011) summarised that Forest Schools are associated with improved social and cognitive skills, whilst its link to promoting well-being is well established (Else, 2009).

Within the Beach School environment, schools follow the same values and structure as Forest School and 'children are encouraged to explore the natural environment with its constantly changing appearance, offerings, and potential learning experiences and opportunities' (TES, 2019). At Plaistow Hill Infant and Nursery School in St Budeaux, Plymouth:

> The school day begins with morning assembly and a briefing about sea safety. The timetable will vary, but there will probably be a session on marine pollution…followed by shelter building, sand art, and lunch (in your shelter), then rock pools, a beach clean, and finally stories and roasted marshmallows around a seaside camp fire (The Guardian, 2019).

Plaistow Hill School are supported in delivering the curriculum this way on the beach by Beach Schools South West, a small community based OL organisation. Assistant Head, Anthony Rollinson has said of the benefits: 'we try to take the children outdoors as much as we can. It's hugely motivating for them, especially the boys. There's so much of the curriculum that's learning about the world around us. To do it outside is very powerful.' (The Guardian, 2019).

2.1.3 What is the place of OL in Scotland?

On a national scale, Scotland has played a key role in the wider OL educational landscape. It was 'one of the first countries in the world to formalise outdoor education' (Higgins, 2002: 149). It is clear from the literature that the Scottish context is significant, and Scotland is particularly proud of its historical tradition in OL, as recognised in a working group report by the Scottish Government, *Learning for Sustainability* (Scottish Government, 2013). This report also stated that they wanted OL to become a 'natural and normal' part of a child's education (Scottish Government, 2013: 6). This message was strongly reiterated in other policy from the GTCS (2013) in the the new teaching standards, as mentioned in section 1.1.

The current Scottish Government policy context is therefore very positive towards OL. In a commissioned report from SNH they state it 'has moved from inhabiting a supporting (or 'extra'- curricular) role in the last decade, into a more mainstream, core curricular position' (Mannion et al., 2015: 3). They further suggest that OL is now viewed as 'an approach for teaching all subject areas in diverse places' (Mannion et al., 2015: 3), ranging from school-based activities, to local day visits and residential experiences. The current policy activity suggests that there is a great deal of support for schools to provide these OL experiences, it seems encouraging (Christie et al., 2014).

The Scottish Government has provided encouragement for OL to be integrated into the CfE model (Learning and Teaching Scotland, 2010). At the heart of CfE is an ambition for 'young people [to be] successful learners, confident individuals, effective contributors and responsible citizens' (Learning and Teaching Scotland, 2010: 3). In designing the CfE, the Scottish Government sought to ensure that learners were able to take advantage of the Scottish context (Scottish Government, 2008), an example being in Science where it is stated that 'teachers can take advantage of opportunities for study in the local, natural and built environments' (Education Scotland, 2019: 2).

However, despite Scotland being such a pioneer in this field, Higgins (2002) has commented that 'it seems odd…[that] there seems to be little in the way of a coherent commonly accepted philosophy [for OL]' (Higgins, 2002: 164). Moreover, there is still a lack of specific advice on how to embed OL into the curriculum (Thorburn and Allison, 2010). This is a key challenge across the UK, and internationally, for example America (Richmond et al., 2018). Schools have thus found it difficult to fully integrate OL into school curriculum, again reminding us of the need to help find solutions to the best approach to OL.

2.2 Outdoor learning benefits

2.2.1 What are the benefits of OL to pupils?

The benefits of OL are far-reaching, not just for pupils, but for teachers and the local community. Over the last decade, many studies, reports and articles have highlighted the benefits of OL and 'report that the various outdoor learning activities have positive effects on all their various outcomes' (Fiennes et al., 2015: 17). There are two key benefits of OL to pupils: cognitive and social. When discussing these it is important to highlight that, whilst the arguments are well supported, 'what might be possible from any one given programme can be quite an open question and more likely related to the distinctiveness of the educational inputs on that programme, its location, and what activities were undertaken there' (Mannion et al., 2015: 4). This supports the notion that OL is a multifaceted concept, and therefore supports the multidimensional view of OL that was taken for this study.

Firstly, the cognitive benefits, which are generally well understood. There is consensus that 'when the context for learning changes from an indoor, book-centred environment to an outdoors and nature-centred environment, students find it a more meaningful context for education' (Dyment, 2005: 30). In such a context, children have the opportunity to think creatively and critically. The learning becomes real life; they can use their senses to explore the learning, make connections between subjects and experience their local environment. In a systematic review of 58 studies, Davies et al. (2013) found creativity improved when children were able to work outdoors. The increased level of engagement in children has also been found to improve outcomes in attainment (Rickinson et al., 2004). In another review of OAE, Higgins et al. (2013) found that academic learning was improved, and results demonstrated that children who had participated had made three months' extra progress in Maths.

However, due to the multifaceted concept of OL, caution must be used when interpreting the evidence for improved cognitive development. Some (for example Rickinson et al., 2004) have

argued that the evidence is less convincing here: as any cognitive development is related to the curriculum, the difficulty lies in the fact that schools are struggling to connect the curriculum to OL, and hence there is a gap in research specifically related to the cognitive benefits of OL as a pedagogy. Still, as has been discussed, 'school grounds/community projects have the capacity to link with most curriculum areas' (Rickinson et al., 2004: 6), and therefore local school-based, OL pedagogical research should help fill this gap.

Secondly, there are many social benefits for pupils. Whilst most of the research highlighting personal and social development stems from OL that is from residential trips and OAE, and is therefore not school-based (for example Scrutton, 2015), there is overwhelming support for improved personal and social development (for example, Kings College London, 2011). Much is documented about the mental health of UK children, and the ever-growing prevalence of teenagers self-harming, rates of disordered eating and anxiety amongst young people (in both primary and secondary schools). Evidence suggests that OL increases our connection to nature, and in doing so promotes positive mental health and wellbeing, strengthens resilience and boosts pupils' self-esteem and confidence (Else, 2009; Gill, 2011). A quasi-systematic review of the empirical evidence by Gill (2011) found that mental health improved when children spent time outdoors. Furthermore, within the Scottish context, the findings from Christie et al. (2014) demonstrate how OL positively impacts how children interact with each other.

Fuller et al.'s (2016) findings also support positive social benefits, with children's confidence increasing. Their research took place over three years and, whilst it was based on residential trips, it is still relevant to the specific OL field that this study focuses on. However, caution must be taken because one of the difficulties in interpreting OL research evidence is that the positive effect can often diminish over time (Fiennes et al., 2015). If the effect of an OL intervention, such as a residential trip, is measured immediately after the trip, and then again after a few months, it has been found that social benefits reduce over time. Such a

consideration is important when planning the methodology of an OL study. Longer term, more regular OL experiences should enable positive social outcomes to continue to develop through a more 'intensive and integrated experience' (Fiennes et al., 2015: 17).

The evidence presented here is primarily focused on green space environments, such as woodland areas used for Forest Schools, or from remote, 'wild' places, where adventurous residential trips would take place. The use of 'blue spaces', for example the coast, is an area of research that is growing due to the recognition of the positive effects that these spaces can have on well-being. For example, Hignett et al. (2018) evaluated the impact of a surfing programme to 'at risk' children in Cornwall. Findings were 'consistent with work on Forest Schools among similar cohorts and suggest that 'bluespace' environments may provide an alternative location for delivering high-quality outdoor educational experiences' (Hignett et al., 2018: 55). Such evidence is promising as it shows how relevant the Beach School environment is, and also highlights the potential it has to meet the needs of the learners. However, I could not find any research that linked coastal OL environments to the curriculum (other than the example of Plaistow Hill School in section 2.1.2). Therefore, the focus of my study is a relatively new one.

2.2.2 What are the links between OL benefits and the IB curriculum?

It is important to establish how the IB curriculum fits with OL, within my context of this study. The philosophy behind the aims of the CfE (as discussed in section 2.1.3) were designed to promote OL due to the value being placed on its benefits. The IB curriculum is underpinned by a learning philosophy called the Learner Profile (see Appendix 1). The IB Learner Profile aligns itself with the CfE (Meiklejohn, 2019), and there is evidence that both the CfE and the IB promote OL (Improving Scottish Education, 2009). Connections have been made by IB educators between the Learner Profile and OL, with experiences of the latter positively impacting the key notion of inquiry, as promoted by the IB and CfE (Meiklejohn, 2019). Other international, IB schools have commented on 'the remarkable opportunities the outdoors has

for developing the PYP Learner Profile attributes in an organic and meaningful way…that cannot be replicated in a classroom setting' (PYP Development Team, 2019).

To illustrate the links between the benefits of OL and the IB curriculum the following example is provided. In line with the IB PYP principles, Units of Inquiry are designed around the Learner Profile. At a PYP school in Switzerland, pupils make weekly visits to their local forest for Forest School. Their description helps to demonstrate what the nature of PYP learning in a Unit of Inquiry is, and summarises what the learning can look like when OL is an integral part of it. They comment:

> As children climb trees and explore physical challenges, they learn to develop their own understandings about boundaries and explore what it means to be *courageous risk takers*. The children are *knowledgeable* as they ask questions and build their own theories about the changes they observe in the natural world. They carefully consider what inquiries are personally relevant and meaningful and how they can extend their knowledge back in the classroom. Or as they work together to build a shelter they *communicate* their ideas with their peers, solving problems and thinking through possible solutions. They demonstrate their *caring, principled* outlook on the world around as they truly become stewards of the earth (PYP Development Team, 2019, original emphasis).

2.3 Outdoor Learning challenges

2.3.1 What are the key barriers to OL?

As has already been outlined in the introduction, there are key barriers that schools face when using OL. These are most relevant when attempting to introduce a school-based OL programme, as is the case in this study. Such barriers can be found across both the Scottish, UK and international literature, and are related to the curriculum, teachers and school systems.

A meta-analysis of OL research highlighted that there are gaps in the research area, specifically 'how to improve and deepen the research-based understandings of the outdoor learning *process*' (Rickinson et al., 2004: 56, original emphasis). What is clear is that there is a need for further research into how OL can be incorporated into the curriculum (Christie et al., 2016). It is apparent that it is the integration of OL that has proved most problematic, and there is little

evidence to support the fact that the inclusion of OL in policy has resulted in the desired outcome of increased uptake of OL amongst teachers (MacQuarrie, 2018). However, there is a belief that research in this field 'can help schools to recognise that outdoor learning is not an 'extra' but can be integrated with the curriculum' (Waite et al., 2017: 52).

With regards to the curriculum, it is clear that scarce attention is given to teaching and learning that can coexist with OL. There are few studies of OL interventions with curriculum subjects (Fiennes et al., 2015; MacQuarrie, 2018), and the research strongly indicates that OL research 'across the curriculum is worthy of sustained attention, partnership working, and policy support' (Mannion et al., 2015: iii). It is therefore difficult to fully understand the process of how OL can be implemented and integrated within the everyday school environment. Teachers are thus missing opportunities to connect curriculum learning with OL (Nicol, 2014). This gap in the literature is what this study hopes to fill.

UK based and international literature have all highlighted the barriers teachers face. In terms of the teachers' disposition to OL, some teachers are not enthusiastic about OL. Findings suggest that 'while outdoor learning may be offered it is not necessarily viewed favourably, [and] may not have equal status' (MacQuarrie, 2018: 346) with learning inside the classroom. There is a need for more training to help all teachers become comfortable working both in and outside the classroom (Christie et al., 2014) to overcome this barrier and change their habits (MacQuarrie, 2018). The research has also suggested that there are other, easier ways in which teachers can be helped to feel more at home in an outdoor environment. Mannion et al. (2011) found that the location of the school and the place of OL was crucial in motivating staff: the more familiar they were with it, the easier it was to overcome the existing barriers, thus further supporting the use of a school-based OL programme.

In Scotland, given the positive orientation to OL in current policy, it was expected that barriers for schools would be limited. However, whilst policy is supportive - as has already been discussed - it does not necessarily mean that schools feel supported in providing OL and they still face many barriers. For example, weather, cost, teacher training, and pedagogical issues.

A multiple case study by Mannion et al. (2011) highlighted the importance of the school's system, specifically the Head Teacher, in promoting the development of OL, as well as the teachers themselves and their own enthusiasm to OL. Other studies, such as Natural England (2016), have also found that the role of the Head Teacher is significant as they play such an influential role in shaping the core values and ethos of the school, including the extent to which OL is part of that. For example, in England, it has been suggested that the decline in the number of schools adopting OL is related to the attitudes of the schools, which ultimately the Head Teacher and Senior Leadership Team are responsible for shaping (Natural England, 2016).

2.4 Summary

From the literature it emerges that there is significant support for OL across all ages, nursery to secondary. This support comes from the pupils, parents, teachers, community workers and OL organisations right through to Government. Whilst OL takes many different forms, they all support the notion that OL could play a key role in helping to shape and deliver the curriculum due to the many benefits of OL. The benefits of OL are wide ranging and far reaching. From social and cognitive benefits that would improve pupil mental health and wellbeing to improved critical thinking and attainment, OL is something to be seriously considered by all schools wishing to re-connect pupils with nature. What is less clear however is how schools deliver on these overwhelmingly positive outcomes, and this is certainly a gap in the literature. The potential complexities of introducing a successful and meaningful OL experience for pupils must be daunting to school leaders.

From the literature it is clear that OL has not reached its potential. Despite the opportunities it offers, there still exists many barriers for schools to overcome. The research into OL helped me to understand a wider range of issues than I had originally anticipated, for example the complexities surrounding the concept OL. It helped me to choose a working definition for this study, including the key features that it must include in the working Beach School model. The literature also highlighted the issues of using OL in schools, especially from a school-based

approach. It has very much re-ignited my desire to explore Beach School and all the possibilities that it will open up; I really believe it is an exciting context for OL and should provide a framework for pupils and teachers, and also community members, to work together.

My concept of Beach School is based on the OL definition and understanding chosen for this study and links to the IB curriculum, and IB Learner Profile (as shown in Figure 3). Figure 3 shows the importance of these three areas to the Beach School model, with the local environment and community at the heart. The main difference between the Beach School model and the OL model by Beames et al. (2011) in Figure 2 is that Beach School only uses the school locality; it does not phase to the outer concentric rings of Beames et al.'s (2011) model.

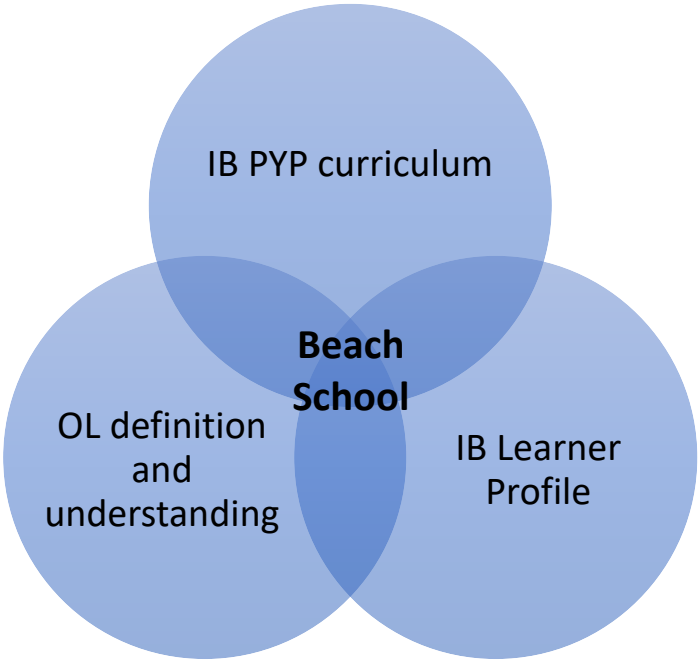


Figure 3: Beach School model for Grange School

In light of the literature review, the research questions were adjusted to:

1. What are the benefits of Beach School to Grange School pupils?
2. How can Beach School be incorporated into the curriculum?
3. How and to what extent does Beach School meet the needs of the learners?

3. Methodology

3.1 Research design

This study follows practitioner research and uses a case study approach. This approach was chosen due to its strength in enabling me to research a specific case 'in depth and within its real-life context' (Yin, 2008: 18). The case study was also appropriate due to its 'flexible set of guidelines that connect theoretical paradigms first to strategies of inquiry and second to methods for collecting empirical material' (Denzin and Lincoln, 2005: 22). In this case, I wanted to seek a rich understanding of the pupils' experience of OL, and of the teachers' involvement in this process, and the case study design enabled me to capture this. In the OL literature, case studies have been used effectively. For example, Cumming and Nash (2015) chose case studies to investigate the impact of a Forest School in Australia.

I adopted a mixed methods approach. Mixed methods research 'has a history of use within education and the social sciences where the 'messiness' of social situations, enmeshed in the complexities of the real world, demand multiple investigate tools' (Christie et al., 2014: 6). The mixed methods approach enables numerical data to be collected through quantitative research and in-depth data from qualitative research (Cohen et al., 2011). It is popular in the OL research, having been recommended as an approach by McKenzie (2000) in a review of the OL literature, to 'get more detailed information on how the various aspects of a program are affecting the outcomes experienced by participants' (McKenzie, 2000: 25).

Three methods of data collection were used: surveys, observations and semi-structured interviews. A pupil survey was taken before and after the Beach School Unit of Inquiry to gain an overall picture of the impact of the OL. This was supported by individual staff interviews and pupil group interviews taking place at the same time, with the addition of a pupil group interview during the middle of the Beach School Unit of Inquiry. Field notes were taken throughout all the observations of the Beach School sessions. This mixed methods approach,

based on three methods of data collection, enabled the collection of rich data and subsequent triangulation of the data. Doing so is common practice within case study research as it enhances the reliability of the data (Cohen et al., 2011).

Whilst the aim of the research was to seek a rich understanding of the pupil perspective, I was also a participant in the OL sessions and therefore took the role of participant observer. I did this so that I could see how pupils responded to the OL. I was also able to respond to any events that took place, for example, I could help answer any safety related questions. By taking this role, I could see the process of how OL met the needs of the learners and understand this better. I did not instruct any of the OL sessions; I did not want my views, knowledge, experience or enthusiasm for OL to affect the data collection in any way.

After the data collection period, the data were analysed and findings reflected on in light of the literature. The aim of the research was to help support teachers to work together to create a whole-school approach to OL, benefiting the school community and other OL communities (Scottish Government, 2012).

3.2 Participants

The data was collected from Year 5 (age nine to ten). This year group was chosen because the Head of Outdoor Education (see section 3.3.) was a Year 5 form tutor and therefore was able to fully support the pupils. In addition, the Unit of Inquiry for this year group was suited to using Beach School. There are two classes in each Year 5: 5a has 11 boys and 13 girls, and 5b has 14 boys and ten girls. All 48 pupils opted to participate by returning a signed participant form to me (see Appendix 2).

3.3 Collaboration

During the research process, I collaborated with the two Year 5 class teachers very closely. This research would not have been possible without them as they taught the OL sessions. I collaborated particularly closely with one other colleague, Thomas (a pseudonym), and together with the teachers we played a key role in designing the OL sessions. I valued his OL expertise as he is a published author in the field of outdoor education and Head of Outdoor Education at Grange School. He therefore offered a further perspective from which to informally discuss our observations. Thomas was also able to collaborate as part of the data verification through investigator triangulation.

Thomas also completed several observations in a field diary, and we discussed our notes weekly. This ongoing conversation proved to be an excellent source of qualitative information, giving another observer's view of the Beach School sessions and reducing any subjectivity (Cohen et al., 2011). These discussions were also summarised in my field diary. Collaborating with my colleague in this way helped to reduce any potential bias during the analysis as I had another observer's view, so I was able to ensure the observations were reliable (Cohen et al., 2011).

I shared my findings with various different staff by making a presentation to the Senior Leadership Team, the Governing Body and the Advisory Board, as part of a Parents' presentation. In terms of curriculum design, I collaborated with the Primary Years Coordinator (equivalent of Director of Studies role) to formalise the OL programme for the following academic year and beyond as part of the School Development Plan.

3.4 Ethical considerations

In line with the ethical guidelines from the British Educational Research Association (2011), consent was first sought from the school Headmaster (my line manager), and can be found in

Appendix 3. Informed consent was then sought from pupils and teachers who were written to to ask if they wanted to participate in the research (see Appendix 2). Participants were also informed that the data collection would be anonymised with pseudonyms being used where applicable. The data was only seen by myself and was securely stored on my laptop which is password protected.

The other main ethical issue I identified was related to a concern about pupil's voluntary consent and the impact this could have on their OL experience. For example, as the aim of this study was to embed OL sessions into the curriculum, they took place during the normal hours of school lessons which neither pupils nor teachers could opt out of. I was therefore concerned that there might be issues regarding their informed consent to take part in the research. In order to ensure this was not an issue, it was made clear to all participants that if at any point they wanted to opt-out of this research process they were able to without affecting their participation in the OL sessions. I stated this to all participants in the participant information letter (Appendix 2) and also reminded them verbally before each OL session.

3.5 The inquiry

The Beach School took the form of a Unit of Inquiry, the PYP equivalent to a scheme of work (see Appendix 4 for a summary of the inquiry). The Unit of Inquiry was made up of a block of lessons both inside and outside the classroom, complementing each other (MacQuarrie, 2018). In line with the literature, the Beach School Unit of Inquiry was school-based and took place on the local beach to Grange School (Beames and Ross, 2010; Cumming and Nash, 2015; Christie et al., 2016).

Each participating class was able to engage in a range of OL opportunities during Beach School, as part of the Unit of Inquiry. Each Unit of Inquiry was introduced to the classes at the start of the Lent term, and ran over six weeks. For OL to be effective, it has been argued that it needs

to take place frequently over long periods of time (Knight, 2009; Beames and Ross, 2010). For the purposes of this study and due to the time restrictions I had, each Beach School session lasted approximately one hour.

The Beach School Unit of Inquiry explored the central theme: 'Diverse Scotland'. The beach was central to the inquiries of this unit. The Unit of Inquiry was planned by the class teachers, with significant input from myself and Thomas with regards to the Beach School sessions (see section 3.3). The Beach School sessions aimed to connect the learning both inside and outside the classroom, which was then reflected upon in both these environments. A key part of the Unit of Inquiry was that the learning was able to flow freely between both environments, so that OL became 'natural and normal' (Scottish Government, 2013: 6) to the pupils. The aim was for there not to be a distinction between normal OL and 'special' OL (Maynard and Waters, 2007). In line with the PYP principles, the Unit of Inquiry was designed around the Learner Profile.

In designing the Beach School sessions, I took advice from Forest School principles, and, in turn, aspects of Scandinavian OL. I also drew on the existing literature that has already been discussed. Whilst there was an emphasis on curriculum content (Cumming and Nash, 2015), the sessions also involved time for free play and 'curious play' (Gurholt and Saunderud, 2016). Activities were designed to enable pupils to explore their local environment in both its physical landscape and cultural community (Beames and Ross, 2010). In the activities, there was a strong emphasis on re-engaging pupils with the local environment by drawing on local knowledge and understanding (Rickinson et al., 2004). By re-engaging with the local environment and community, a meaningful context was created for pupil learning (Dyment, 2005). An element throughout was the theme of sustainability, to help empower pupils to take responsibility and become responsible citizens (Christie et al., 2016). Sessions had a mix of individual and collaborative group work activities. They also involved the use of a fire pit, as specifically suggested by MacQuarrie (2018) in her recommendations for further OL

research in the primary sector. The fire pit was important to use a tool to help creative reflective opportunities for the pupils.

3.6 Data collection

Appendix 5 summarises the data collection methods used for each research question.

3.6.1 Survey

The survey was designed to asses how the Beach School Unit of Inquiry (and hence OL) met the needs of the learners (see Appendix 6). For the purposes of this study, the school's ten core values were used as a means with which to measure how OL meets the needs of the learners. Therefore, it was possible to observe how OL can assist in learners becoming Inquirers, Knowledgeable, Thinkers, Communicators, Principled, Open-minded, Caring, Risk-takers, Balanced and Reflective (Grange School, 2019). These ten core values are the ten points on the IB Learner Profile (see section 1.1), hence this is what was used. Pupils were already familiar with this language as it is expected that they refer to their Learner Profile in most lessons from Year 1.

I chose to use Likert scales in the survey for several reasons. Firstly, they are straightforward for pupils to understand and complete (Edwards and Talbot, 1994), and this was important given the age of the pupils participating. I had to ensure the survey was very easy to read for the pupils (it is common for pupils to read the numbers as having different meanings, leading to confusion), and I was aware of this potential limitation during data analysis. I followed advice by Borgers et al. (2004) and chose a short, four-point scale, with no neutral midpoint. Their research into response effects in surveys in children showed that 'offering about four response options is optimal with children as respondents' (Borgers et al., 2004: 17). Secondly, they generated an appropriate quantity of data for this study. Lastly, it is possible to see small changes in the data pre - and post - Beach School Unit of Inquiry through simple calculations of the mean and any deviation from this (Cohen et al., 2011).

To create the survey, the key words from the Learner Profile were used alongside a brief description of the Learner Profile, which could be used in an OL context. I did this to help pupils understand the different focus: they were not used to applying the Learning Profile to different learning contexts (learning outside the classroom was an entirely new one for all). I added the four points from the Likert scale with four being 'strongly agree' to one being 'strongly disagree'. Pupils were instructed to circle the number that represented their response to each statement. To get the Likert values I calculated the mean for each statement, which meant I could compare values pre - and post – Unit of Inquiry. I also summarised any change as being either a substantial increase or decrease (if the difference was greater than or less than 0.5), to help when analysing Likert values.

The survey was completed one week prior to the Beach School Unit of Inquiry starting and 6 weeks after. This time frame was chosen as it has been suggested that in order to measure the impact of OL, data collection needs to be taken in advance of the experience to overcome any heightened emotions (for example anxiety is common prior to residential OAE, but may still be applicable in this context given the newness of the experience), and also needs to take place at some length after (Fiennes et al., 2015; Scrutton, 2015).

3.6.2 Observations

I carried out observations during all the Beach School sessions. The observations were unstructured with the aim of gathering qualitative data. I chose to keep them unstructured to capture the real-life experiences of the pupils in the Beach School environment, and I did not always know what direction the session would go in: weather was often unpredictable and meant that teachers had to adapt.

As has been recommended in the literature, my notes were recorded in a field diary (Cohen et al., 2011), using pen and paper. I did not want to record the observations as this would have been potentially expensive and impractical, given the scale of the Beach School sessions.

Humberstone and Stan (2011) have noted that, due to the environments of OL learning, recording notes by hand in the field is the most efficient way to gather such qualitative data.

3.6.3 Interviews

Interviews were used to gather qualitative data from both pupils and staff. As has been noted in literature, it is important that the interviews 'do not replace data gathered from participant observation' (Humberstone and Stan, 2011: 532) and rather it gives additional insight into the Beach School sessions.

Interviews took place at mutually convenient times, out-with the Beach School sessions and during the school day (see Appendix 7 for the interview schedule). Each interview lasted between 20 to 60 minutes (depending on the nature of the interview) and was designed to cover the research questions. The interviews took place in a quiet classroom and were audio-recorded on an IPhone and subsequently transcribed, before being deleted from the device. When transcribing, I made sure I was aware of the social context, for example, by noting additional comments related to the tone of voice (Cohen et al., 2011). I was also aware of the need to reduce bias during the interview process. For example, I did not ask any leading questions or show any prior understanding of what was being discussed (Cohen et al., 2011).

All staff interviews were individual and took place once during the study. All staff involved in this study were interviewed, including Thomas, so a total of 3 interviews. I would have liked to interview the staff more frequently, however, time restrictions rendered this impossible. I was aware of my role in the school and wanted to ensure the staff felt comfortable to be as open as possible in the interviews, and I encouraged an open dialogue.

All pupil interviews took place in groups, before, during and after the Beach School Unit of Inquiry. A group interview is a much less intimidating environment for pupils compared to individual interviews, and is hence a more suitable approach when working with children

(Cohen et al., 2011). Moreover, given my role in the school, I wanted to ensure I did not influence any attitudes or behaviours so interviewing the pupils in a group was important to help accurately capture the pupils' perceptions. All pupil participants could participate in the group interview (see section 3.4 for Ethical considerations), and a total of 15 chose to, from a mix of class 5a and 5b. I divided these into two groups, with a group size of seven in one and eight in the other, to ensure maximum involvement from all. They were also kept in their classes as the discussion points may have become quite specific to their individual sessions.

As I already knew the pupils, I had some rapport with the groups, and this was built on over the three interviews. Using a semi-structured approach also helped to reduce any bias related to my existing relationship with the participants (Cohen et al., 2011). The rapport I had 'allows for developing trust and a deeper exploration of experience from participants' (Cumming and Nash, 2015: 300), which benefited the nature and outcome of our discussions, and the pupils felt confident to contribute. For those that struggled to do so, I used closed questions to help involve them in the discussion, for example 'what do you think of this?'.

All interviews were semi-structured, using both open and closed questions, to explore both the themes of Beach School curriculum design and the experience itself. A semi-structured approach enabled me to follow up any interesting comments that occured during the interview process, and I could thus be flexible in my approach. Within such an open environment, I was not restricted by a set list of questions, and free to respond to the comments and explore the issues being discussed (Cohen et al., 2011).

Questions were planned to ensure I covered the issues that were most relevant to the research questions (see Appendix 8 for further details). Representative questions for pupils included, for example, 'What was the highlight of Beach School?'; 'How has your experience at Beach School affected you experiences in the classroom?'; 'Did you experience any challenges?' and 'How did you overcome these?' Staff were asked about the benefits and challenges of delivering the Beach School sessions and how the experience has helped influence many aspects of school life, for example, meeting the needs of the learners.

Compared to the pupil interviews, like Waite (2010), I asked more 'open-ended questions to probe values and aspirations for staff' (Waite, 2010: 112). The interviews aimed to create a wide range of responses related to OL.

3.7 Qualitative analysis

The data from the interviews and observations was analysed in a descriptive narrative (Cohen et al., 2011). This type of analysis was the most appropriate for this study as it is a case study approach. The analysis involved carefully reading through the interview transcripts and observation field diary to identify key themes and topics relevant to the research questions. Firstly, I had to immerse myself in the data to establish common themes. Through repeated reading, the key 'themes emerge and become defined during the research process' (Beames and Ross, 2010: 101). These key themes were then related back to the research questions to finalise the descriptive narrative. The second part of the analysis then involved using this narrative to reach any conclusions.

4. Findings and Discussion

The findings are presented for each research question and the key points that emerge from this are discussed in light of the literature.

4.1 What are the benefits of Beach School to Grange School pupils?

4.1.1 Finding 1: participants have a mixed understanding of OL

The pupil group interviews revealed that there was a mixed understanding about the concept of OL. In the interview pre-Unit of Inquiry, when asked about what OL means and what it would involve, responses showed some degree of confusion. One pupil in class 5a commented *'it's just being outside but in normal lesson time…so it's like play time but in lesson time. I like it!'*, and this was met with a general agreement and response from the others. When I pushed them further to try and give more ideas based on their experiences, they did come up with more relevant suggestions. One pupil said *'sometimes our teacher takes us outside and we read stories and stuff and if the weather is nice we might stay out for the whole lesson… that's outdoor learning'*, and in response another said *'yeah we also read stories around the fire pit and talk about stuff'.* When asked about Beach School they were all incredibly enthusiastic, perhaps reflecting the excitement of the School's annual sandcastle building competition, but they also talked about some of the lessons they have had on the beach, for example following a lesson on scale they went to the beach to *'measure seaweed and stuff and find different lengths of things and we had to put them in a big line along the beach and then measure them with these massive ruler things'*. In class 5b, similar comments were made to support the same degree of mixed understanding.

This mixed understanding was not apparent in the observations made. For example, in my field diary I noted for Beach School session one and two that all pupils were *'actively involved in the learning'* and they were *'clear of its aims'*, communicating these to their teacher. For the rest of the observations, all pupils appeared to understand the purpose of the Beach School sessions as being part of the Unit of Inquiry, and that OL was a key part of that. This

was further supported by the pupil group interview mid-Unit of Inquiry, when I discussed the concept again with them. For example, in class 5b there was overwhelming support and the majority agreed that OL was an integral part of their Unit of Inquiry. One pupil commented that *'I like that I know that…like everything I learn is from outside, on the beach, like I learn stuff in the classroom too but then I really get it more on the beach'.* A pupil response to this also supported them adding *'yeah I know what you mean, it would be so cool if all our Units of Inquiry were like this, with lessons split between the beach and the classroom*'. By reviewing the definition with them, it also confirmed the importance of using clearly shared aims with all involved, for this helps the pupils to then see the connections.

From the teacher's point of view, they had a strong understanding of the concept of OL. In the interview I did not put them on the spot and ask them to provide a definition, rather I asked them to describe key characteristics. Teacher A commented that OL *'takes place across all subjects… within set periods of time…to mix the learning inside and outside the classroom'* and Teacher B said that OL:

> *Occurs whenever there is an opportunity in the Unit of Inquiry to take the learning outside the classroom. It must be part of what we are doing… it could be in the school grounds or a planned trip to a museum etc, but it must help students see something real-life that is connected to their learning.*

Both these comments from Teacher A and B support the multidimensional view of OL (Scrutton, 2015), the importance of authentic, real-life learning (Beames and Ross, 2010) and the interdisciplinary nature of OL (Higgins et al., 2013). It was very informative discussing the key characteristics of OL with them, and rewarding to know that everyone was enthusiastic and passionate about it.

4.1.2 Finding 2: pupils experienced many benefits of Beach School

Even in the pupil group interviews pre-Unit of Inquiry, it was apparent that they knew they would benefit from Beach School. They could not wait: *'Sir, please can we go now? [it starts next week] Oh (sigh) why not? I want to start now!'* to *'I am like so excited to do like Maths on*

the beach!' and *'this is going to be so much fun!'.* This level of excitement was reflected in my field diary and by Thomas, and we were encouraged by the joy they found from being outside the classroom and being able to walk the 200 yards to their local beach. I noted in the second observation that *'energy and motivation levels already very high and we are getting ready to leave'*. Similar research establishing a Forest School in Australia also highlighted the positive feelings students expressed, interpreted as 'engagement and enjoyment, evidenced by laughter, exuberance and energy' (Cumming and Nash, 2015: 301). I was reminded that 'children begin life as exploratory learners and enjoy the rich experiential qualities of outdoor contexts' (Waite, 2011: 79), and whilst the pupils focused on the social positives they could already relate to, they perhaps were not aware of the other ways in which they would benefit.

The benefits of Beach School quickly became apparent in the analysis of both the interviews and the observations. In the mid-Unit of Inquiry group interview, pupils across both classes commented on a variety of benefits that I have categorised as social and cognitive. Socially, the pupils were positive during beach School sessions, and this was also evident in the interviews. During the group interviews, they expressed their thoughts happily, with excitement and laughter. They demonstrated a good understanding of how Beach School benefited them. For example, '*I really like having my lessons outside with Mrs XX…she helps me to get the point of what we did in the classroom, of what we were doing inside'*. This pupil was referring to the lesson (inside) on weather systems that affect Scotland, and how taking this learning outside to the beach and creating the two weather fronts with seaweed, pebbles, piles of sand etc and acting out a depression weather system helped them to understand this more clearly. This supports the findings from Rickinson et al. (2004) that the local school environment is capable of linking up with many curriculum areas – even weather systems. From my field diary notes on this Beach School session, based on the behaviours the pupils showed, for example increased levels of motivation, I noted that the atmosphere amongst the class was *'exhilarating'* as they tried to construct a depression and made presentations on it, which I described as *'the most creative way I can think of to demonstrate how weather systems*

work!'. I also wrote about the *'new learning – cognitive benefits?'* taking place; pupils were able to apply this understanding to their knowledge of the regions of Scotland and make connections between the geography of the Scottish Isles and the weather systems that affect it. This example accurately summarises how when learning is taken outside into a meaningful, authentic, real-life context, pupils can think creatively, and in turn will experience significant social and cognitive benefits (Dyment, 2005).

From a pupil perspective, the cognitive benefits were most strongly apparent in the data gathered from the pupils post-Unit of Inquiry because they had spent time reflecting on the experience. When asked how their experience of Beach School had affected their experiences in the classroom several pupils across both group interviews commented - without realising it - on the cognitive benefits. For example, one pupil in class 5a said:

> B*eing on the beach, you know the XX beach, well…it helped me to like see things in a different way. So…like the farming stuff we talked about in class I could see it from the beach, like literally I could see the fields, and then I also started thinking about other stuff like where all the people live and then when we got back I…I talked about it with Mrs XX and, well, I just get it now Sir.*

This pupil was referring to making links between the population distribution, farming and land use across the region - several of the lines of inquiry in the Unit. This is supported by the field notes and I made several links from my comments to the cognitive benefits. For example, based on the behaviours the pupils showed, I noted that pupils *'look like they have had a light bulb moment….something has clicked - lines of inquiry. Can't wait to see this back in the classroom!'*.

From the teacher perspective, the findings show that the teachers saw the social and cognitive benefits amongst all pupils. One of the most common social benefits that the teachers referred to in their interviews was that they saw a significant shift in motivation, especially from pupils who struggled with this inside the classroom. Teachers found that as these pupils were more motivated in Beach School, their focus and concentration improved, and thus their

learning developed further, leading to cognitive benefits. In my field diary, even from the first observation, I noted that pupils who tended to be less focussed inside the classroom were some of the first to follow instructions to get ready for Beach School, to get ready for the tasks when on the beach, to participate in group tasks collaboratively and to listen to each other. In her interview, teacher B commented on the increased motivation as being an *'absolute gem of the beach School programme'* and she believed that *'there needs to be more opportunities for all children to experience these benefits'.* These findings support the literature that have highlighted the importance of nature in helping pupils to re-connect with place, establish a greater sense of belonging and develop more positive outlooks towards learning (Beames and Ross, 2010; Cumming and Nash, 2015). Indeed the:

> Unpredictability of the natural world is a feature that can be harnessed to rekindle excitement and curiosity in the children and provide a motivating experiential starting point for further curricular development (Waite, 2010: 120).

Such social benefits were also apparent throughout the observations. For example, pupils were able to work collaboratively in a effective manner. I noted in session four that I was particularly impressed with one girl who often struggled with group work inside the classroom, preferring individual work. However, in Beach School session two she participated fully in the group task, working collaboratively with the others to locate a rain gauge station to measure precipitation levels. When I discussed this shift with her teacher in the interview, teacher A said:

> *XX has such potential to show real leadership in the classroom but there always seems to be something blocking her…some sort of barrier, and, you know, I had never quite managed to figure out what that was until I saw her in Beach School (gasp!). I couldn't believe it! She was so much more confident, much more, and took responsibility for managing her group task – something she would never volunteer for inside the classroom…so, there is obviously something about being outside in nature that makes her feel more comfortable to be herself, or to let herself be seen.*

Again, these results support other research. For example Christie et al. (2014) found improved collaboration amongst pupils in an OL context, and research from Fuller et al. (2016) supports how OL can increase pupils' confidence levels.

The only data that somewhat contradicts these positive comments was when the weather was not at best, perhaps with high winds or rain. The teachers did take the pupils out in almost all weather, and, whilst they felt this was part of showing a real commitment to the concept of OL, pupils appeared to somewhat struggle. In observation five I noted the strong winds that day and commented that *'pupils struggling to settle into work…wind seems to be distracting them and unsettling the group dynamics – social and cognitive impacts'* and this led to some disruption: *'Teacher finding it harder to keep everyone motivated – a handful of pupils not participating fully, not really listening to teacher's instructions'.* Evidently, the wind made it harder for the pupils to hear the teacher's instructions. When I discussed this Beach School session with the teachers in their interviews, teacher B commented that:

> Y*es, the weather can make things harder for us…but I don't want that to hold us back…the pupils need to be prepared for this and they will get used to it, gradually, and this is all part of exposing them to more challenging situations, things that might make them uncomfortable, so they can learn how to overcome them.*

Thomas was also a very strong believer in exposing the pupils – albeit within a safe parameter – to different environments and circumstances. He said it is only through '*pushing their limits that we can help embed, really embed, the social and cognitive benefits more deeply. We can't deprive them of these opportunities, just because it is windy or a little wet, can we?'.* However, when I asked the pupils, their views on the weather were clear: *'the wind is like soooo annoying! [why?] well it just blows my hair everywhere and I can't see and I can't hear and I just don't know what I am supposed to be doing!'.* In response to this:

> *Yeah but its pretty wild being outside when it's like that…yeah I remember it was soooo windy but its kinda fun to be blowing around and trying to do things like, like, what were we doing?* [your task was to measure the wind using the anemometer] *oh yeah that was awesome – I got the biggest wind number!*

Therefore, a little caution is needed when reviewing the pupils' immediate reaction to adverse weather conditions, and well-planned, adapted lessons from the teacher can make the most of the session.

MacQuarrie (2018) found in her research of integrating OL that weather did still offer an opportunity for both teachers and pupils. She included interview examples of this from one teacher participant: 'even in the extreme winds we had this year, we popped our heads outside to experience it and they've still not stopped talking about it' (MacQuarrie, 2018: 354). The teacher here also referred to the importance of being able to 'just go outside' without any prescriptive curriculum, and the benefits doing so offers. Indeed:

> *It is important to note that beach school should not be a good-weather experience saved just for summer. The natural world changes with the seasons and this in itself is a valuable learning experience for the children (TES, 2019).*

Looking ahead, as Beach School becomes more integrated at Grange School, there is a balance that needs to be found. We need to ensure that planning is put in place for adverse weather conditions whilst also ensuring Beach School is a 'natural and normal' (Scottish Government, 2013: 6) part of pupil's education at Grange School.

4.2 How can Beach School be incorporated into the curriculum?

4.2.1 Finding 3: Beach school is an effective way for pupils to connect their learning

As has already been highlighted, pupils were able to connect their learning from inside and outside the classroom. This was due to the careful planning in the Unit of Inquiry to ensure that learning was not just isolated to the traditional classroom.

An example was given in section 4.1.2 of how a pupil connected several lines of Inquiry, without really grasping the importance of this. Other examples were found in the group

interviews with pupils, also post-Unit of Inquiry when asked how their experiences of Beach School has affected their experienced in the classroom, and vice versa. There was an interesting range of responses from those who were still struggling to see the connections to those who were able to articulate this clearly. For example, one pupil responded with *'erm…I dunno… I drew the maps of Scotland inside and I did it out on the beach too with seaweed and sticks and stuff – is that connected?'.* When pushed further to narrow down the connections the pupil said *'I mean, yeah, I can see that I practiced doing things inside and on the beach… doing things again helped me understand it better like I can remember it now'.* Evidently this pupil had perhaps struggled to see beyond the repetition of learning.

On the other hand, another pupil (in the same group interview) said:

> *I really liked being able to learn things on the beach and then try it out back in the classroom where I could, well I was allowed to use the internet to research it more and find out more cos and then I can try it out back on the beach with my teacher. [how did this help you?] It helped me to feel more confident about what I was learning cos… I knew that all the learning is joined together and it's like it's like [excitedly!] one big joined up dot to dot!*

This pupil in particular was thrilled with this revelation, and caused much hilarity and also agreement amongst the rest of the group interview. As has been highlighted, increased pupil confidence is one of the many benefits of OL (Fuller et al., 2016). To have seen this during the Beach School sessions strongly supports my belief that, in order to develop curiosity, imagination and compassion amongst pupils we need to create opportunities for them to excel.

From the teacher perspective, it was clear from the interviews and observational data that Beach School supported connected learning. Overall, the teachers were able to link inside and outside learning and therefore transfer learning, removing this barrier to OL. The teachers referred to the benefits of being able to be more flexible during Beach School sessions, and linking to other parts of the curriculum. There was something about being outside and in a

different learning environment that seemed to bring about freedom for teachers to create practical learning opportunities for pupils, as has been reported elsewhere (Waite, 2011). When asked about this in interview, teacher B commented that:

> *When the children are on the beach I can respond to them easily. I'm not sure if they find it easier to tell me things, you know, talk to me, and so I know what their needs are more easily and can respond to them, or if it is because I can be more responsive to them, as I am able to watch their interests develop…and watch that whilst also delivering the curriculum.*

Interestingly, MacQuarrie (2018) also found similar reflections from the teachers involved in her research. They highlighted that OL is less restrictive for teachers in terms of curriculum delivery as they 'undertook outdoor learning within a broad range of curricular topics and it is likely such experiences contributed to children's learning across many domains' (MacQuarrie, 2018: 357). Perhaps the greater flexibility the teachers felt was also due to their own levels of confidence in delivering OL, as has been suggested in the literature: 'with sufficient levels of confidence in novel contexts, staff are more able to be flexible and adapt to serendipitous openings for learning' (Waite, 2010: 122).

4.2.2 Finding 4: staff integrated Beach School successfully and there are still barriers to overcome

Staff were very positive about the way in which Beach School was implemented. In the interviews, teacher A believed this was due to *'our commitment, as a school, to prioritising learning taking place outside the classroom in Beach School'* and teacher B said that the school: *'values OL so much that it put it at the top of the development plan, so all teachers had no excuse not to buy into this new culture…if you hadn't done this I'm not sure this would have taken off the way it has'.* This was very complimentary but importantly highlighted how important the influence of the Head Teacher is, and therefore this was not a barrier for schools wanting to implement OL, as research has highlighted (Mannion et al., 2011).

With regards to the success of implementing Beach School, the teachers felt this was due to three other factors. Firstly, that staff were enthusiastic about Beach School. When asked why this was they said it was, again, because of the positive message *'coming from the top'* that everyone got on board with and this positivity spread amongst all. Secondly, it was also because of the interests of the teachers. For example, teacher A said:

> *I have always enjoyed learning outside the classroom…selfishly, I benefit myself – it's so refreshing to be outdoors and have that change during the normal school day - and I am always happy to take my class out to share that with me, so I was just thrilled to be part of this.*

Teacher B reflected on their own childhood as a key motivator:

> *I spent a lot of time outdoors as a child…my parents always took us out on hikes etc at weekends and I kept that interest going after school, at University, and beyond – I then dragged my kids on the same walks! But…I think my own experiences of being outside really helped motivate me to get so involved with this…and I am sure the pupils have responded to my positivity about Beach School, which must have helped the overall…success of it.*

Evidently, the enthusiasm of teachers leading Beach School played a key role in motivating their pupils.

Lastly, the teachers believed that the local context of Beach School was key to its success. When questioned about this further, teacher A suggested that:

> *Knowing the beach and the area inside out means a lot, to me…I can take the sessions so comfortably – I'm not nervous or anxious about taking the children outside the school grounds because I know it so well - I know all the risks and can be prepared…should anything happen!*

This would have helped the teacher to create a 'safe-enough space' (Knight, 2011: 2) for pupils to explore and play, and perhaps had she not know the area as well, doing so would have been hard. Removing any concerns about the risks of being outside the classroom helped teacher

A, whereas teacher B suggested the locality was key because of its connection to the pupils. He emphasised:

> *I really feel that the kids could genuinely connect to the learning because it was so near to them…yes yes I know the beach is physically close to the school! But also it is so close to them, it is so part of them, it is so part of the school…so…yes, using a local environment for OL was very, very important.*

This strongly aligns with literature and findings regarding the importance of using a real-life, authentic learning context (Beames and Ross, 2010; Christie et al., 2016).

My observational data support the importance of a school-based OL programme that is local for both pupils and teachers. In most sessions my field diary contains notes about how pupils seemed '*confident and keen'* working at the beach, reflecting how *'comfortable they all seem'* in this environment – this refers to the staff too, supporting teacher A's comment above. MacQuarrie (2018) concluded that teachers need to change their habits to become more comfortable working outside the classroom, however the findings here suggest otherwise because the teachers already had the habits needed to work comfortably outdoors. These findings support advice from Mannion et al. (2011) that using a local context for OL is one way in helping to ensure staff are ready, prepared and comfortable delivering OL sessions. In my field notes I stressed that *'using XX beach is crucial: the kids and staff know it, they can see the school from it, some can see their homes and farms from it, they see locals on it, they know it is loved and they just love it too'*.

Despite all the benefits discussed, teachers did still believe there were some barriers to overcome. These were primarily related to planning time and staff training. Interestingly, they did not raise weather as a barrier (see section 4.1.2 for their view on weather). With regards to planning time, teachers suggested that more time was needed to help them plan the Unit of Inquiry, and reflect on the Unit and each session. They found it challenging to make time for all the discussions that needed to take place, with each other, with myself and/or Thomas,

and the PYP Co-ordinator. I was aware of these difficulties and in my field diary I noted that *'staff need more time to reflect on each beach session'.* Doing so will help with future planning.

Linking to the second barrier of staff training, Teacher B suggested that one idea might be to *'include Beach School training as part of an Inset day, so all staff know what is going on etc and we – those delivering the sessions – can also have protected time to plan together'.* Teacher A highlighted the importance of involving all staff in any training:

> *If we can have maybe a day before the start of term, with all staff for our Inset day, then we can brainstorm ideas with the other teachers, and get their ideas on how to connect the learning…that would be incredibly helpful for me and XX, and I know the other staff would have some very valuable ideas to share.*

Staff training could also involve:

> *Getting someone outside in from XX [nearby University Department of Education with a specialist in Outdoor Education] to review our programme and suggest improvements…maybe they could spend time observing our sessions and give some advice of best practice, because, well, none of us our 'experts' in outdoor education, we are just using our teacher hats here!*

Staff did not necessarily lack confidence in using the beach environment, but rather would appreciate specialist, expert advice from Outdoor Educators.

4.3 How and to what extent does Beach School meet the needs of the learners?

4.3.1 Finding 5: pupils showed overall positive change in how they demonstrated the Learner Profile

The survey scores and Likert values are shown in Table 1 and 2 (the survey can be found in Appendix 6).

Statement	Mean pre-Unit of Inquiry	Mean post-Unit of Inquiry	Change	Substantial increase	Substantial decrease
Open-minded…	2.8	3.4	0.6	X	
Enquiring…	3.3	3.8	0.5	X	
Caring…	3.6	3.7	0.1		
Knowledgeable…	2.5	2.7	0.2		
Risk-taking…	2.4	3.4	1.0	X	
Thinking…	3.4	3.7	0.3		
Balanced…	2.3	2.5	0.2		
Communicating…	3.1	3.4	0.3		
Reflecting…	2.7	3.5	0.8	X	
Principled…	2.6	3	0.4		

Table 1: Survey scores showing Likert value changes for class 5a.

Statement	Mean pre-Unit of Inquiry	Mean post-Unit of Inquiry	Change	Substantial increase	Substantial decrease
Open-minded…	3.1	3.8	0.7	X	
Enquiring…	3.2	3.7	0.5	X	
Caring…	3.5	3.6	0.1		
Knowledgeable…	2.7	3.3	0.6	X	
Risk-taking…	2.1	3.4	1.3	X	
Thinking…	2.8	3.1	0.3		
Balanced…	2.5	2.7	0.2		
Communicating…	3.4	3.7	0.3		
Reflecting…	3.3	3.6	0.3		
Principled…	2.9	2.7	-0.2		

Table 2: Survey scores showing Likert value changes for class 5b.

The results from the survey positively show the impact Beach School has on the pupils' Learner Profile. Substantial increases were shown for both classes from three points on the Learner Profile: Open-minded, Enquiring and Risk-taking. Class 5a showed a substantial increase in Reflecting and 5b showed substantial increase in Knowledgeable. No substantial decrease was shown across the data, for either class.

On the whole these results support the qualitative data from the observations and interviews. For example, the survey results for class 5a align with data from the post-Unit of Inquiry pupil group interviews. For example, as discussed in section 4.1.2, when a pupil specifically referred to being able to link several lines of Inquiry, this is evidence of increased levels of Reflecting, whereby they are using their learning experience to improve future ones. Other examples of improved levels of Reflecting were apparent when pupils were asked what the main aspect of their Learner Profile improved during the Beach School session. There was agreement in their response 'Reflecting':

> *It really helps me when Mrs XX with our reflections 'cos then I know what I did well, and what I didn't and then next time I really try hard to use that - and Miss is good at reminding me what! - and there is something about being on the beach that makes me want to do it better each time.*

When pressed on this they found it hard to articulate what it was about the beach but some said *'just being outdoors, on the beach, sometimes with the fire pit…it is so different to the classroom it, it helps me to understand things differently'*. The fire pit was used in two sessions as a focal point for teachers to give out instructions and lead discussions and reflections, based on advice from MacQuarrie (2018). Pupils did respond well to having the fire to focus on whilst developing their own ideas and thus the fire pit did help with the reflection sessions. It is for these reasons, partly driven by their teacher's emphasis on Reflecting, that perhaps class 5a placed a higher score on the Reflecting statement as part of their Learner Profile. It is surprising that class 5b did not show a substantial increase in this too, although at 0.3 it was only 0.2 off from that.

In class 5b, where they showed a substantial increase in the Knowledgeable statement, observational data in my field diary aligns with this score. During the Beach School session on weather systems I noted how *'pupils show sound knowledge and understanding of topic. Good responses during questioning from teacher'*, and I have already discussed the importance of

creativity in this critical understanding (section 4.1.2). The mean changed by 0.6 compared to 0.2 to class 5a, which is striking given that both classes experienced the same lesson plans. Observational data from class 5a noted that pupils were able to further their own knowledge by *'using the local information to help them understand this [the mapping study] and then further their knowledge'.* This highlights the importance of using local knowledge from real-life situations to help develop understanding (Christie et al., 2016). However, there are many other factors that could affect this, such as how productive the nature of the learning was prior to and following on from the Beach School session, neither of which I was not present at to observe.

The three statements in the Learner Profile that increased for both classes (Open-minded, Enquiring and Risk-taking) support the qualitative data. The Unit of Inquiry planning highlighted the emphasis on enquiry learning and in the teacher interviews, teacher A commented on how *'the pupils were so curious about how the learning would work on the beach, and about how they could use the different resources on the beach to learn*'. This curiosity and desire to discover new things also shows how Open-minded the pupils are. Pupils valued being able to 'think for themselves', and when they are 'involved in determining what is to be learnt, this can accommodate discovery learning' (Waite et al., 2017: 61).

Teacher B linked the Open-mindedness to the values and ethos of the school culture that permeates at all levels, and laughed that *'it seems that the kids maybe are really listening! They were so open-minded about these new experiences…they must have felt so supported to throw themselves into this style of enquiry learning*'. He then went further to link this to how they are all risk-takers and show *'real resilience in these new situations…I was impressed – especially when the gale was howling! It was very brave of them'.* These findings also demonstrate that the pupils are fulfilling the school's mission statement, in particular the development of curiosity. This provides some evidence to suggest that the school community have understood the core values and ethos, which permeates all aspects of school life.

From the pupil perspective, they seemed to understand how their Learner Profile had improved in these three particular aspects. In the mid-Unit of Inquiry pupil group interview, when asked if Beach affected their Learner Profile, there was affirmative agreement from all that it had. When I asked how one pupil responded with:

> *I feel like I am allowed to… be curious. Sir is always saying that in assemblies, isn't he? 'Be curious!' Ha ha. But it's true there is more like space to kinda of potter around on the beach and stuff and collect things and make things and…I guess I like that, it's fun.*

This pupil was referring to the opportunities that Beach School created for them to develop the Enquiring aspect of Beach School. More support for this can be seen in comments from another pupil when he said *'I like working with my friends…We get to do that more on the beach I think…I mean we work together in groups in the classroom but it feels more…like I am more enthusiastic about it on the beach'.* My field diary notes endorse this and I frequently commented on the overall positive atmosphere, in which pupils could be curious and work both collaboratively and independently.

I was surprised that Balanced did not show any positive substantial change (the mean of both classes increased by 0.2) as this was an area I observed improve over the study period. For example, in my field diary notes I did refer to this aspect of the Learner Profile several times. The activities were designed to mix both independent and collaborative work, and this required a certain degree of 'balancing their emotional, physical and mental wellbeing within their learning' (Meiklejohn, 2019). In addition, I had expected Caring to increase given the local context of Beach School and the time the pupils had to work collaboratively together. My colleagues and I involved in this study all strongly believed that the pupils exemplified the description of Caring: 'showing sympathy, empathy, and respect to the world around us and those in it, and being able to incorporate the worldviews of others into our own lives in order to make the world an easier place to live in for everyone' (Meiklejohn, 2019). Fortunately, pupils were already familiar with the language of the Learner Profile, but they did struggle to

clearly express how it was linked to Beach School. Therefore, perhaps Balanced and Caring did not change substantially in the survey because the pupils' could not clearly express or articulate their thoughts on these particular aspects of the Learner Profile. As OL is embedded throughout the school and becomes part and parcel of each Unit of Inquiry, the pupils will begin to have a clearer understanding of how Beach School incorporates the Learner Profile, and therefore aids their learning.

4.3.2 Finding 6: other factors were important: importance of the school environment

Whilst it is clear from all the data sources that Beach School itself helped to develop the Learner Profile, other factors were also important in this. Notably, the importance of the school environment; its culture and the fact that the school-based OL experience was local.

From the start of this study it was apparent that keeping Beach School within the local environment and community was important to create a real-life experience for the pupils. There was support for this from the qualitative data from both teachers and pupils, and it could be suggested that this was one of the core reasons why Beach School was so successful. I was surprised how passionate they all felt about the beach, given that it was such a normal everyday experience them to go to the beach out with school. They strongly believed that *'it's part of our school – like, it's part of our school buildings, it feels like the same to me…so, yeah, I really enjoy going there'*. In response to this: *'yeah I really see it like another playing field or playground or something so we all love going there'.*

The pupils had developed a fond, personal connection to Beach School, and sense of place with it (Beames and Ross, 2010). When asked to describe how they felt about Beach School, they included sensory descriptions in their responses, further highlighting their strong connection to the beach and sense of place (Cummings and Nash, 2015). For example, in class 5b, one pupil said '*I enjoy…I mean I feel really happy when I am outside. Especially on the beach. I like listening to the noise of the waves and watching the waves come in and out, it kinda relaxes me I guess'*. In class 5a this was also evident: *'It is just so lovely being on the*

beach…it's really fun and it's really calm, but you can still be free but I also find it calm…peaceful'. The pupils felt the beach to be an extension of their sense of place, of their environment; an environment they can take some ownership of and responsibility for.

The pupils' fondness for the beach was also shown by the way in which they gave different parts of the beach names. For example, the area where they could use the fire pit was known was 'our cosy place', and the area where teachers normally gave out instructions as 'our safe place'. Teachers also encouraged this, as it helped them know that pupils knew where to go, but the names were instigated by the pupils. Bentsen et al. (2013) report similar evidence, but for them, the endowing of place names was from the teachers, rather than the pupils. This was another way in which, over the six week period and weekly visits to the beach, pupils were able to strengthen their sense of place and their relationship with it. These expressive connections support much of the literature already discussed that creating a sense of place with strong personal connections helps to foster learning (Beames and Ross, 2010).

The school culture has also been highlighted by both pupils and teachers as being a significant factor in the delivery of Beach School. Comments from pupils show that the school culture helps them to develop their Learner Profile, for example the pupil comment in section 4.3.1 about the importance of curiosity. They were able to recognise this level of support, even though it was not as obvious to them. Other OL research has also found that the influence of the school culture was an important theme that emerged during interviews, for example Christie et al. (2014).

5. Evaluation

I believe that the research process was successful in many areas, however, for future research there are some areas that I would change. Firstly, I would develop the methodology, in particular the duration of the study period. As has been mentioned in the research design, it was important to carry out the survey pre- and post-Unit of Inquiry. If I was able to conduct a longer study, for example, over the duration of an Academic Year, I could additionally assess any temporal change in the benefits of OL (Fiennes et al., 2015).

With regards to the methodology, the survey was effective, but only when used with the other qualitative data collection methods. Whilst there is a need for a consistent and robust framework to be used across the OL research field, there was also a need to ensure that the survey was appropriate to this study. I therefore designed a survey that was tailored to the specific focus of this study. This in itself was a worthwhile endeavour to discover its value to the wider education research field. However, had it been used in isolation, it would have been difficult to measure the needs of the learners, whereas taken together with the observations and interviews, the mixed-methods approach was effective. Further validation for the results came from investigator triangulation of the data with Thomas, and I found this an effective way to discuss the results. I had hoped to collaborate with other colleagues but this was not possible due to time restrictions. One suggestion for future research is for teachers to write a reflective field diary, as carried out by MacQuarrie (2018). This would create an additional source of no doubt rich qualitative data, that would also help with triangulation of the data. More research is needed in order to find other ways to measure the outcomes of OL (Waite, 2010).

In this study, there were 48 pupil participants, plus two teachers and Thomas. Whilst I would have liked to carry out this study with other year groups, this number of participants was well suited to the case study approach (Menter et al., 2011). Importantly, it was representative of the OL context of this case study - Beach School. Other OL research has used case studies too,

for example Cumming and Nash (2015) focused their research on two classes from a primary school (class size is not given however). Whilst I am aware of limitations surrounding case studies - that they 'have limited generalisability' (Cohen et al., 2011: 294), the findings shared here are representative of my chosen research field, and are therefore applicable to other OL contexts. They offer a guide to teachers and, most strongly, a wholehearted message of support to Head Teachers and Senior Leadership Teams to fully endorse OL. This study therefore contributes to the ongoing discussion about the use of OL in schools. In the future, a longitudinal study would further the research field even more. This could also involve a range of schools from different socio-economic backgrounds, and a greater number of teachers who perhaps were not so comfortable taking learning outside the classroom.

6. Conclusion

The literature highlighted that there is real support for OL amongst educationalists, policy makers and Government due to the many benefits of OL. There is also a need to bridge the gap between the decreasing number of pupils engaging with nature and the significant concerns regarding pupil mental health and well being. I believe that OL has real potential to deliver the curriculum and simultaneously meet the needs of pupils, developing confident, life-long learners with positive mental health and well being. OL has real power to root learning in a real sense of place, to re-connect pupils with nature leading to more positive relationships with themselves and those around them.

The quantitative and qualitative data collected in this study fully support the proposal that Beach School has the potential to assist in the school's mission statement to meet the needs of the learners. The qualitative data from the interviews regarding the concept of OL and the wide ranging responses give support to the definition chosen for this study, highlighting that it is a multidimensional concept. The data also highlighted the many benefits of OL, categorised as being social and cognitive, and some of the barriers it still presents. Several other factors need to be considered before planning any OL within a school, notably the school culture and the location of the OL. Therefore, future research involving a longitudinal study would help to further understand and try to assess these. For example, the importance of place in using OL to meet the needs of the learners, which has also been recommended for future research by Cumming and Nash (2015).

The success of Beach School was largely due to the careful planning and delivery of both the lessons inside the classroom and the Beach School sessions. The teachers involved in this study were also very positive role models to the pupils and their optimistic outlook, enthusiasm and engagement, and social relations with other staff, will have contributed to its success. I was very fortunate that the teachers who took part in this study endorsed OL, and their practice truly aligned with Plymouth University researchers who believe that OL is a 'way of teaching'

(Plymouth University, 2016 in Niman and Kerwin-Nye, 2019: 4). Therefore, it would also be interesting to examine the influence of teacher and class group dynamics on the success of OL experiences. In doing so, a manual of best practice could be developed for all staff at Grange School to use, which would undoubtedly help when we aim to roll out Beach School for all.

In this study, I have proposed a framework for how to use OL, through the use of Beach School, and have therefore added to the OL research field. I conclude that Beach School is a way in which OL can assist in the school's mission statement to meet the needs of the learners, and that other factors, notably the school culture and a school-based local context for the OL, are critically important features of the success of this. Given the current educational debates between knowledge and skills based curricula, not least as the job market has gone through extraordinary change and we are preparing children for an uncertain role, OL offers a truly rewarding way in which to bridge this gap. Related to this, a key finding from the Outdoor Journeys programme was that 'integrated indoor/outdoor approaches to learning…may offer authentic opportunities to develop critical thinking skills that equip pupils with competencies demanded by a changing world' (Christie et al., 2016: 431).

I have shared my findings with the Parents Group and Governing Body of Grange School. I also intend to share my findings with the Independent Association of Prep Schools (IAPS), through a publication in the IAPS magazine, 'Attain'. I hope my proposal will help other teachers and leaders to try OL with an emphasis on making it part of the everyday, norm of the school culture, so that they too can reap the benefits of it. Furthermore, for those schools that are struggling with teachers' dispositions towards OL - as has been cited as one the biggest challenges schools face, and one of the reasons why, despite support in policy there is little uptake from teachers (MacQuarrie, 2018) - perhaps the inclusion of OL in teacher job descriptions would signify the importance that schools place on it. As a marketing strategy, Beach School is an incentive for families, and Open Mornings have involved a Beach School session with hot chocolate and marshmallows around the fire pit afterwards. Starting and

establishing Beach School allowed me to ensure Grange School stays true to its mission statement; to the guidance from the Scottish Government; and to the commitment of Scottish Schools to the outdoors.

During this study I have reflected deeply on various aspects of my own teaching practice and leadership. As I do not teach in the classroom anymore, I gained valuable insight into the opportunities and challenges of using OL. This will help when Beach School is rolled out across the school to all year groups, as I will be able to offer advice from a practical level up to and including how to embed Beach School within the School's Development Plan. The implications of this study are therefore multi-dimensional. My experience of working with teacher A and B and Thomas has many implications for Beach School learning and teaching. That it is now part of the Development Plan with full support from the Governing body and is being introduced to each year group, which in turn, is a significant outcome. Through this support it is our hope that all teachers take it on as positively.

Personally, whilst I had hoped for a level of success for Beach School, I could not have imagined just how successful it would be, and it has been rewarding to watch it come to fruition. The next step for me is to continue my drive to embed OL by developing a web site with all the necessary information for teachers to take learning outside the classroom. Thorburn and Allison (2010) have argued that having an easily accessible website with all the information teachers would need for OL, including curriculum links and activity ideas, 'creates a far greater capacity for pedagogical interventions to become deeply embedded in school practice in the longer term' (Thorburn and Allison 2010: 105). It is my hope that this will be the beginnings of an OL Development Plan reaching out to a new audience.

7. References

Author (2016) *Flourishing: How can the emotional and mental health needs of children be supported by mental health training for staff at Royal Anchor School?* (Unpublished MSc research project). University of Oxford.

Baker, M. (2005) Landfullness in adventure-based programming: promoting reconnection to the land. *Journal of Experiential Education* 27 (3): 267 – 276.

Beames, S. and Ross, H. (2010) Journeys outside the classroom. *Journal of Adventure Education and Outdoor Learning* 10 (2): 95 – 109.

Beames, S., Higgins, P. and Nicol, R. (2011) *Learning outside the classroom.* London: Routledge.

Bentsen, P., Schipperijn, J. and Jensen, F.S. (2013) Green Space as Classroom: Outdoor School Teachers' Use, Preferences and Ecostrategies. *Landscape Research* 38 (5): 561 – 575.

Borgers, N., Sikkel, D. & Hox, J. (2004) Response Effects in Surveys on Children and Adolescents: The Effect of Number of Response Options, Negative Wording, and Neutral Mid-Point. *Quality & Quantity* 38 (1): 17 -33.

British Educational Research Association [2011] *Ethical Guidelines for Educational Research* [online]. Available from <http://content.yudu.com/Library/A2xnp5/Bera/resources/index.htm?referrerUrl=http://free.yudu.com/item/details/2023387/Bera> [date accessed 12th October 2018].

Christie, B., Higgins, P. and McLaughlin, P. (2014) 'Did you enjoy your holiday?' Can residential outdoor learning benefit mainstream schooling? *Journal of Adventure Education and Outdoor Learning* 14 (1): 1 – 23.

Christie, B., Beames, S. and Higgins, P. (2016) Context, culture and critical thinking: Scottish secondary school teachers' and pupils' experiences of outdoor learning. *British Educational Research Journal* 42 (3): 417 – 437.

Coates, J. and Pimlott-Wilson, H. (2019) *Forest schools: how climbing trees and making dens can help children develop resilience [online].* Available from <https://theconversation.com/forest-schools-how-climbing-trees-and-making-dens-can-help-children-develop-resilience-117920> [date accessed 5th September 2019].

Cohen, L., Manion, L. and Morrison, K. (2011) *Research methods in Education.* 7th ed. London: Routledge Falmer.

Cumming, F. and Nash, M. (2015) An Australian perspective of a forest school: shaping a sense of place to support learning. *Journal of Adventure Education and Outdoor Learning* 15 (4): 296- 309.

Davis, B., Rea, T. and Waite, S. (2006) The special nature of the outdoors: Its contribution to the education of children aged 3 – 11. *Australian Journal of Outdoor Education* 10 (2): 3 – 12.

Davies, D., Jindal-Snapeb, D., Collier, C. and Digbya, R. (2013) Creative Learning Environments in Education – a systematic literature review. *Thinking Skills and Creativity* 8: 80 – 91.

Denzin, Y. and Lincoln, N. (2005) *The Sage handbook of qualitative research* (3rd edition). Thousand Oaks, CA: Sage.

Department for Education (2012) *Statutory Framework for the Early Years Foundation Stage*. London: Department for Education.

Department for Education (2017) Progress 8 and Attainment 8 Guide for maintained secondary schools, academies and free schools [online]. Available from < https://www.gov.uk/government/publications/progress-8-school-performance-measure> [date accessed 29th July 2018].

Dyment, J.E. (2005) Green School Grounds as Sites for Outdoor Learning: Barriers and Opportunities. *International Research in Geographical and Environmental Education* 14 (1): 28 – 45.

Education Scotland (2019) *Curriculum for excellence: sciences: principles and practice* [online]. Available from https://education.gov.scot/Documents/sciences-pp.pdf [date accessed 28th July, 2019].

Edwards, A. and Talbot R. (1994) *The Hard-Pressed Researcher.* London: Longman.

Else, P. (2009) *The value of play.* London: Continuum.

English Outdoor Council (2019). *Values and benefits of outdoor education, training and recreation* [online]. Available from < https://www.englishoutdoorcouncil.org/Values_and_benefits.htm > [date accessed 25th July 2018].

Fairclough, M. (2016) *Playing with fire: embracing risk and danger in schools*. John Catt Educational: Woodbridge.

Fiennes, C., Oliver, E., Dickson, K., Escobar, D., Romans, A. and Oliver, S. (2015) *The Existing Evidence-Base about the Effectiveness of Outdoor Learning* [online]. Available from <https://www.outdoor-learning.org/Portals/0/IOL%20Documents/Research/outdoor-learning-giving-evidence-revised-final-report-nov-2015-etc-v21.pdf?ver=2017-03-16-110244-937> [date accessed 27th July 2019].

Fuller, C., Powell, D. and Fox, S. (2016) Making gains: the impact of outdoor residential experiences on students' examination grades and self-efficacy. *Educational Review* 69 (2): 232 – 247.

General Teaching Council Scotland (GTCS) (2013) *Revised professional standards* [online]. Available from <http://www.gtcs.org.uk/about-gtcs/Consultations/consultation-revision-professional-standards.aspx> [date accessed 30th July 2019].

Gill, T. (2011) *Children and nature. A quasi-systematic review of the empirical evidence* [online]. Available from < https://www.academia.edu/5775760/Children_and_nature_A_quasi_-systematic_review_of_the_empirical_evidence> [date accessed 7th August 2019].

Grange School (2019) *Staff Handbook* [online]. Available from <https://spark.adobe.com/page/7rWHdJNWdejpe/> [date accessed 16th August 2018].

Gurholt, K.P. and Sanderud, J.R. (2016) Curious play: children's exploration of nature. *Journal of Adventure Education and Outdoor Learning* 16 (4): 318 – 329.

Hattie, J., Marsh, H.W., Neill, J.T. and Richards, G.E. (1997) Adventure Education and Outward Bound: Out-of-Class Experiences That Make a Lasting Difference. *Review of Educational Research* 67 (1): 43 – 87.

Higgins, P. (2002) Outdoor education in Scotland. *Journal of Adventure Education and Outdoor Learning* 2 (2): 149 – 168.

Higgins, P., Nicol, R., Beames, S. Christie, B and Scrutton, R. (2013) *Submission to the Education and Culture Committee on Outdoor Learning* [online]. Available from <http://www.parliament.scot/S4_EducationandCultureCommittee/Inquiries/Prof_Higgins_submission.pdf> [date accessed 8th September 2019].

Hignett, A., White, M.P., Pahl, S., Jenkin, R. and Froy, M.L. (2018) Evaluation of a surfing programme designed to increase personal well-being and connectedness to the natural environment among 'at risk' young people. *Journal of Adventure Education and outdoor Learning* 18 (1): 53 – 69.

Humberstone, B and Stan, I. (2011) Outdoor learning: primary pupils' experiences and teachers' interaction in outdoor learning. *Education 3-13* 39 (5): 529 – 540.

Hunt, A., Stewart, D., Burt, J., Dillon, J. (2016) *Monitor of Engagement with the Natural Environment: a pilot to develop an indicator of visits to the natural environment by children – Results from Years 1 and 2 (March 2013 to February 2015).* Natural England Commissioned Reports, Number 208.

IB Organisation (2019) *Learner Profile* [online]. Available from <https://www.ibo.org/globalassets/digital-tookit/flyers-and-artworks/learner-profile-en.pdf> [date accessed 17th August 2019].

Improving Scottish Education (2009) *A report by HMIE on inspection and review 2005 – 2008* [online]. Available from <https://dera.ioe.ac.uk/8777/7/ise09_Redacted.pdf> [date accessed 23rd July 2019].

King's College London (2011) *Understanding the diverse benefits of learning in natural environments* [online]. Available from <http://www.lotc.org.uk/wp-content/uploads/2011/09/KCL-LINE-benefits-final-version.pdf> [date accessed 18th July 2019].

Knapp, C. (2005) The 'I-thou' relationships, place-based education, and Aldo Leopold. *Journal od Experiential Education* 27 (3): 277 – 285.

Knight, S. (2009) *Forest Schools and outdoor learning in the early years*. London: Sage.

Knight, S. (2011) *Forest School for all.* London: Sage.

Knight, S. (2016) Forest School in practice. London: Sage.

Learning and Teaching Scotland (2010) *Curriculum for Excellence through Outdoor Learning* [online]. Available from < https://education.gov.scot/Documents/cfe-through-outdoor-learning.pdf> [date accessed 15th March 2018].

MacQuarrie, S. (2018) Everyday teaching and outdoor learning: developing an integrated approach to support school-based provision. *Education 3-13* 46 (3): 345 – 361.

Mannion, G. and Adey, C. (2011) Place-based education is an intergenerational practice. *Children, Youth Environments Special Issue on Place-based Education* 21 (1): 35 – 58.

Mannion, G., Fenwick, A., Nugent, C. and l'Anson, J. (2011) *Teaching in nature.* Scottish Natural Heritage Commissioned Report No 476 [online]. Available from < https://www.nature.scot/sites/default/files/2017-07/Publication%202011%20-%20SNH%20Commissioned%20Report%20476%20-%20Teaching%20in%20nature.pdf> [dates accessed 3rd March 2018].

Mannion, G., Mattu, L. and Wilson, M. (2015) Teaching, learning and play in the outdoors: a survey of school and pre-school provision in Scotland. *Scottish Natural Heritage Commissioned Report No. 779* [online]. Available from <https://www.nature.scot/sites/default/files/2017-07/Publication%202015%20-%20SNH%20Commissioned%20Report%20779%20-%20Teaching%2C%20learning%20and%20play%20in%20the%20outdoors%20a%20survey%20of%20school%20and%20pre-school%20provision%20in%20Scotland.pdf> [date accessed 3rd March 2018].

Marin, L. and Halpern, D. (2011) Pedagogy for developing critical thinking in adolescents: explicit instruction for greatest gains. *Thinking Skills and creativity* 6: 1 – 13.

Maynard, T. and Water, J. (2007) Learning in the outdoor environment: a missed opportunity? *Early Years* 27 (3): 255 – 265.

McKenzie, M.D. (2000) How are Adventure Education Program Outcomes Achieved?: A review of the literature. *Australian Journal of Outdoor Education* 5 (1): 19 – 27.

Meiklejohn, L. (2019) *The IB Learner Profile attributes and the four capacities of CfE* [online]. Available from <https://blogs.glowscotland.org.uk/glowblogs/lbmeiklejohnuodep/2018/09/03/the-ib-learner-profile-attributes-and-the-four-capacities-of-cfe/> [date accessed 13th February 2019].

Menter, I., Elliot, D., Hulme, M., Lewin, J. and Lowden, K. (2011) *A Guide to Practitioner Research in Education.* London: Sage.

Natural England (2009) *Childhood and Nature: a Survey on Changing Relationships with Nature across Generations.* Cambridgeshire: Natural England.

Natural England (2016) *Natural connections demonstration project, 2012-2016: Final report* [online]. Available from <http://publications.naturalengland.org.uk/publication/6636651036540928> [date accessed 25th July 2019].

Nicol, R. (2014) Entering the Fray: the role of Outdoor Education in providing nature-based experiences that matter. *Educational Philosophy and Theory* 46 (5): 449 – 461.

Nicol, R. and Higgins, P. (1998) A sense of place: a context for environmental outdoor education. In Higgins, P. and Humberstone, B. (eds) *Celebrating diversity: learning by sharing cultural differences* (pp. 50 – 55). Marburg: European Institute for Outdoor Adventure and Experiential Learning.

Niman, T. and Kerwin-Nye, A. (2019) *Work on the Wild Side: Outdoor learning and Schools* [online]. Available from <http://www.lotc.org.uk/wp-content/uploads/2017/05/Work.on_.the_.Wild_.Side_.2017.pdf> [date accessed 15th July 2018].

Passy, R. (2014) School gardens: teaching and learning outside the front door. *Education 3-13* 42 (1): 23 – 38.

PYP Development Team (2019) *Supporting exploration of the Learner Profile through outdoor learning* [online]. Available from <http://blogs.ibo.org/sharingpyp/2016/03/01/supporting-exploration-of-the-learner-profile-through-outdoor-learning/> [date accessed 13th February 2019].

Richmond, D., Sibthorp, J., Gookin, J., Annarella, S. and Ferri, S. (2018) Complementing classroom learning through outdoor adventure education: out-of-school-time experiences that make a difference. *Journal of Adventure Education and Outdoor Learning* 18 (1): 36 – 52.

Rickinson, M., Dillon, J., Teamey, K. Morris, M., Choi, M.Y., Sanders, D. and Benefield, P. (2004) A review of research on outdoor learning. Shrewsbury: National Foundation for Educational Research and King's College London.

Ridgers, N.D., Knowles, Z.R. and Sayers, J. (2012) Encouraging play in the natural environment: a child-focused case study of Forest School. *Children's Geographies* 10 (1): 49 – 65.

Robertson, J. (2014) *Dirty Teaching: A Beginner's Guide to Learning Outdoors.* Carmarthen: Independent Thinking Press.

RSPB (2012) *Every Child Outdoors (summary Report)* [online]. Available from < http://ww2.rspb.org.uk/Images/everychildoutdoors_tcm9-259689.pdf> [date accessed 5th August 2019].

Ryan, R.M. (2010) Vitalizing effects of being outdoors in nature. *Journal of Environmental Psychology* 30 (2): 159 – 168.

Scottish Government (2008) *Curriculum for excellence: building the curriculum 3: a framework for learning and teaching* [online]. Available from < https://education.gov.scot/Documents/btc3.pdf> [date accessed 5th August 2019].

Scottish Government (2012) *Learning for Sustainability report* [online]. Available from <http: //www.scotland.gov.uk/Topics/Education/Schools/curriculum/ACE/OnePlanetSchools/LearningforSustainabilityreport> [date accessed 3rd August 2019].

Scottish Government (2013) *Learning for Sustainability: The Scottish Government's response to the Report of the one Planet Schools Working Group* [online]. Available from < https://education.gov.scot/improvement/Documents/One-planet-schools-report-learning-for-sustainability.pdf> [date accessed 3rd August 2019].

Scrutton, R.A. (2015) Outdoor adventure education for children in Scotland: quantifying the benefits. *Journal of Adventure Education and Outdoor Learning* 15 (2): 123 – 137.

TES (2019) Beach school: why every teacher should try it [online]. Available from < https://www.tes.com/news/beach-school-why-every-teacher-should-try-it> [date accessed 15th November 2018].

The Guardian (2019) *Tide's out, school's in: the many benefits of beach teaching* [online]. Available from <https://www.theguardian.com/education/2019/jan/07/tides-out-schools-in-the-many-benefits-of-beach-teaching> [date accessed 15th November 2018].

Thorburn, M. and Allison, P. (2010) Are we ready to go outdoors now? The prospects for outdoor education during a period of curriculum renewal in Scotland. *The Curriculum journal* 21 (1): 97 – 108.

Waite, S. (2010) Losing our way? The downward path for outdoor learning for children aged 2 – 11 years. *Journal of Adventure Education and Outdoor Learning* 10 (2): 111 – 126.

Waite, S. (2011) Teaching and learning outside the classroom: personal values, alternative pedagogies and standards. *Education 3-13* 39 (1): 65 – 82.

Waite, A., Rutter, O., Fowle, A. and Edwards-Jones, A. (2017) Diverse aims, challenges and opportunities for assessing outdoor learning: a critical examination of three cases from practice. *Education 3-13* 45 (1): 51 – 67.

Yin, R. (2008) *Case Study Research: Design and Methods* (Applied Social Research Methods Series). London: Sage.

8. Appendices

Appendix 1: IB Learner Profile



The IB Learner Profile, used across all IB programmes in all IB Schools (IB Organisation, 2019).

Appendix 2: Participant information letter

Dear Parents and Guardians,

I am studying for the Master's in Learning and teaching at Oxford University, supervised by Dr. XX. In my final research project, *Learning outside the classroom: An inquiry into how Outdoor Learning can assist in the school's mission statement to meet the needs of the learners*, I will explore how Outdoor Learning meets the needs of the Year 5 learners participating in Beach School. I would like to invite your son or daughter to participate in this research.

In this context, outdoor learning is seen as a tool that supports learning. The purpose of this research is to investigate how outdoor learning can be best introduced into my school, in order to promote its core values and ethos. By doing this, I shall gain an understanding of how best to tailor an outdoor education programme to my school, its curriculum and pupils. Following this research, a formalised outdoor education programme will be introduced to the school.

By participating in the research, your son or daughter would be contributing to a project that will deepen the School's understanding of outdoor learning for students, and so contribute towards developing ways of improving this major part of the school in the future. It will also contribute to Primary education more widely, in particular to growing relevance to outdoor learning.

I hope to conduct this research in the Lent term. I would observe and take notes in Beach School sessions, interview pupils and staff and conduct pupil surveys. The pupil interviews would take place in small groups three times during the study period, and the pupil survey would take place before and after the study period and is related to the IB Learner Profile.

Oxford University has strict ethical procedures on conducting ethical research with teachers and young people, consistent with current British Educational Research Association guidelines. As practitioner research however, the University recognises that schools have the highest ethical standards in any event. Throughout the research, students and other teachers will be able to refuse to participate in any research activities at any time, and this will not affect your place on Beach School.

All participants, including students, teacher and the school, would be made anonymous in all research reports. The data collected would be kept strictly confidential, available only to me, and not used other than specified without further consent. All recordings would be destroyed at the end of the research period, and kept in locked conditions until then.

If you are happy for your son or daughter to participate in this study, please confirm that using the attached reply form. If you have any concerns or need more information about what is involved, please contact me or my supervisor. Further, if you have any questions about this ethics process at any time, please contact the chair of the department's research ethics committee, though: research.office@education.ox.ac.uk

I look forward to hearing from you.

Yours sincerely,

XX

Learning outside the classroom: An inquiry into how Outdoor Learning can assist in the school's mission statement to meet the needs of the learners.

Child's name_____

Parents name_____

(please circle as appropriate):

We do not wish for our son / daughter to participate in this project.

We would like to find out more about this project.
We would like our son / daughter to take part in this project.

_____

Parent or Guardian's signature

Please return this form to me. Thank you for your help.

Appendix 3: CUREC letter to Head Teacher

Dear XX,

I am writing to enquire about conducting research in school this academic year. As you know, I am studying for the Master's in Learning and teaching at Oxford University, supervised by Dr. XX. In my final research project, *Learning outside the classroom: An inquiry into how Outdoor Learning can assist in the school's mission statement to meet the needs of the learners*, I will explore the extent to which the introduction of Beach School and contributes to our school ethos and core-mission, and ultimately impacts our learners.

The research will take place with Year 5 who will be taking part in Beach School learning. In this context, outdoor learning is seen as a tool that supports learning. The purpose of this research is to investigate how outdoor learning can be best introduced into my school, in order to promote its core values and ethos. By doing this, I shall gain an understanding of how best to tailor an outdoor education programme to my school, its curriculum and pupils. Following this research, a formalised outdoor education programme will be introduced to the school.

By participating in the research, the school would be contributing to a project that will deepen the School's understanding of outdoor learning for students, and so contribute towards developing ways of improving this major part of the school in the future. It will also contribute to Primary education more widely, in particular to growing relevance to outdoor learning.

I hope to conduct this research in the Lent term. I would observe and take notes in Beach School sessions, interview staff involved and conduct pupil surveys.

Oxford University has strict ethical procedures on conducting ethical research with teachers and young people, consistent with current British Educational Research Association guidelines. As practitioner research however, the University recognises that schools have the highest ethical standards in any event. Therefore only your consent is necessary, and not that of parents. Throughout the research, students and other teachers will be able to refuse to participate in any research activities at any time.

All participants, including students, teacher and the school, would be made anonymous in all research reports. The data collected would be kept strictly confidential, available only to my supervisor (XX, XX e-mail address) and myself, and not used other than specified without further consent. All tapes would be destroyed at the end of the research period, and kept in locked conditions until then.

If you are happy for me to proceed with this study, please confirm that using the attached reply form. If you have any concerns or need more information about what is involved, please contact me or my supervisor. Further, if you have any questions about this ethics process at any time, please contact the chair of the department's research ethics committee, though: research.office@education.ox.ac.uk

I look forward to hearing from you.

Yours sincerely,

XX

Learning outside the classroom: An inquiry into how Outdoor Learning can assist in the school's mission statement to meet the needs of the learners.

XX

University of Oxford, Department of Education

XX, Headmaster, XX

We do not wish to participate in this project.

We would like to find out more about this project.

We would like to take part in this project.

_____

Head Teacher's signature

Please return this form to me. Thank you for your help.

Appendix 4: Beach School Unit of Inquiry

Transdisciplinary theme: Sharing the planet: An inquiry into rights and responsibilities to share finite resources with other people and with other living things; communities and relationships within and between them; access to equal opportunities; peace and conflict resolution. **Central idea:** Scotland is comprised of diverse regions, which are used for different purposes. **What lines of inquiry will define the scope of the inquiry into the central idea?**			
Session number	**Line of Inquiry**	**'Beach School' activity**	**Link to the Learner Profile**
1	Making connections between weather and human activity	Session with the 'Coast and Countryside' Ranger – exploring climate; weather patterns; coastal farming, fishing and oil industries; use of wind power.	Knowledgeable, thinkers, open minded.
2	Impact of human activity on the beach	Beach Clean, followed by writing to local businesses asking them to reduce plastic production	Caring, principled, reflective.
3	Climate and land use	Looking at diverse rocks on the beach, and matching these to a 'Geologist's wall' located near the beach.	Inquirers
4	Use of natural resources on the beach	Bartering game with objects on the beach: objects given a value which would change as supply and demand changed.	Communicators, risk-takers
5	Regions and boundaries of Scotland	Creating maps on the beach using natural objects found and 'sand art' to show the geography of Scotland, location of mountains, rivers, lochs etc.	Knowledgeable, thinkers.
6	Population distribution	Using natural resources to build shelters on the beach; activities around the fire pit to reflect on the Unit of Inquiry.	Communicators, open-minded, reflective.

Table 3: Summary of what took place during each Beach School session. Note: this is not the full Unit of Inquiry planner, rather a simplified version of the Beach School sessions.

Appendix 5: Data collection methods

Research question	Data collection method
What are the benefits of Beach School to Grange School pupils?	Literature review, observations, and interviews
How can Beach School be incorporated into the curriculum?	The OL Beach School Unit of Inquiry, observations, and interviews
How and to what extent does Beach School meet the needs of the learners?	Survey, observations and interviews

Table 4: Methods of data collection for answering the research questions

Appendix 6: Beach School survey

I am……	Strongly agree	Agree	Disagree	Strongly disagree
Open-minded *I understand my local environment and the values and traditions of those who work in it. I am eager to expand my horizon of other points of view.*	4	3	2	1
Inquiring *I am naturally curious and will seek out opportunities to learn.*	4	3	2	1
Caring *I show compassion and respect for my friends, other people and the natural resources in which we live and wish to make a positive difference to the environment.*	4	3	2	1
Knowledgeable *I want to develop my own knowledge across the Unit of Inquiry.*	4	3	2	1
Risk-taking *I want to try new things out, approach new experiences openly, and justify my actions.*	4	3	2	1
Thinking *I take time to carefully think through different situations and make thoughtful decisions.*	4	3	2	1
Balanced *I know how important it is to maintain a healthy lifestyle and care for myself and others.*	4	3	2	1
Communicating *I can work as part of a team, listen to the view of others and work effectively with people around me.*	4	3	2	1
Reflecting *I can reflect on my own learning and know my strengths and weaknesses.*	4	3	2	1
Principled *I act fairly and take responsibility for my actions.*	4	3	2	1

Table 5: Beach School survey

Appendix 7: interview schedule

Interview Number	Focus	Date
1	Pupil Group A	15th January
2	Pupil Group B	16th January
3	Teacher A	7th February
4	Teacher B	8th February
5	Pupil Group A	5th March
6	Pupil Group B	6th March
7	Thomas	21st March
8	Pupil Group A	22nd March
9	Pupil Group B	23rd March

Table 6: Interview schedule.

Appendix 8: Key points covered in interviews

Interview number	Focus	Key question	Sub-questions
Pre-Unit of Inquiry: 1 + 2	OL	What do you think 'Outdoor Learning' means? What does it involve? What would it look like?	What is your understanding based on – previous experience?
	Beach School	What do you understand about Beach School? What are the aims and benefits of it?	Have you worked on the beach before? What subjects do you think Beach School could help you learn?
	Learner Profile	What do you understand about the Learner Profile? How do you think Beach School will help this?	Take one example from the Learner Profile – e.g. enquirers - how did you reflect on it last term? How do you think Beach School will help?
Mid-Unit of Inquiry: 5 + 6	OL	How would you define OL? How far do you agree with its benefits?	What are the key features of OL?
	Beach School	How does Beach School fit with your definition? What are the benefits of Beach School? Did you experience any challenges?	How can you further develop these opportunities? How did you overcome these challenges?
	Learner profile	Did Beach School affect your Learner Profile? How? What else affected it?	How did it? What else affected it? How important was the local setting?
Post-Unit of Inquiry: 8 + 9	Beach School reflections	Has Beach School met its aims, and your expectations? Has your experience of it affected your experiences in the classroom?	What were your highlights of it?
	Learner profile	How has Beach School affected your Learner Profile?	What was the main aspect of your Learner Profile that improved during the Beach School sessions?

Table 7: Questions used for semi-structured interviews with pupil group interviews.