The Potential of Extended Cultural Residencies for Young Children

Although years of research efforts have investigated learning benefits from museum visits, relatively less attention has been paid to young children's experiences in these settings. Drawing on contextualist perspectives of learning, this paper seeks to address this gap, using two case studies to explore the experiences of children ages three to five who spent extended periods of time attending school in a museum setting. We draw on qualitative data from the evaluation of two museum-school partnerships, to investigate potential learning benefits of such experiences and elements that may have facilitated the outcomes observed. These two exploratory case studies indicate considerable potential for supporting language and communication skills in young children, as well as personal, social and emotional development. These outcomes appear to be linked to the rich nature of the experience, as well as its extended duration, which allowed it to be deeply child-centred, allowing for valuable learning from the museum environment.

Keywords: extended cultural residencies, museums, young children, schools

Introduction

This article sets out to explore the possibilities for learning by young children (ages three to five) in museum settings. It investigates what happened when groups of young children went beyond a one-off school trip or family visit and spent a more extended period of time (two to five weeks) attending school in a museum setting. We term such an experience an 'extended cultural residency' which, as we will argue, would seem to have some features that may make it particularly supportive of learning in informal contexts.

Research on school trips to museums and other informal learning settings has highlighted the benefits that such experiences can provide for learning. Evidence has been gathered of gains in conceptual understanding, of positive affective/emotional

outcomes and of benefits to social skills, among others (DeWitt and Storksdieck 2008). Recently, a large scale study involving over 3000 pupils investigated the potential impacts of a school visit programme to an art museum in the southern United States. Participating students showed improved critical thinking skills when presented with a new artwork compared with classmates who were not involved in the programme (Bowen, Greene and Kisida 2014). However, with few exceptions – some of which are discussed below – most of the research in this domain does not focus on very young children (under age five). The study we present in this paper begins to help address this gap by extending our understanding of young children's learning from museums.

The research that has been conducted on the learning of young children in museums, in the main, focuses on family visits. For instance, some work has categorised parent-child interactions in a children's museum (e.g. Wood and Wolf 2010), while other research has explored relationships between parent explanations and preschoolers' exploratory behaviour and learning in a science centre (van Schijndel and Raijmakers 2016). Other studies have likewise focused on parent-child interactions during visits, with a particular emphasis on conversations and the way in which they support learning in these settings (Crowley et al. 2001; Crowley and Jacobs 2002; Geerdts, Van de Walle and LoBue 2015; Haden et al. 2014). For instance, previous studies reflect the way in which verbal interactions support young children's learning in museums, particularly when the adults (e.g. parents) know the children very well and are able to respond to and build on their interests, linking the museum visit to their previous experience (Crowley and Jacobs 2002; Haden et al. 2014). Research and theorisation around early years learning also highlights the importance of a range of rich, first-hand experiences for learning and development, as well as the opportunity to reflect on such experiences (Dewey 1916, 1938). These opportunities, in turn, support

children's construction of knowledge from these experiences (Piaget 1962; Vygotsky 1978, 1986).

A recent volume (Sobel and Jipson 2015) extends this work to highlight the affordances of informal settings for developing deeper understandings of children's cognitive development. However, this book – as with most of the research found on young children in informal learning institutions – focuses on science centres and children's museums, with the experiences offered by art galleries and history museums receiving less research attention. Admittedly, for many years young children were not considered to be a core audience for many such institutions (Shaffer 2015). However, this situation would seem to be shifting, at least in the UK, with a number of high-profile art and/or history museums (e.g. The Whitworth gallery in Manchester, the Museum of London, Historic Royal Palaces, Tate) beginning to institute learning programmes specifically for very young visitors (under age five), often involving fairly short hands-on activities with caregivers.

In addition to a limited body of research on young children's experiences of museums writ large, we have found no research attention directed to the experience of young children spending extended lengths of time in such settings and what potential this might have for their learning. Of course, this may be due to the rarity of extended stays – the vast majority of school-led visits to a museum are in the form of one-off day trips (or, at best, a school may visit the same museum two or three times in a year or term as part of a special programme). The experience of an extended cultural residency is arguably quite distinctive.

In the winter and spring of 2016, the Cultural Institute at King's College London collaborated with an architect to explore what might happen if children spent most of their school day, every day – up to nearly a term – attending school in a museum. This

exploratory project, *My Primary School is at the Museum*, piloted the idea of extended cultural residencies of nursery or primary school children and their teachers in local museums. It investigated this idea in three pilot partnerships in England and Wales. These partnerships were opportunistic – the museums involved were recruited via personal connections and were those expressing willingness to participate. Two of these partnerships (in Liverpool and in Swansea, Wales) form the focus on this paper. The third involved older children and has been excluded from the present research for this reason.

Rationale for extended cultural residencies with young children

The idea of an extended cultural residency is an essentially new type of museum programme. Our initial aim therefore, was simply to ask 'what happened' and explore whether this idea might be worth trialling in additional settings in the future. Nonetheless, we were aware that programmes offering an extended cultural residency to very young children are unique. Further, lessons from developmental psychology point to the importance of early-years experiences for learning. We therefore saw the cultural residency as an opportunity to examine the potential effects of such an experience on young children, especially given the critical role that such years play in shaping later learning and development (e.g. Bruce 2011; Nutbrown 2011; Robson 2012; Shonkoff and Phillips 2000; Sylva, Melhuish, Sammons, Siraj-Blatchford, and Taggart 2010). During these years, children make sense of the world and develop their thinking via language and interactions with others (See for example, Bruner 1987; Vygotsky 1978, 1986). Other early years theorists also highlight the value for learning and development of sharing rich contexts and experiences (Katz and Chard, 2000). Likewise, research has highlighted the key role of 'sustained shared thinking' (SST) for children's cognitive development (Siraj-Blatchford, Sylva, Muttock, Gilden, and Bell 2002; Sylva et al.

2010). In SST, two individuals use language as they work together to solve a problem, understand a concept, develop a story and so forth. These sorts of interactions are often between an adult and a child and require extended periods in which to unfold. Educators in the Reggio Emilia tradition similarly emphasise the importance of extended interactions between adults and children over time (Dahlberg, Moss, and Pence 1999; Malaguzzi, 1992; Rinaldi 2006; Vecci 2010). The extended nature of the cultural residencies piloted in this project would seem to provide significant opportunities to support these types of interactions and experiences which can be so beneficial to children's developing thinking and understanding, as well as communication and social skills. This extended timeframe would also allow for reflection on experiences, which is critical for constructing knowledge (Dewey 1916).

On a pragmatic level, the national curriculum for young children, termed the Early Years Foundation Stage (EYFS) in England (Foundation Phase in Wales) allows teachers considerable flexibility in how they support learners. Rather than specific topics to be covered, there are broad key areas of learning which guide teachers' planning (e.g. Personal, Social and Emotional Development; Physical Development; and Communication and Language; as well as Literacy, Mathematics and so forth).

As noted, the extended cultural residencies programme developed in the course of this project is unique and yet also developmentally appropriate for the age of the students and structurally opportune with regards to the curricular demands on teachers at this stage of teaching. Thus, in this paper, we set out to investigate the following questions:

What happens when a class of young children spend an extended period of time attending school in a museum setting?

What are the perceived benefits/outcomes of the experience?

What elements seem to facilitate these outcomes?

Conceptual framing

Broadly, our analytical approach is situated within contextualist and sociocultural perspectives, which emphasise that learning and development are inextricably bound up with the context in which they occur (Bronfenbrenner and Morris 2006; Tudge 2008; Vygotsky 1978). We were particularly influenced by Bronfenbrenner's bioecological model of human development (Bronfenbrenner 2005; Bronfenbrenner and Evans 2000; Bronfenbrenner and Morris 2006).[1] This model is constructed around four key components: *Process*, *Person*, *Context* and *Time*. Process constitutes the core of the model and Bronfenbrenner posits that particular forms of interaction, which he terms 'proximal processes' are the principal drivers of development. These processes can involve interactions not just with people but with objects and symbols as well. Museums are rich contexts for objects and symbols, and also offer opportunities for interactions with many different people including peers, teachers, museum educators and other visitors. In this way, the lens of proximal processes can be useful in drawing our attention to children's museum-based interactions. Significantly, in order for these processes to be effective in driving development, the activities of which they are a part must occur regularly and become increasingly complex over time (Bronfenbrenner and Morris 2006) – such as those enabled by an extended residency.

The other three components of the model, person, context and time, draw our attention to the fact that processes driving a child's learning are situated in and shaped by the interpersonal, social and historical contexts in which they take place (Bronfenbrenner 1979; Bronfenbrenner and Morris 2006). Another related perspective, gaining currency in studies of informal learning, is that of learning ecologies or

ecosystems (Barron 2006; Crowley et al. 2015), which highlights the way in which learning occurs across settings – from schools and museums to the home and community environments – and that experiences in one setting build upon or are complemented by experiences in another. This conceptualisation reminds us that in order to best support learning, providers should acknowledge and reference experiences in other settings. The project which forms the focus of the current paper explored what might be possible when a museum becomes an integral element in the learning ecosystem of very young children.

This conceptual framing led us to focus on evidence related to interactions – among children, between children and adults, and with objects and other aspects of the environment, including the museum setting. This focus aligns with the perspectives of Falk and Dierking (2000) who note the importance, when considering learning in informal settings, of researching the interplay between sociocultural factors and physical contexts. As outlined in the following section, a range of data was gathered related to these interactions and the experience overall, and this was then used to address our research questions.

Methods

The two case studies that form the core of this paper are part of a larger project, *My Primary School is at the Museum*, which utilised an action research approach to explore what happened – possible benefits and downsides – when classes of primary and nursery school children spent an extended period of time (from two weeks up to an entire term) attending school in a museum. In the course of this project, three school-museum partnerships were created. The wider project can be considered to be a pilot study investigating the idea of extended residencies in cultural settings. The current paper focuses on the two school-museum partnerships which involved early years age

groups. Data gathered as part of the project evaluation (Measures 2016) is used to address the research questions.

Participants

Consistent with qualitative research, our 'sample' was not random (Miles, Huberman, and Saldaña 2014), and instead comprised museums and schools willing to participate in this pilot project. The first museum-school partnership took place in Liverpool and involved a nursery/children's centre and the art gallery Tate Liverpool (http://www.tate.org.uk/visit/tate-liverpool). The children's centre is approximately 3.5 miles from the museum and is situated in an area of considerable economic deprivation, serving children from families facing a range of social and economic challenges. The nursery staff were familiar with the museum, having previously taken children there on day-long trips, although many of the children participating in the cultural residency had not visited before. Participating children were three to four years old, and were from a range of ethnic and linguistic backgrounds. Approximately 12 children attended each day. This was not the same group each day, as children only went on the days they normally attended nursery (usually three days per week). This cultural residency lasted for two weeks.

The second partnership was between a social history museum, the National Waterfront Museum (https://museum.wales/swansea/) and a primary school located in the east of Swansea, Wales. Situated in an area of some economic deprivation, the primary school also houses a community library, community rooms and a multi-purpose hall. Two Reception year (the first year of primary school, with pupils age 4-5) classes participated in the project, one in March and the other in June. The two classes had 27 and 24 students, respectively, with approximately 30% being eligible for free school meals and over a quarter having a home language other than English. Although these

classes were part of a primary school, they followed the Foundation Phase framework (similar to the EYFS in England discussed earlier in this paper). Each cultural residency for this partnership extended for a total of five weeks.

Data collection and analysis

A range of data sources were collected during the project, including detailed field notes of observations and interviews. The interviews were conducted in person or via telephone and covered overall impressions of the project, the use of the museum resources (spaces, objects), logistics and staffing of the project, and benefits and challenges of the project for the institutions (museums, schools) and individuals (children, teachers, museum educators) involved.

While field notes and, especially, interviews constituted the main sources of data, they were supplemented by notes taken during an informal focus group with parents in Swansea (visiting the museum with participating children). Additional data was also provided by other documentation gathered in the course of the project, such as reports on children's learning (provided by the Liverpool nursery) and weekly summary reports of teaching activities (provided by the Swansea teachers). These sources, summarised in Table 1, provided a range of perspectives on the experiences of participating children learning in the museum contexts.

---- Insert Table 1 about here ----

The data used in analysis was primarily gathered for the purposes of project evaluation. However, we also view the two partnerships that form the focus of the paper as case studies (Cohen, Mannion, and Morrison 2000; Stake 1995; Yin 2009), in their reliance on multiple sources of data to attempt to understand what is, undoubtedly, a complex situation. A case study examines an 'instance in action', which is a bounded system that provides a 'unique example of real people in real situations' (Cohen,

Mannion, and Morrison 2000, 181) and is well-suited to capturing context. In approaching our analyses, then, we focused on developing a rich narrative description of each case, attempting also to gather the perspective of the individuals involved (via interviews as well as observations). We utilised multiple sources of data (see Table 1) in building our descriptions, and analyses were theoretically informed in their focus on interactions and the context surrounding them. However, as opportunistic case studies, our analysis was necessarily exploratory. Additionally, a process of inductive analysis, in which themes and categories emerge from the data, was more appropriate than a quantitative approach with variables specified in advance (Miles, Huberman, and Saldaña 2014)

The data were analysed in an iterative manner. Initially, the field notes, as well as some of the supplementary documentation, were utilised to compose descriptive vignettes which provide an overall impression of children's experiences in the museums. Then, the data (particularly interviews, but also some of the supplementary documentation) were reviewed multiple times in order to begin to draw out emergent themes (categories), particularly around perceived outcomes of the experiences and the elements which may have supported those outcomes. Following this, the Early Years Foundation Stage framework was used to help structure and interpret these emerging themes. That is, the categories of outcomes that emerged from the data (e.g. around communication skills, confidence) were mapped back to the EYFS areas of learning and development. (See Table 2.)

Findings

This section presents the themes that emerged from our analysis. More specifically, we draw on our data to discuss areas of children's learning that may have been supported by extended cultural residencies. We then reflect on what elements of these residencies

may have supported this learning and, in alignment with our conceptual framing, pay particular attention to context and interactions. However, we begin by presenting two vignettes, one from each of our case studies, providing an image of what a day in each museum may have been like. Each vignette is followed by a brief summary of salient aspects. In keeping with the exploratory nature of the project, they are intended to give a flavour of what happened in each setting, providing a richer picture against which the findings described in the remainder of the section can be considered.

A day in the life of the project

Tate Liverpool

It is 9.20 am and ten children, ages 3-4, are getting ready to board the minibus that will take them from their nursery to Tate Liverpool. They have all been once or twice during the previous week, if not more, but this experience only adds to their excitement. Building on a previous activity in which the children were particularly interested, the nursery staff bring fishing nets, which they will add to the materials available to the children in their designated learning space at the museum.

On the bus, the children observe the passing scenes and have animated conversations with each other and with the driver about what they notice, what they had for breakfast and what they might do at the museum. One child in particular is very lively, which contrasts with how quiet and shy she is normally at home and nursery.

Once they arrive, the museum educator comes out to meet the bus and escort the children to the 'Ideas Lounge', a small comfortable space in the museum. Although excited, the children are calmer than during the first days of the residency, since they are now familiar with the setting and know what to expect.

In the 'Ideas Lounge', the children and adults (nursery staff, student teachers and museum staff) make themselves comfortable and talk about what they have done and seen on their previous visits:

Museum educator: What did we see in the galleries?

Child 1: A man in a hat (referring to a specific painting)

Child 2: A magic hat!

Following a story and songs, the children play in the space (e.g. dressing up, looking at books) while they wait for their morning snack.

Shortly after 10.30 the children move into the 'Big Studio', a large room which has served as their 'home base' for the duration of their cultural residency at the museum. One wall of the room consists of floor to ceiling windows, which provide a view onto the river. Another contains a discovery tree, which is a Reggio Emilia-inspired way of documenting the development of individual children's interests over the course of the residency. The rest of the room is devoted to 'centres' or 'corners', similar to those found in a nursery classroom and, indeed, here they contain materials brought from the children's nursery: a dressing-up corner for pretend play, a book corner, a block/building corner, a water and sand play area, the fishing nets brought in that morning and so forth. There is also a large art-making area running the length of the room, including paints, rollers, clay, straws, scissors, paper, foil, transparent coloured plastic sheets and a wide range of other materials. The children begin to play straight away, choosing their areas and moving freely between them.

At approximately 11.15, one of the museum educators takes a small group of six children and their teacher into the gallery, where they look at paintings and identify shapes they can see. They look at a bicycle sculpture (*Five-Man Pedersen* by Simon Starling) and compare it with their own bicycles at home and nursery. Finally, they stop at a familiar painting (*The Peasant* by Amedeo Modigliani) and together, tell the story of a magic hat. After they return, a second group venture into the gallery to explore geometric shapes. They use tinfoil to wrap wooden blocks and then use the blocks to form shapes they see in a contemporary artwork of tessellating shapes (*Inversions* by Mary Martin).

At midday, the whole group goes downstairs to the café for their lunch, followed by more time in the Big Studio.

Shortly after 2 pm, half the children remain in the Big Studio while the museum educator takes the others to the Art Gym, a temporary exhibition on the top floor of the gallery,

featuring a range of interactive activities developed by artists and facilitated by young people ('Tate Collective', ages 15 to 25). The children engage with the activities, and some are particularly mesmerised by the 'light spa' (a light and sound installation that responds to movement), experimenting with how their movements change the shapes on the screen. Others also try the spinning art activity (a large spinning wheel which uses pencils and pens to make circular patterns) and print making. When they return, the other group visits the Art Gym.

Following the return of both groups, they wrap up with singing and reflections on the day. The children describe what they have done and seen with considerable enthusiasm and detail, including referencing the shapes and patterns they have explored. Then, it's back onto the minibus, where many fall asleep during the return journey to the nursery.

The above vignette is illustrative of the nature of the children's experience in the museum. The following aspects of the day would appear to be particularly salient in terms of their potential contribution to the children's overall experience: First, following their initial visit, children rapidly became 'at home' in the museum, where they encountered a mixture of familiar activities, routines, materials and people (e.g. 'home corner', stories, songs, musical instruments, nursery staff). At the same time, they also encountered new experiences, which were linked to their emerging interests and previous activities (e.g. wrapping blocks in tinfoil, looking at a bicycle sculpture, having lunch in the café). Thus, the visits seemed to strike a balance between the new and the familiar. The repeated, extended nature of the visits over consecutive days also afforded opportunities to become accustomed to new experiences, such as encounters with novel exhibitions (e.g. the 'light spa' in the Art Gym) and museum staff.

National Waterfront Museum (Swansea, Wales)

The day begins for this Reception class (ages 4-5) at 9 am, in their classroom at primary school. They use an interactive whiteboard for literacy and numeracy work, before preparing to go to

the museum. At 10.15, the children and their teacher gather bags and coats and board the minibus.

Following a short 10 minute journey to the museum, the class is greeted by an actor playing Charles Montague, the first person to fly a plane in Wales. They've been here many times before – they are about half-way through their five-week residency, but this is the first time they've been engaged by an actor in this way. The actor leads the children in an interactive session related broadly to flight, where the children are invited to play different characters in the story of Icarus. As the actor leads the story, he asks questions and many of the children respond by raising their hands, including a number of children who often participate less frequently in the classroom.

After the story the actor talks more about the history of flight and concludes by asking, 'Would you like to go and have a look at my plane?' The group move into the large object gallery and look at the Robin Goch (a monoplane dating from 1908). This is followed by a short demonstration about aerodynamics and gravity, as well as a discussion of forces.

At 11.25 the actor invites the children to make their own paper aeroplanes, which they test in the gallery space, observing which fly the furthest. During this activity, the children demonstrate a very high level of concentration, even those who normally struggle to do so. The actor analysed which planes did not fly as well as others and why this might be. The class teacher also suggested that they make colourful planes at school and measure how far they fly.

At about 11.50 the students move to the lunch room downstairs and eat, followed by about 15 minutes of free play outside in the courtyard. Next, the class moves into the museum classroom. Following more literacy and numeracy work, the teacher invites the children to choose which activity they would like to do next. Although the teacher had originally planned a geography session for this time slot, she decides to build on the inspiration and engagement of children from the morning and offers them the opportunity to make planes, which also reinforces their learning about what makes a good plane (e.g. symmetry). Most of the class make planes, although some children also work on train drawings they had begun previously and a few engage in other activities (e.g. reading storybooks, a bingo word game).

Shortly after 2 pm, the children gather their coats and bags and head to the minibus for the short journey back to school. Back at school, there is time for a drink of water or milk and a short rest before their parents/carers collect them at 3 pm.

The above description portrays a typical daily experience of children visiting the National Waterfront Museum in Swansea as part of this project. It highlights the varied nature of the activities they took part in, as well as the way in which a variety of subject areas were covered. For instance, the workshop on flight covered history, science and design/technology. In drawing the children's attention to the Robin Goch, and emphasising its historical features, the museum actor also helped the children build a link with an historical object.

Possibilities for learning

While the vignettes above hint at the kinds of outcomes that may be possible from these extended cultural residencies, interview data was used to provide further insight into the possible learning and development outcomes for young children.[2] In particular, interviews with participating teachers and museum educators, as well as other documentation gathered during the course of the project, provided evidence of gains in *communication and language skills*, as well as in *personal, social and emotional development*, including growth in confidence and independence and social skills. In addition, specific areas such as expressive arts and design (e.g. imagination and creativity), as well as, in Swansea, literacy and understanding the world (e.g. related to science as well as history) were also supported.

---- Insert Table 2 about here ----

Table 2 provides an overview of outcomes for which we had evidence, their corresponding areas of the early years curriculum (i.e. the EYFS) and which elements of extended cultural residencies may have supported those outcomes. These areas of learning are discussed in more detail in the following sections but it is important to note that the various facilitating elements are deeply interwoven and had an impact across the full range of outcomes.

Communication and language skills

Data collected over the course of the project (field notes, informal interviews, other documentation), as well as interviews conducted subsequently suggest quite dramatic improvements in *communication and language skills* among these very young children, as this comment by a nursery member of staff in Liverpool illustrates:

> And the quiet ones are starting to talk and we did have a wow-moment today. One of the children spoke for the first time to another child. And the other child replied, 'Wow, you know my name?!' So that was amazing! (Nursery teacher)

A similar comment comes from a Reception teacher in Swansea:

> Their oracy skills have increased massively, they're speaking a lot more, a lot more accurately, bigger vocabulary. They're more excited to talk about things they've seen and done in their day. So big impact on their social and speaking skills. (Reception teacher)

Furthermore, such gains were also observed in children for whom English was not their first language, as well as those who were more reluctant or shy to speak in school:

> Also, a couple of children who have English as an Additional Language, very surprised at the new vocabulary that they have learnt and they are using. And children who don't speak much in school have been talking a lot [at the museum]. (Reception teacher)

Comments from the nursery practitioners also reflected positive feedback from the Liverpool parents who remarked that their children were communicating more and had more to tell them at the end of the day. Likewise, in an informal focus group in Swansea, parents remarked about the way in which their children, who normally said they had done 'nothing' or simply 'played' during their school day, were very eager to describe their day in considerable detail. Nursery children in particular experienced gains in the breadth and depth of vocabulary:

> It's the vocab that really helps with the children. They're talking more in depth, they're moving the clay to another area, so they put sand on it, they make it different textures, we're talking about textures. And they're actually telling stories with the wooden puppets, which is amazing. (Nursery teacher)

The above quote also illustrates the way in which the particular context of the museums seemed to support children's development, above and beyond what was typical for the nursery.

Personal and social development

Another area in which children seemed to make considerable gains was in that of *social development*. For instance, the field notes and other data from Liverpool reflect increased interaction both with other children and with new adults at the museum – including museum educators as well as other staff such as security guards, and even the minibus driver. New friendships were particularly evident as this quote exemplifies:

> So far, we've seen big changes in the children… some of them are actually making new friendships with children that they've never bothered with before in the nursery. (Nursery teacher)

Personal development was another area of growth for children. Data from the Swansea residency demonstrated improved eating habits among the children. While

some rarely finished their lunches at school and were reluctant to try new foods, at the museum, they tended to clean their plates. Similar gains were found in the Liverpool case study, where nursery staff repeatedly commented that they felt the children were eating better and were making rapid progress in toileting skills. Importantly, they also learned about behaving in new and (initially) unfamiliar spaces:

> Even the rules of the gallery space helped them to learn that they need to behave differently in different spaces. (Artist educator)

Most, if not all, participating children also seemed to experience *increased confidence* over the course of the museum residencies. The learning documentation from one three-year-old child in Liverpool states:

> [Child] has grown in confidence since starting the Tate experience. She is now talking to people she has never met before and has adapted to new social situations.

Similar observations of increased confidence and speaking with new people are found in the learning documentation of several children. Likewise, data from the Swansea experience is replete with examples of the increased confidence of the participating children. In a weekly summary report about students' activities, the teacher noted, 'It was evident how confident and comfortable the children are in their surroundings as they led the way in their groups brilliantly.' In later feedback to the museum, the teacher also described a shy child who was very distressed by interactions with unfamiliar people. By the end of the project, 'this child was dressed as a pirate with a man he hadn't seen before in front of the whole class looking at olden day pirate weapons and laughing with this "stranger" with a degree of confidence and happiness'. These increases in confidence are also likely interlinked with the improvements in communication skills mentioned above. That is, when children are better able to

communicate, they are likely to feel more confident about doing so, in a positively reinforcing cycle (Robson 2012).

Imagination and creativity

Data also reflect the children's use of *imagination and creativity*. For instance, at Tate children responded to the 'dotty' textures and patterns in Howard Hodgkin's painting *Come into the Garden, Maud* by making their own holes and dots in front of the artwork using pencils and polystyrene sheets. Some children made connections between the colours they could see in the painting and Eric Carle's *Very Hungry Caterpillar* illustrations. Back in the studio, this became a large (caterpillar) printmaking activity, full of circular and dot patterns. Children also explored geometric sculptures and paintings, such as Henri Matisse's *Snail*, as provocations, sitting in front of the artwork and using shapes to make their own collage patterns. Starling's *Five-Man Pederson* (a bicycle with five seats and wheels) became another favourite artwork for triggering stories of adventures to 'shops, playgrounds and holidays', with children enjoying counting the seats and imagining who they could take with them on a journey. The field notes reflect the way in which creativity and imagination seem to have been inspired not just by the artworks themselves but also by the wide range of materials available and the freedom to explore them as they chose.

Developing creativity and imagination not only connects to core areas of the EYFS (e.g. Literacy, Expressive arts) but also supports cognitive development more generally (Robson 2012). In an interview, one of the nursery teachers described the way in which some of the more challenging children showed new kinds of behaviours in the activities they did, which can be considered as indicative of developing cognitive skills.

The learning documentation from individual children also provides evidence of growth in other areas. For instance, the notes on one girl who was not quite four

reflected, '[Child] has started to link the artwork to other items and images. She understands directions and can tell them to somebody else in detail to find the object.' Weeks later, this same child could also recount her experiences of Tate in considerable detail, which suggests that the experience itself was memorable and consequently had the potential to support the development of long-term memory (Piscatelli and Anderson 2001; Wolins, Jensen and Ulzheimer 1992).

Facilitating elements

Whilst it is encouraging that relatively short cultural residencies seemed to support children's learning, the field also needs an understanding of what conditions may facilitate this growth. Table 2 lists elements of the experience which may have contributed to children's learning from an extended cultural residency. These conditions are discussed further below but note that many relate to aspects of the context and interactions in which children were engaged.

The very *rich nature of the experience*, which involved hands-on facilitated workshops in distinctive museum spaces as well as multiple interactive encounters with works of art and other unique objects seemed to be key in contributing to the gains seen in children's learning. These opportunities not only exceeded what was possible to provide in the classroom but the scope and variety available meant they were accessible to all learners, including those with English as an additional language. Teacher feedback to the Waterfront Museum commented on the enjoyment of these learning opportunities, which were accessible 'due to the practical style of learning and artefacts' [referring to the hands-on, interactive activities, supported by objects]. Moreover, the rich nature of the experience also seems to have supported cognitive skills, and memory in particular, as one teacher commented:

> I'm surprised about how much information they've retained; they remember artefacts, they remember where they are in the museum. (Reception teacher)

Quite simply, the environment and activities gave children ample opportunities to communicate and explore, which are the kinds of experiences highlighted by previous research as particularly supportive of development (e.g. Siraj-Blatchford et al. 2002). Indeed, not only were individual activities quite powerful but children experienced a breadth of activities, across a range of curriculum areas. For instance, one of the nursery teachers described the way in which patterns were encountered in multiple locations, such as a journey on a ferry and in the cafeteria. She then built on these experiences in a flag-making activity, where children incorporated patterns into flags which were displayed on the wall.

Importantly, it was not just the designed or planned activities that provided this richness, nearly every aspect contributed to learning, including the trips to and from the museum on the mini-bus. The learning notes of one child in Liverpool comment, '[Child] talks about her environment and takes notice of what is outside the window on the mini-bus and talks about what she has seen in detail.' Other children similarly talked about their observations, as well as engaging in conversations with the minibus driver.

In Swansea, the teacher also noted the way in which the objects and the *real-life setting* of the museum were key in supporting communication and oral language skills, as well as literacy. Children were able to look for high-frequency words around the museum: 'it's great to see them reading in context' (Reception teacher, Swansea). Importantly, writing skills also improved, as students could write about 'objects in real contexts and settings'. Such experiences were seen as fostering a true sense of purpose,

which was quite motivating for the children: 'each piece of writing seemed to have more sense of purpose'.

In both settings, opportunities for *social interaction* with members of the public or adults outside of the family/school seem to have contributed to children's social development. For instance, as a teacher in Swansea remarked:

> They've got a better social etiquette with the public, obviously we're mixing with the public all through the day. When we go to the toilet, it's a public toilet; we have to make sure we're courteous and they've learnt to hold doors open for people, to wait their turns. So big social impact. (Reception teacher)

Critically, there were also *familiar aspects* to the experience, which mitigated its novelty [which can interfere with learning (Balling and Falk 1980; Falk and Dierking 2013)] and enabled children to have a more comfortable starting point from which to explore:

> The nursery staff all brought things the children are particularly interested in, whether it's sand or water, or dolls or whatever and we've brought those elements into the gallery. (Museum programme developer, Tate)
>
> There was still a routine but enough difference to push them. (Museum educator, Tate)

The success of this approach is captured by an observation by another member of staff at Tate Liverpool:

> They're so well-behaved, they've taken to it like, you know, ducks to water, really. And they've really felt comfortable in the spaces, not just in the studio where they're based. (Museum educator, Tate)

The *extended length* of the experience was most critical. In both locations it made the novel more familiar, which is likely to have contributed to students' increased

confidence in the setting. It also allowed practitioners to build on children's ideas over a period of time, in a way that simply is not possible in a day-long visit, even to a familiar setting. For instance, in Swansea, it enabled the teachers to be flexible and responsive to children's interests, as when the teacher changed plans for the afternoon (to continue working on paper planes). In Liverpool, children were provided with sponges wrapped in tinfoil. However, rather than using them as blocks to respond to a particular artwork, the children simply unwrapped them. The following day, the practitioners took in tinfoil and blocks, and began the activity by letting the children wrap up the blocks whilst seated in front of the artwork. This reframing let the children explore their interests but simultaneously supported their engagement with the art.

At Tate, the way in which children's interests were built upon over time was vividly reflected in a discovery tree, which 'grew' on the wall over the course of the two week residency, documenting children's interests via what they did and said. The tree also served as a way of making children's thinking visible, as it was created by observing, listening and documenting children's voices, experiences and interests (Carr 2001, Clark and Moss, 2001; Edwards, Gandini, and Forman 1998; Rinaldi 2006). Documenting in this way gave the teachers and educators time to explore children's interests and find artworks or activities to use as provocations in the gallery to further extend their learning. Finally, the tree also highlighted to everyone – including the children who could see their own branches grow over time – the *child-led* nature of the experience.

A final critical element of the cultural residencies was the higher *adult: child ratio*. While challenging from a resource perspective, in that museums and schools had to allocate extra staff to the project, it allowed participating museum educators and teachers to focus more on individual children – to respond to their questions, to discover

what has captured their attention and to support the development of their interests and other skills. This ratio strongly facilitated the child-led nature of the experience, because it gave the adults the opportunity to craft experiences that were more responsive to individual children and to respond to the varying paths that children wanted to explore, while also helping them to feel safe and protected. Even more importantly, there was the time and space for more *extended interactions* with individual children, and in smaller groups, which made it easier for the adults to accurately assess what each child was finding interesting and build on it.

Broadly, the exploratory and extended nature of the experience reinforced efforts to let children take the lead. When experiences are child-led and strongly connected to children's interests, research suggests that they are more deeply engaging (e.g. Laevers 2000), as well as providing opportunities for the kinds of interactions (or proximal processes) which can contribute to development and learning (Bronfenbrenner and Morris 2006; Siraj-Blatchford et al. 2002; Sylva et al. 2010).

Discussion

Despite the differences between the two pilot partnerships in terms of geographic location, age of children, type of school (nursery vs primary school), type of museum and length of their cultural residencies, evidence for quite similar outcomes was found in both settings. Data collected in both case studies (see Table 1) indicated improvements in communication and language skills, growth in confidence and independence, the development of social/relationship skills and other personal skills, and support for imagination and creativity. Moreover, it appears that similar elements operating in both pilots may have supported these outcomes. More specifically, both museums offered children and their teachers a very rich experience, involving interactions with a range of individuals and resources, particularly museum

objects/artworks. Previous research suggests that such aspects can support learning in informal contexts (Falk and Dierking 2000; Graham 2008; Shaffer 2015), as well as contributing to the memorable nature of those experiences for young children (Piscitelli and Anderson 2001; Wolins et al. 1992). Other work suggests that this memorability is further enhanced by opportunities for multisensory interactions involving museum objects (Docket, Main, and Kelly, 2011). Such opportunities for learning go beyond what is normally possible within a school or nursery setting (Crowley and Jacobs 2002) and interactions with objects provide unique opportunities for the development of observation and language skills (Munley 2012). At the same time, the cultural residencies achieved a balance between novelty and familiarity that would seem to be particularly critical for young children. The richness of the experience, which is arguably a fundamental feature of the project, was also likely to be novel for participating children, and such novelty can be distracting and/or overwhelming (Balling and Falk 1980). However, through the duration of the experience and repeated visits over a period of days and weeks, the museums seem to have become familiar – but still exciting – spaces, in which children could focus on the activities in which they were engaged and benefit from them. Indeed, the extended and intensive nature of the cultural residencies seems likely to have been central to children taking ownership of the space and to the teachers and museum educators being able to build on the children's experiences and interests over a period of time, thus facilitating children's ability to make personal connections with the objects and artworks and relate them to their own lives (Anderson et al. 2002). At a more micro level, both the adult-child ratio as well as the prolonged duration of the experience would seem to be able to support interactions that could, in turn, facilitate the kinds of outcomes observed. For instance,

these characteristics would seem to create conditions in which activity like sustained shared thinking (Siraj-Blatchford et al., 2002; Sylva et al., 2010) could take place.

As noted above, many of the characteristics which we interpret as being key in enabling the positive outcomes observed in our data have also been found to contribute to successes in other types of informal learning experiences. For instance an evaluation report on forest schools (O'Brien and Murray 2006) highlighted that regular contact over a 'significant' period of time was a critical feature of the experience. In addition, as with the cultural residencies described in this paper, the evaluation also noted the influence of a high adult:child ratio, which allowed individual needs and interests of the children to be more effectively nurtured than is possible in a typical nursery or school. Although forest schools are very different places from museums, children also experienced similar outcomes, with evidence for impact on confidence, social skills, language and communication (O'Brien and Murray 2006).

This feature of 'successive, prolonged, and uninterrupted engagement' (p. 184) was also vital to the success of the Learning through Art (LTA) schools programme run by the Guggenheim Museum in New York City (Downey, Delamatre, and Jones 2007). In this case, the programme took place in a school environment, but involved multiple extended sessions that were similar to those that take place in the museum, over the course of several months. Although the LTA programme involves older children (ages 8-9), that key features resonate with those found in the partnerships we studied is noteworthy.

Congruent with research on school trips with older children (e.g. DeWitt & Storksdieck 2008; Kisiel 2006; Tal and Morag 2007), our findings also point to the central role played by the teacher and to the importance of creating conditions in which teachers or educators can notice, respond to and build upon children's interests. As highlighted by

research on young children's learning in informal settings (Crowley et al. 2001; Crowley and Jacobs 2002; Graham 2008; Haden et al. 2014), such conditions can be critical for the kinds of adult-child interactions that truly support learning. Relatedly, the current study also highlights how vital the extended, intensive nature of the experience would seem to be for young children's learning, or for maximising the learning that can occur through such experiences. Indeed, such a timeframe provides important opportunities for educators to connect with and build on children's emerging interests, thus making the most of the capacity of these interests to motivate learning (Bruner 1960; Dewey 1916).

Limitations

As with any research, there are a number of limitations to the current study. Most critically, this was a very small-scale exploratory study of a pilot project, consisting of two opportunistic cases. While we have tried to provide as much detail as possible about them, we make no claims as to their generalisability. In addition, although a range of data was collected for each case study, with the aim of capturing as much rich detail as possible, the scope of the project prohibited the use of an experimental design, quantitative methods or 'control' groups. However, as we have noted elsewhere, we argue that the use of such methods would be inappropriate for a pilot, exploratory project at this stage.

Conclusion

Despite these inevitable trade-offs, we hope we have provided sufficient evidence for others to see the challenges and potential learning outcomes of extended cultural residencies and to be able to determine whether such an approach might be worth attempting in their own settings. Moreover, we believe that these case studies – particularly when considered in light of other research on out-of-classroom experiences

and on learning in early years – have important implications for museum practice. In particular, they urge attention to be paid to early years audiences – not just young children visiting with their families but also those coming with their schools/nurseries. Increasingly, it would appear that the tide is beginning to turn in the UK towards regarding young children as an important audience, and our findings would suggest that this momentum be built upon.

In conclusion, we believe these case studies have explored something new and potentially of interest to the field and have contributed insight into a possible novel way to use museums to more deeply benefit the learning of young visitors. Clearly, provision of such experiences is resource-intensive. It demands significant investment of space and time on the part of the museum and can directly serve only a small proportion of the schools sector's total audience. Of course, we would argue that the potential benefits to participating children do merit the costs and would recommend that museums – as well as funders – consider ways of working or structuring school programmes so that more children can experience cultural residencies of the type explored here. This may involve a change to key metrics – to accept smaller numbers in exchange for greater quality, or working in partnership with other local cultural institutions to provide increased capacity for cultural residencies in the area. Exploring the practicality and scalability of such programmes in greater depth is clearly also a key area for future research, and work is ongoing to trial the approach in more museum settings. But the potential could be enormous, and such programmes may also make return visits by the children with their families – the 'holy grail' of many school visit programmes – more likely. Indeed, many of the families whose children participated in the cultural residencies in Swansea have returned to the National Waterfront Museum on multiple occasions. This represents an important shift in the activity of these families and one which has the

potential to extend the benefits of the cultural residency further into the lives of participating young children and moreover firmly integrate museums and other cultural settings into their learning ecologies (Barron 2006; Crowley et al. 2015). In sum, cultural residencies comprise potentially transformative experiences for young children, their teachers, their families and even museums themselves.

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Notes

1. Although Bronfenbrenner's theory primarily refers to 'development', it is equally applicable to 'learning' and we defer debates over what is 'learning' and what is 'development' to others outside of this paper.

2. Pre and post measures of learning were unfeasible in our small pilot projects. We therefore report on broad areas of learning and development which our evidence suggests resulted from the experience of the extended cultural residency.