



# Creative Spaces

Children as co-researchers in the design  
of museum and gallery learning

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# **Creative Spaces: children as co-researchers in the design of museum and gallery learning**

## **1. Preface**

The Creative Spaces research programme was initiated by the North West (NW) Museum Hub, a partnership between six major museums and galleries in the North West. The Hub has been created as part of the Renaissance in the Regions programme of investment by the Department of Culture, Media and Sport. The funding has been allocated to transform regional museums with a particular emphasis on attracting larger and more diverse audiences. From the outset the Hub acknowledged that research should play a key role in identifying new practice and demonstrating the effectiveness of new approaches pioneered by Hub partners.

Cape UK, an educational trust that explores the relationship between creativity and learning, was contracted to undertake the programme; the management role was taken by the NW Director, Rosie Marcus. Cape UK's activity includes action research, project delivery and consultancy in formal and informal educational settings - often bringing together academics and educational practitioners. In this research programme, the academic lead was taken by Dr. Catherine Burke of the School of Education, University of Leeds.

The programme's emphasis on engaging children as partners in the research, as opposed to research subjects, was the common ground between Dr. Burke's research interests and Cape UK's focus on 'enquiry' as a vehicle for child and adult learning. It was particularly beneficial that, at the time of the research programme, Dr. Burke also led an Arts and Humanities Research Council funded programme – 'The view of the child and young person in designing museum and gallery spaces for learning, through exploration, discovery and research'.<sup>1</sup> The Creative Spaces programme thus became connected with an international platform of related research. In addition to co-formulating the programme's approach, Dr. Burke conducted the literature review (a survey of related research), devised and reviewed the research questions in partnership with the staff at the four venues and co-developed the methodologies. The third member of the team was David Dobel-Ober, a freelance researcher with considerable experience of working with children, particularly in the context of the educational experiences of children looked after by the local authority. David co-developed the methodologies, worked with the children, schools, galleries and museums to produce the data, undertook the analysis and wrote the greatest part of the report. The key players in the programme were the children who acted as co-researchers. We would like to thank them for their contributions; we are also very grateful for the support provided by their teachers and other members of school staff.

## **2. Introduction**

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<sup>1</sup> [www.viewofthechild.org](http://www.viewofthechild.org) - Information about the programme is in the section entitled 'The museum I'd like'.

The research programme involved four partners: the Whitworth Art Gallery at the University of Manchester; Manchester Art Gallery; the Harris Museum and Art Gallery in Preston and Tullie House Museum and Art Gallery in Carlisle. Its purpose was to explore the question:

*In what different ways do gallery and museum spaces foster learning for Key Stage 2 visitors?*

It achieved this by probing the extent to which differences in spaces, displays and interpretation within the participating galleries and museums helped or hindered learning. It was the intention that findings should inform professional practice within the four partner venues and be of interest and value to other galleries and museums.

The first step of the programme was the co-development, with the museum and gallery educators and curators, of site-specific research questions. The framing of these questions was an integral part of the research process and was achieved through an adaptation of one of the research tools applied in the Mosaic Approach, a set of methods developed for work with very young children (Moss and Clark, 2001, 2005). During walking tours of the venues, conversation about design of spaces and their intended use stimulated a range of possible routes for enquiry. From these observations, probings, reflections and responses, four site specific questions emerged that reflected the specific interests, needs, concerns and future plans of each venue:

### **Whitworth Art Gallery**

*What is an art gallery?*

*What would an art gallery designed by children contain and how would it feel?*

### **Manchester Art Gallery**

*How do current ideas about time impact on children's learning in gallery visits?*

*How do children feel about the timing and pace of gallery visits?*

*What are our assumptions about the pace of gallery visits?*

### **Harris Museum and Art Gallery**

*Is the building, interior and exterior, an attraction or a distraction or a mixture of both?*

*What can we learn from this that is useful in designing children's experience of museums and gallery spaces?*

### **Tullie House Museum and Art Gallery**

*Beyond Trails: What is the value of informal learning?*

A note of caution is necessary about the nature and the scale of the research programme. First, the inclusion of four different venues, including both museums and art galleries, was ambitious. Although both types of venue can

cater equally for different types of learning, emotional learning is more usually associated with art, whilst museums are often expected to produce factual information suited to a traditional school approach involving learning targets and measured outcomes. Secondly, the issues raised by each venue are complex and would have been conducive to a much larger scale programme involving more research time.

Although over 100 children were involved in the programme, only a quarter of them were associated with each research question and relatively little time could be devoted to direct contact with children. Working with children presents many ethical issues and one of the priorities of the programme was to ensure that they benefited from taking part. This is time consuming and involves building trust and confidence before valid information can be collected. A number of challenges presented by drawing on the perspectives of young children on their learning and museum experiences for research processes have been identified in previous research (Piscitelli & Anderson, 2001, pp 70-271), including 'reliability issues associated with data collection by unfamiliar adult investigators'. The same study concluded:

*Future research investigating children's views of museum experiences must employ innovative methods to overcome such difficulties.*

Within its very limited resources, this programme set out to do just this. It would be wrong to suggest that the findings reported here are in anyway definitive, but it is hoped that they will be used as a base for further discussion and provide a child's perspective on the research questions.

### **3. Methodology**

Consulting children is always a sensitive task and this is particularly true within the context of their own school where they can experience interventions by many different adults - teachers, teaching assistants, support workers, psychologists, students, inspectors, etc. Children can be very unsure or unaware of these people's roles and responsibilities; some adults provide help and support, some carry out assessments and others remain largely misunderstood. The role of a researcher fits in the latter category and it is difficult to anticipate how he or she will be perceived or what expectations children will have of the role.

Although practice within schools is changing and increasingly includes strategies aiming at developing individual learning styles, children are frequently engaged in task-focused processes with learning targets. They often learn facts, principles and methods that can be assessed in terms of success or failure. On the whole, there is still little space to express opinion or personal taste; when asked a question; children are likely to expect that there will be a right and a wrong answer.

When trying to understand children's perceptions, feelings, likes and dislikes, it is essential to allow them to express themselves without fear of being judged or evaluated. Questioning the design of an art gallery or of a museum can be a difficult process. It entails judging adult constructs and therefore involves taking a risk. In order to gather children's true perceptions, it is essential to make sure that they feel sufficiently safe to articulate them.

#### ***i. The Mosaic Approach***

The Mosaic Approach (Moss & Clark, 2001, 2005) was initially designed as a tool to listen to very young children and gather their views about everyday life in order to inform changes to policy and practice. The approach combines the traditional research tools of observation and interviewing with participatory methods, including the use of cameras, map-making and child-led tours. These can be further complemented by impressions and perceptions gathered from parents or professionals. Children are considered to be experts in their own lives - best placed to provide information about their views and about perceptions of their experiences to adults and professionals.

Although this approach was designed for foundation stage, it can be adapted for use with older children (such as Key Stage 2) as it provides an array of different media that can relate to different styles of communications. Children's needs and abilities are varied; some will be happy expressing ideas in writing whilst other are more confident doing so verbally, or even by using non verbal communication. Because the process involves several different approaches, including task-focused elements and observations, researchers build a relationship with the children and gradually establish the necessary level of trust and confidence.

#### ***ii. A Case Study approach***

The Creative Spaces programme provided a hugely valuable, and quite rare, opportunity to undertake four interconnected case studies. In an educational research context, a case study is a detailed investigation of a phenomenon in its real life context. Whilst it is most likely to involve the collection and analysis of qualitative evidence it can, as it did on this occasion, incorporate quantitative evidence. A case study approach is concerned with maximising the learning from the exploration of a specific context.

The interconnection of the case studies under the umbrella of the overarching question led to a number of findings that are relevant to more than one of the four venues; some can be generalised to gallery and museum education contexts as a whole. Furthermore, data collected for one venue complemented that collected for others and brought a different light to a site-specific issue.

### ***iii. Children as Researchers***

One of the distinguishing features of the chosen approach is that it was child centred. By giving them the role of researchers, children were assured that they had an active role to play and that their views were fully acknowledged and reported. In the first session with each class, the children were introduced to the idea of social research.

The training sessions had three further aims:

- to valorise their input and improve their self-esteem
- to maximise their interest in the case study
- to raise the awareness of teachers and other participating adults of the potential of children as researchers.

The training provided was adapted from a programme designed and used by the National Children's Bureau (unpublished) for a slightly older age group. A simpler version was devised and concentrated on defining research and, more specifically, social research and emphasising the importance of equal opportunities and respect for each other's views. These sessions were valuable in engaging the children's interest, opening their minds and preparing them for the subsequent phases of the programme.

### ***iv. Research process and data sources***

Because of the small scale of the programme, it was not possible to pre-test any of the research tools; rather, these were adapted and improved as the programme was in progress.

All four case studies were built around a similar framework:

- framing of the research question with gallery/museum staff
- a classroom session in which children were introduced to the programme and provided with research training
- a visit to the venue
- two follow-up classroom sessions during which children gave feedback

- in different formats (using pictures taken during the visit) and took part in small group discussions (focus groups)<sup>2</sup>
- reflections on the question with gallery/museum staff in the light of the data produced and its initial analysis.

In line with the Mosaic Approach, a wide range of information was collected in a number of different ways. Some of the techniques had a dual purpose - not only did they produce data but they also helped children to focus on their tasks and develop their thinking. For example, the use of cameras produced data in the form of pictures; it also encouraged children to think about what they were looking at and make active decisions about what they did and didn't want to photograph. This thinking enhanced the discussion that took place later in the focus groups.

The sources of data were:

*Observations and informal conversations:* these took place during visits to the venues and throughout the classroom sessions. Notes were taken during and after each event.

*Classroom discussions:* these were used to collect general information and in order to involve children in the research process and ensure they had a good understanding of the process.

*Small group discussions (focus groups):* these were used to discuss children's experiences during their visits to the venue and to gather comments on the material produced by children (see below).

*Material produced by the children:*

- photographs taken with disposable cameras
- evaluation scales completed on a regular basis during the Manchester Art Gallery session
- checklists completed for each room during the visit to the Whitworth Art Gallery including general comments and specific evaluation of various areas (e.g. lighting, size and shape of each room, sounds etc)
- plans and designs of an ideal gallery
- annotated displays and arrangements of photographs taken during the visits.

*Discussions between the research team and venue staff:* these were based on the research data and its initial analysis. On one occasion, participating children were also involved in the process and provided additional feedback about their experience.

#### **4. Literature review**

Once the questions had been agreed with the four venues, a review of the related published literature of research was undertaken. This is referenced at

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<sup>2</sup> In one of the venues, children were involved in only one follow-up session; an additional meeting was held with the venue team to compare their perceptions with those of the children.

appropriate points in the body of the report; it is also reproduced in full as Appendix i.

There is a significant body of published literature concerning 'pupil voice' - the process and outcomes of consulting pupils about their experiences of learning; much of this work relates to formal learning in a school context. One trajectory is the development from consulting pupils to engaging with pupils as co-researchers (Fielding & Bragg, 2003). Within this trajectory, there is an interest in the generation by children of data in forms such as photographs, drawings, collages and moving images (Thomson, 2008). The Creative Spaces programme is located at the intersection between these research fields and those of children's learning in contexts other than schools.

The Creative Spaces findings support many of the claims of the research surveyed by the review and provide a different slant on others. The programme makes a useful contribution to the field by re-affirming the value of working with children as co-researchers, providing some important insights and highlighting areas for further study.

## 5. Children and their schools

The four primary schools that took part were selected by the participating Hub venues. Three were chosen because they had previously engaged in activities provided by those venues and were deemed likely to respond positively. One of these three was more specifically selected because it was seen to have a culture of participation and children had been involved in designing a learning area within their school. All three schools were situated relatively close to the venues. The last school was chosen on different grounds - there was no prior working relationship. It was hoped the case study would introduce the services provided by Manchester Art Galley to a school situated in a different borough within Greater Manchester and would help to create a long term partnership.

**School A** is a voluntary aided, inner city school, with pupils of largely White British heritage. The percentage of pupils eligible for free school meals is well above average and attainment on entry to Nursery is generally below average. Pupils nonetheless make good academic progress, as noted in the school's most recent Ofsted inspection. Over the last four years the proportion of pupils achieving expected levels or above is consistently higher than the national average in English, Maths and Science. The school is proactive in supporting children with statements of special educational need (SEN). It has the Sport England Activemark, a School Achievement Award and is a Leading Aspect Award holder.

Twenty-six children from years 5 and 6 took part in the case study.

**School B** is a voluntary controlled school, with a majority of pupils from White British backgrounds. Its intake is socially and economically mixed, and the percentage of pupils qualifying for free school meals is above the national average. It also has a higher than average proportion of pupils with statements of SEN (albeit the lowest percentage of all four schools). Despite considerable staffing difficulties, the school achieved above average results in English, Maths and Science in two out of the last four years. It holds the Sport England Activemark.

Twenty-five year 5 children took part in the case study.

**School C** is a reasonably large community primary school in an area of significant social and economic disadvantage, where many children qualify for free school meals. The proportion of pupils from minority ethnic backgrounds is over four times the national average, and over 80 per cent of these pupils start school at a very early stage of learning English. At twice the national average, the number of pupils with learning difficulties and/or disabilities is the highest of all four schools. Achievement in English, Maths and Science is below the national average. Despite a high pupil turnover, a recent Ofsted report nonetheless states that children make satisfactory progress.

The class participating in the case study was mixed (years 4 and 5), with 28 children in all.

**School D** is a large community primary school serving a residential district with above average levels of social and economic disadvantage. Almost all pupils are from White British families. The percentage of pupils with learning difficulties and/or disabilities is below average, but a high percentage of pupils have statements of educational need. According to a recent Ofsted report, the school has successfully overcome the setback of fire damage to its building during the summer of 2006 and has since made good progress under strong leadership. The number of pupils achieving expected levels or above across English, Maths and Science was higher than the national average for three out of the last four years.

The class (year 5) was the smallest of the four participating schools with only 19 children.

Further information is provided in Appendix ii with regards to the four schools' achievements, value added scores and populations.

## **6. Working with children**

### ***i. The schools' approach***

Levels of commitment to the research programme differed between the four schools. The extent of the involvement of school leaders was particularly varied and this did affect the success of the programme, particularly from the schools' and the children's points of view.

In two of the participating schools, a meeting took place with the head teacher at the outset to discuss the research purposes and the potential benefits for both school and pupils. In the other two schools, the head teacher had initial – and limited - contact with the venue staff and/or the researcher and simply designated a class and a teacher. All further planning involved the teacher only. In the two cases in which the head teachers were more involved, there was more evidence of broader benefits for the school arising from the research programme.

In one of the schools at which the head teacher was more involved, the teacher in charge of the participating class also attended the initial meeting and asked for clarification about the benefits for his class. As the case study progressed, this teacher played a very active role and ensured that the children were highly motivated. Complementary activity was undertaken in class during the case study and follow up work was planned. The concept of children as researchers was fully embraced; a group of children mounted a display about research and the children demonstrated a real interest in the role of an academic researcher when they were visited by members of the research team. The teacher remarked that his practice would change with regard to his use of the venue. He observed that the informality of the visit had given him and the children a sense of ownership and that he would build on this in future visits.

### ***ii. Working with whole classes***

The involvement of a full class of children at each venue had a number of advantages. First, in all but one school, there was no need to select the participating children: a process that can incur a risk of creating a biased sample in terms of ability, special needs or motivation. Secondly, it is usual practice for the venues to work with whole classes and so the case study remained close to their normal practice despite the specificities of the research situations. Finally, the groups were sufficiently large to provide a variety of opinions and perceptions.

Choosing the size of the groups in a programme such as Creative Spaces is the result of a compromise; the need to record a wide range of experiences is balanced by the need to spend enough time collecting and recording the data created by children. The case study with the smallest class size (19) appeared to be the most successful in terms of child participation. This was probably due to the particularly positive approach displayed by the class teacher, but the small size of the group also contributed to this success. It was easier for the researcher to engage with individual children and to create trust and

understanding, which in turn helped children to open-up and express their views.

### ***iii. Working within the school context***

When children visit galleries and museums with their school, the school context, that is, the school's expectations of learning, behaviour, adult-child relationships etc, tends to accompany them. The research activity in this programme took place either in the schools or on school visits to the venues. Efforts were made to accommodate school routine (e.g. going to assembly) and to reflect teachers' expectations of children's behaviour and learning (e.g. raising a hand before speaking, correct use of capital letters and punctuation). However, it is important to acknowledge that a tension was potentially created between the 'school context' and the type of contribution being sought from the children. Although it was anticipated that the children would benefit from the programme in a traditional way (e.g. get an understanding of what research means, learn from their visits to the different venues), the focus of the intervention was the collection of their views. If consultation is increasingly happening within schools (e.g. through school councils and teachers conducting action research) there is some way to go before it becomes a norm of the school context.

### ***iv. Focus Groups***

In three of the four schools, small discussion groups were organised during the final classroom sessions to discuss the data produced (such as museum trails, gallery designs and the ordering and presentation of photographs of the visits). These discussions were opportunities to gather the children's perceptions of various aspects of their visit to the museum and/or gallery.

Each focus group lasted between 15 and 20 minutes. This is a relatively short time, but in practice it allowed the gathering of a sufficient amount of information without becoming tedious for the children. The size of each group was partially dictated by the time available and the number of children in the class. Groups of three seemed to allow for the best discussions; the influence on one another could be reduced to the minimum and all children could express themselves relatively freely.

## 7. Whitworth Art Gallery: What is an art gallery?

### *i. Research questions*

The research questions arising from the initial visit and conversations based on a tour of the site was relatively broad:

- *What is an art gallery?*
- *What would an art gallery designed by children contain and how would it feel?*

The education team at the Whitworth Art Gallery has an established practice of involving children in the design and interpretation of exhibitions; such a project was in development at the same time as Creative Spaces. It was decided to involve one school, and the same children, in both activities; experiences and understandings were transferred and developed between the two programmes. The gallery has launched a capital bid for expansion that provides a genuine opportunity to respond to the ideas that children have articulated, as well as to further involve children in the design of new spaces.

The main thrust was to ascertain children's ideas regarding art galleries, both in term of purpose (e.g. who are they designed for?) and experience (e.g. feelings, emotions). However, the question can be interpreted on two levels. First, it can refer to children's perceptions of art galleries; this is a social representation, built gradually through experience and reflecting influences such as those of significant adults or media representations. In that context, children are likely to try and reproduce a representation that they believe is correct. This places them in the familiar context of school learning where there is generally a right or wrong answer. Secondly, the question can refer to what each child would like to see - his or her ideal gallery. It is this response that was sought by the research programme. However, it needs to be acknowledged that, particularly in the school context, children may give the answers that they think are expected from them. Aspects of what children think an art gallery is – their interpretation of how adults have constructed art galleries - are likely to infiltrate what they would like an art gallery to be.

In consequence, an important part of the research process was to allow children to become free from the social concept of an art gallery and to think independently about what they would like a gallery to be. The research process encouraged the use of imagination and self-expression and emphasised the idea that there is no right or wrong way to design a gallery. In practice, this was difficult to get across and, for a long time, children looked and asked for reassurance that they were designing the right gallery. Only towards the end of the case study – after the first designs had been drawn - did they start expressing themselves with more freedom. However, in some cases, children still included features that they thought were expected by adults.

The research process (see box) involving the children was articulated around two very different phases. Phase one, the first classroom session and the visit to the gallery, was essentially informative for the children; it was a way to try and make them aware that an art gallery is a construct. The appearance,

content, and organisation of a gallery is shaped by financial and practical considerations, but also by many decisions taken over time that reflect, or challenge, prevailing ideas about art and its display to the public. The gallery the children were visiting was one of many possible galleries. The potential of the gallery to alter the public's perception and experience was also discussed. During phase two, in the second and third classroom sessions, the approach was totally different; children were given as much freedom as possible in order to design their own galleries. They were given very few directives and were free to explore most ideas. On some occasions, direction was provided in order to stay in the context of an art gallery rather than a museum.

Throughout the case study and in consultation with the gallery partner, a strong emphasis was placed on the design of the gallery and its environment rather than on the content. However, most children found this particularly difficult and the boundary between artwork and building became blurred.

#### **Research process**

- Framing of research question by gallery/museum staff and research team
- Classroom session (young researcher training; group discussion on purpose of art gallery; how presentation can influence perception of artwork)
- Gallery visit (children investigated the Whitworth Art Gallery for inspiration and to understand how the building and presentation could influence their feelings; disposable cameras were used to illustrate their findings)
- Classroom session (children – individually or in pairs - design their ideal art gallery and present the pictures taken during the visit, with comments, including negative/positive aspects; discussion with children throughout)
- Review of research question by gallery/museum staff and research team.

#### **Information sources**

- Group discussion during 1<sup>st</sup> classroom session
- Leaflet / checklist completed by young people during gallery visit (the checklist included variables identified by children during the first session)
- Observation and informal conversations during gallery visit
- Observation and informal conversations during 2<sup>nd</sup> and 3<sup>rd</sup> classroom session
- Children's gallery designs
- Children's photo display and comments
- Notes and recordings of meetings with education team.

#### **ii. The visit process**

After a short guided tour of the building, children were split into small groups supervised by one adult. Each group started the visit in a different room and moved gradually through the whole gallery. On the whole, children responded positively to the expectations and applied themselves to the investigative task.

To some extent, this limited their potential for enjoying and simply experiencing the gallery. Effectively, the visit was task centred – with the use of a checklist aimed at helping children to recognize the different characteristics of the building. As such, it remained in the school context. Specific efforts had been made during the first classroom session to explain that the checklist was provided to help focus on the gallery design rather than as a task to complete. Most children were extremely conscientious and visited the various rooms, taking notes and trying to record the way they felt about each area. Despite the pressure imposed by the process, children often spent time observing and experiencing the gallery in a relatively free manner. The small sizes of the groups allowed for a good level of freedom and children could wander around, experience and observe by themselves. Accompanying adults, who had been briefed about their role prior to the visit, pointed out various features and provided explanation as and when needed. Only a few children did not seem to either understand the nature of the case study or found it difficult to engage with.

If resources had allowed for it, it might have been more effective to have arranged two visits to the gallery: the first, purely for children to experience the venue and the second to explore why and/or what had created the feelings and impressions experienced during the first visit.

Observations of the visit revealed that, initially, many children paired up within their group and influenced each other (e.g. calling each other to look at specific items, making comments and value judgements). However, as the visit proceeded, they seemed to spend more time on their own and probably had a more personal experience of the gallery. Children responded to the environment and their behaviour changed according to the part of the gallery they visited. These reactions were extremely varied: some became louder or quieter in different rooms, they chose to spend various amount of time looking at different features (e.g. ceiling, lighting, floor) and different pieces on display; they experienced surprise and fear; some enjoyed a tactile experience (feeling different materials) or responded physically to a space (one child span around in the large open space of the South gallery) whilst others appeared to remain in the visual domain. Whilst the range and variety of responses was noteworthy, some artworks produced similar reactions amongst all the groups.

### *There were strong feelings*

On the whole, children were able to express a wide range of feelings - some of them very strong - about both the gallery and the artwork. The written comments on their checklists included:

*Makes me feel small, the music makes me feel little, makes me feel that I am in a garden. (North Gallery)*

*Makes me feel sleepy and tired.*

*It makes me sad.*

*It depresses me; in the same way it intrigues me; it's eery.*

*It's rude and makes me feel sick.*

Three subjects seemed to produce similar reactions amongst many children - slavery, sexuality (regarded as rudeness) and religious issues.

*How can you draw something like that? Not right.* (remark made during the visit)

*We do not like this one because it is a picture of a man as a slave.*

*We dislike this because it is torture* (comments written on photo display)

Naked representations were seen as rude and many children found these difficult to deal with. On several occasions, children took pictures of artwork they found rude: they did it quietly and sometime from a distance, without talking about it. Clearly they did not feel at ease. Written comments were made later on the displays:

*I don't like this because it's too rude*

Religion was the third subject that caused consistent reactions:

*I like this picture because it is Jesus and Mary and it is our religion.*

*I hate this picture because it reminds me of Jesus when he was crucified.*

*This one we like because it was Mary and the Angel.*

It would be interesting to compare these reactions with those of children from a school without religious affiliations or with a faith community that was not Christian/Catholic.

Most of the children seemed to believe that a representation indicated the likes and dislikes of an artist. For example, someone painting a slave must have supported slavery or someone painting Jesus in pain must have been opposed to Christians. Slavery, cruelty and misery – as well as ‘rudeness’ were seen as being condoned through their representation and then endorsed by their public display.

#### *Signage: there was a need for information*

On a practical note, many children found it difficult to access the information provided; this was often out of their sight or written too small for them. As at the other participating venues, there were occasions when children were unsure what they were, and weren't, allowed to touch. For instance, children were uncertain about trying on clothes intended for ‘dressing up’ because they did not see or read the information. After reassurance from an adult, they spent a long time trying on the clothes and modelling for each other.

The lack of information, or difficulty in accessing it, became an important issue because some of the artwork displayed remained misunderstood. Lack of understanding could lead to disengagement and even to some kind of rejection of the artwork.

Thus, the *Door of No Return* is an installation consisting of a door leading to a small, very dark room containing a television and a small, concealed exit door.

It formed part of an exhibition about slavery (marking the 200<sup>th</sup> anniversary of the laws that set a course for the abolition of slavery in the British Empire) and represented the fear of the unknown for slaves being taken away from home with no hope of return. This had a major effect on many children during the visit but also in their gallery designs (some included a *dark room* or a *house of horrors*).

This piece was experienced in totally different ways: some children had read and understood the concept and were deeply affected:

*The information next to the door of no return makes me feel sick.*  
(written comment from the checklist)

One child came out and refused to go back in despite her friends calling her. Others experienced the installation in much simpler ways; they were frightened by the dark and by the television being turned on unexpectedly. Some, who had not read the information and had entered through the wrong side, simply enjoyed a lighter side of the entertainment:

*The boys scared the girls in this cupboard.*  
*Fantastic because it had a tv in it.*  
*Dark room makes us want to dance.* (all written comments from the checklist)

On some occasions, children seemed to become passive and stopped being inquisitive. Several children walked past a television without questioning or talking about the film being displayed and similarly, they looked at an Ipad, without listening to what was being played, merely commenting on the quality of the equipment.

#### *There were varied and opposing views*

Perceptions of the different characteristics of each room were extremely varied and it is impossible to establish any clear patterns. This finding accords with that of research conducted with young children in Australia using video recordings of interviews exploring subjective experience (Anderson et al., 2001) where it was noted that 'the most striking aspect of children's self-report about their museum experiences was the diverse, highly individualistic, and idiosyncratic nature of each child's recollections, interests and learning'. At the Whitworth Art Gallery, some children enjoyed the calm and peaceful areas whilst other enjoyed the music and background noise:

*I think music should be here because it's big and you can dance; I don't like silence.*

Some liked the large rooms whilst others preferred smaller and more intimate areas. On the whole, a majority preferred light rather than dark areas; this led to an interesting suggestion:

*You could put all the light sensitive pictures in one gallery and the lights can be dim. The rest of the galleries can be really bright.*

Although perceptions varied from room to room, it seems most children wanted to see many rather than few pieces on display. For instance, the South Gallery presents a wide space, with large windows providing plenty of natural light and an opening to the park. The gallery is designed to provide a clear focus on the few modern pieces on display, with little other distraction. However, some children remarked that the room was too large and that there wasn't enough artwork on display. A child thought that there were too many windows and another commented that:

*It's silly to have such a high room because you could never see anything you put at the top. A waste of space really.* (remark made during the visit)

Views on modern art perhaps reflected uncertainty:

*Makes me feel alone and not happy  
Need some information on weird things  
No emotional pictures*

A smell (of fresh paint?) seemed to be the only consistent source of dislike: children commented negatively and repeatedly both during the visit and the following classroom sessions.

### **iii. Gallery designs**

During the first classroom session, children had been asked who they thought would visit art galleries; in common with the children working at other venues, the answers were limited essentially to people who have a direct connection with art (e.g. artists, art critics, art students). None of the children expressed the idea that art might be appreciated by someone not involved in its making or evaluation; nor did they express the idea that art could be simply enjoyed for the emotions it provokes. In a school context, there is seldom a strong message that experience is enough – there is usually a specified learning target. Perhaps, as the research programme was within the school context, it was difficult for children to conceive of experiences that did not relate to study or achievement. This perspective is reflected in their gallery designs.

#### *Influences on the children reflected in their designs*

The designs created by children reflect a number of influences and it would be impossible to identify them all. However, the influence of the Whitworth Gallery is clearly apparent and a majority of children included a feature that related to the *Door of No Return*:

*Dark room  
Passage of no return  
House of horrors; dark room with scary pictures  
Secret box to frighten people*

It is unclear why this piece has had so much influence. Two explanations could be advanced: first, children experienced particularly strong feelings (fear, relief and finally joy) and wanted to reproduce these in their own gallery.

Secondly, this artwork was a surprise - it did not fit the children's expectations of what they would find in an art gallery. In the same way, several children included an area where clothes could be tried on: *cat-walk* or *madness of the models (to amuse people)*. During the visit to the gallery, children enjoyed trying on clothes a great deal. However, several of them remarked that the clothes, and more generally the textiles on display, were not art. The visit could have broadened their perception of art or simply provided an indication that an art gallery could also have a play value.

A number of common themes and features emerged from the various designs. Some of these were present at an early stage but were left out in children's final versions.

### *Differences between museum and art gallery*

Initially, most children started by designing a museum rather than an art gallery. A couple of children chose to design a Walt Disney Gallery, including information and illustrations of various characters. Another group decided to design a gallery to commemorate the Munich Air Disaster (the session took place shortly after the anniversary commemorations) whilst another chose to design a gallery purely about the human body (in a scientific context). Most of the designs finally produced included features or areas more pertinent to a museum than to a traditional art gallery, notably:

*Stuffed animals room*

*Skeleton animals*

*The bodies room is where you can do puzzles on human bodies*

### *Building and content perceived as one*

Another significant issue arising from the research process was the apparent inclination for children to see building and content as one. During the visit to the gallery, children did not dissociate building and artwork. Rooms were found more or less attractive according to their content. Conversely, some rooms were judged to be more attractive and children spent more time in these observing the artwork. In that context, colour played an important role: during the visit, several children expressed a like or dislike for a room purely because of the colours of the wall.

Many designs include permanent features that would become artwork by themselves: *upside down room, aeroplane, maze, room with different lights laser show*. These features are likely to have been influenced by installations and temporary exhibitions. Some children were probably not aware that regular changes could take place within a gallery. The *Door of No Return* for instance was perceived as a permanent feature of the Whitworth Art Gallery rather than a part of the temporary exhibition on slavery.

Similarly, the way they perceived many areas within each gallery indicate perception of the content rather than of the building:

*Ancient artefact room*

*Main sculpture with sparkly floors and walls; sculpture large and grey in colour; Happy sculpture  
A room of things made out of other things  
Dinosaur room  
Sculpture of a person playing football*

Several designs included a specific way of displaying artwork: a *cross of sculptures: a cross-shaped room with sculptures; a maze with art on the walls*. It seems that artwork might not be sufficient by itself and some children felt the need to present it in an original way. When questioned about the purpose of these themes, children explained that it *would make it more interesting, less boring*.

### A multi-sensory experience

The importance of noise and sounds came to the fore with a number of specific indications attached to several areas:

*Quiet area  
Speak as loud as you want  
Calming music*

Objects that incited specific feelings or emotions were included in several designs: the *house of horrors* (fear), the *maze* (sense of being lost) or *feeling boxes* (sense of surprise and excitement).

### What about food?

Many children mentioned being hungry and thirsty during the visit and while a café is situated at the entrance of the Whitworth Art Gallery, food or drinks were not available for children. Not surprisingly, many designs included an area designated for food or drinks.

### Diversity and play element

A key feature present in every single child's design is the demarcation of different areas within each gallery: rooms for reading, music, games, quiz, auditorium, pool table etc. There is a clear emphasis on diversity in the activities and displays suggested in their designs.

Displays of an interactive nature are also largely represented in a variety of formats: *cat-walk (where you can try on clothes); game room/game stations; painting area; puzzle room; pool table* etc. These activities are somewhat removed from what would be traditionally expected in an art gallery. Although children might have been influenced by some of the displays observed in the Whitworth Art Gallery (e.g. clothes and puzzle in the slavery exhibition), their choices might also reflect their new perception of art galleries as places of entertainment, hence the inclusion of types of entertainment with which they are more familiar.

### Needs of adults and children

Most designs include specific rooms designated for children or adults.

*Adults only room, where adults can go when children are playing*

*Adults reading/relaxing room*

*Adults room; information on all the paintings and sculptures*

*Kidz room*

*Play room where kids can play and also make new friends*

This need for some kind of segregation could be related to the perception that adults and children have different needs in terms of entertainment. It may also have reflected the view articulated by a number of children that some of the content of the gallery was unsuitable for children.

*You wouldn't want a little child to see that*

*(remark made about a nude statue during the visit)*

Other exhibits are likely to have raised questions for the children – what they were, why they were there; many of these would have gone unanswered. From a child's point of view, a logical extrapolation of this situation would be to assume that some material is designated for adults only. With this perspective in mind, it is totally reasonable to include age specific areas within a gallery design in order to cater for a wider range of needs and interests.

#### **iv. Main findings**

- At the beginning of the research programme, children had a restricted view of the purposes of an art gallery. They associated visitors with artists or people involved in an art profession. Children did not express the idea that art could be used as a source of enjoyment or reflection.
- During the gallery visit, children reacted to the artwork and to the physical environment. Physical reactions and strong emotions and feelings were observed and described by children themselves.
- Information was often difficult to access both in terms of content and format. This resulted in some misunderstanding and disengagement.
- Individual children reacted differently – and sometimes in opposite ways– to the surroundings and artwork.
- Children seemed to perceive building and content as one. This was

reflected in their gallery designs where artwork could become an integral part of the building.

- A number of common themes emerged from the different gallery designs created by children. These include:
  - an emphasis on multi-sensory experiences
  - easy access to refreshments
  - diversity in the content of the gallery, with large parts designated for different types of entertainment
  - specific areas designated for different audiences (e.g. children and adults).

## 8. Manchester Art Gallery: Time matters in gallery spaces

### i. Research questions

The research questions identified by the education team related to the pace and timing of the sessions provided by Manchester Art Gallery:

- *How do current ideas about time impact on children's learning in gallery visits?*
- *How do children feel about the timing and pace of gallery visits?*
- *What are our assumptions about the pace of gallery visits?*

Discussions of the research process (see box) centred on the need identified by gallery staff to provide many activities and substantial input in order to maintain children's level of interest and to reflect the fast pace of life in general. The questions reflected children's needs and expectations in term of pace and also the gallery staff's assumptions about these. The gallery selected one from their range of sessions available to schools for investigation: this was Portraits - a session that the education team felt they had adjusted until the pace was right. They wanted to check their assessment against that of the children and then use the results to 'calibrate' other sessions. This was seen as an effective way for the research to operate given that the available resources limited the research programme to working with one class. However, it should be acknowledged that some members of the gallery's staff felt that findings would have been more revealing if the responses of a class familiar with the gallery could have been compared to those of a class visiting for the first time or explorations made of two different education sessions.

#### **Research process**

- Framing of research questions by gallery/museum staff and research team
- Classroom session (young researcher training; group discussion on purpose of art gallery)
- Gallery visit (children took part in the Portrait session designed by the education team and facilitated by a freelancer; children completed evaluation scales on a regular basis throughout the session)
- Classroom session (children – individually or in pairs - designed their ideal art gallery and presented the pictures taken during the visit, with comments, including negative/positive aspects; discussion with children throughout)
- Discussion with the education team to compare their perceptions with those of the children
- Review of research questions by gallery/museum staff and research team.

#### **Information sources**

- Class discussion during 1<sup>st</sup> classroom session
- Evaluation scale completed by children during gallery visit
- Observation and informal conversations during gallery visit
- Small group discussion during 2<sup>nd</sup> classroom session

- Notes and recordings of meetings with the education team.

## **ii. Children's expectations**

The children taking part in the case study were new to the Manchester Art Gallery. Not only had none of them ever visited it before, but none recalled having been to any other art gallery. As a result, their expectations of the visit were fairly limited. During the classroom session preceding the visit, children said they expected to see *portraits, paintings, oil paintings and metal frames* (sculptures) and they talked about art as a useful way of illustrating historical events. When asked who they believed might attend art galleries, children associated visitors with artists or art related professionals (e.g. art teachers or students). None of them expressed the idea that other people might attend simply for their personal enjoyment.

During the classroom session following the visit, some children admitted that although they had anticipated the visit with excitement, they had also been worried about the trip being *boring* and limited to *simply looking at paintings*. Despite these slight early misgivings, the great majority of children reported that they had greatly enjoyed the experience and would like to visit the gallery again.

## **iii. The visit process**

The children took part in a Portraits session, which had two stated aims. First, its broad purpose was to introduce children to the art gallery, raise their interest and encourage them to return with their parents or carers and the school. The session was designed to illustrate the potential of the gallery to both teachers and children and provide a fun and interesting way of looking at art. Secondly, and more specifically, the session was intended to present an evolution of painting through a wide array of paintings or other means (such as art history) and provide children with simple keys and methods allowing them to read, interpret and analyse portraits. The session was designed to be fast paced in order to present as much material as possible and initiate creative processes with children, which they might continue and/or complete at a later time at school or at home.

The session lasted two hours and was based on the presentation of six very different portraits in several galleries. Children were asked to reflect and take part in some activities associated with different portraits. This was followed by two further activities in one of the studios. Children were initially split into groups and created portraits on the floor using plastic shapes; this was followed by individual work on portraits using a mixture of collage and drawing with charcoal.

From the outset, the facilitator emphasised to the children the need to be quick because there was little time to complete the session. The time available for each portrait was approximately 15 minutes, with 30 minutes for the final two activities in the studio. Children were provided with a simple set of scales to assess pace, duration and level of interest for each activity (see Appendix iii). They were asked to complete the scales at each natural break in

the session (after each portrait, after both studio activities and at the end of the two hours when evaluating the whole session). Inevitably, this additional activity affected the timing of the session. However, the impact was minimised through its design and by the preparation for its completion during the initial classroom session. The research findings are unlikely to have been compromised by the slight departure from the normal timing of the session.

On the whole, children appeared to engage fully with the facilitator and pay a lot of attention to both discussion and activities. A core group of four or five children seemed to answer and participate particularly well, but other children, who appeared generally more withdrawn, also felt confident and safe enough to take part and either comment or answer questions on several occasions. Children's interest seemed to be maintained during all individual parts of the session and throughout the session as a whole. Teacher and accompanying adults supported the facilitator and helped children as and when needed with their activities and the use of the scales.

#### ***iv. Children's perceptions on the day***

##### *General perceptions*

The observation of the session indicated that the pace was fast. Children had very little or no time to look at any other exhibits or parts of the building; those who needed the toilets had to miss part of the session as there was no break; most children struggled to finish their portrait and they were rushed back to the bus at the end of the session. Unsurprisingly, the children's rating confirmed this perception.

Overall the pace of the session was perceived as being fast. The cumulated ratings for all activities recorded as 'very fast' and 'fast' were respectively 79 and 35 against 17 and 23 for 'slow' and 'very slow' (see Appendix iii, table 1). This was also true of each individual activity: none was rated by a majority as 'slow' or 'very slow'. The session was perceived as generally increasing in pace, with the final two studio activities being seen as 'very fast' by the majority of the class.

A majority of the children reported that they would have liked the session to be longer (136 of the total rating against 16 who thought it could have been shorter at times). There was an increase throughout the session in the number of children wanting each activity to be longer. Children were significantly more likely to want parts of the session to be longer if they had an active role to play in them (e.g. completing a task).

Children found the whole session overwhelmingly 'very interesting' (149 of the total ratings against 14 'not very interesting').

Overall, a majority of children perceived the session to be fast paced, but they would have liked it to go on for longer and they found it interesting or very interesting.

##### *Relationship between length, pace and interest*

The findings reported so far illustrate the overall pattern of responses. A number of correlations were calculated (see Appendix iii) to explore the significance of patterns within individual responses. These calculations reveal two main findings: first, the pace of the visit was not directly related to the level of interest generated by individual activities. In other words children rated the level of interest of each activity independently from its pace. Children who did not find a specific activity particularly interesting were still likely to rate it as being fast paced. Secondly, children were more likely to want activities to go on for longer if they were deemed interesting; conversely they wanted them to be shorter if they were less interesting. This was not linked to the actual pace of the activity. On the whole, children wanted the activities deemed most interesting to go on for longer, regardless of their pace.

Classroom discussions with small groups of children after the visit seemed to confirm the level of interest recorded with the scales. Children also clearly expressed how much they had enjoyed the visit and also how much it had exceeded their expectations. Most of the children were surprised at how much they had learned and at how much pleasure they had experienced; they felt that they had learned to understand and appreciate some of the paintings. Several children explained that they had changed their mind about some portraits during the session because of the explanations they had received. By revealing initially hidden aspects of the pieces, the facilitator had helped them appreciate and enjoy apparently *boring paintings*. There is a similarity here with the way children visiting the Harris Museum and Art Gallery greatly enjoyed being told the 'stories behind' some of the objects on display by a gallery attendant.

#### **v. *The influence of pace and time***

Manchester Art Gallery, in common with other galleries and museums, needs to secure visits from schools in order to meet targets and satisfy funders. The need to 'keep the customer happy' is therefore very real. A session that introduced children to several different aspects of the collections and keeps them fully occupied with fast paced activities could be construed as providing value for money. However, the children's ratings of their visit to Manchester Art Gallery seem to demonstrate that their level of engagement was more dependent on how interesting they found the activity than on its pace. At this point we should consider whether a fast pace might be detrimental to the children's experience.

The fast pace of visits has previously been identified by children as a negative factor in their experience of museums, alongside over-crowded galleries, adherence or enforcement of museum rules, and a feeling of not being empowered to enact their personal agendas (Henry, 2000). In another study, in which 77 four to six-year-old children were interviewed about their past museum experiences, 25 per cent of the children described their visits to museums as either "too rushed" or "sometimes rushed" (Piscitelli & Anderson, 2001). The child's experience of the art gallery contrasts with that of a visiting adult, more likely to be seeking a peaceful environment, conducive to reflection. It may also contrast with that of children visiting with family groups. The findings of a study of visits to a Science Centre in the USA revealed that

the informal family groups spent more time per exhibit than the formal non-family groups suggesting that, given a less formal structure, time taken to view exhibits is longer (Sandifer, 1997). Similar findings emerged in research carried out at The Eden Centre in the UK (Peacock, 2006).

The observation made during the session at the Whitworth Art Gallery is also relevant here; there children appeared to have a more personal response to the artworks as the session progressed. The intention to maintain the interest of the whole class through fast pace activity may sometimes compromise the potential for some children to have a more profound learning experience. This is the point at which issues of pace and time become entangled with those of managing group visits.

The session at Manchester Art Gallery should be seen in the context of the children's experience of the whole school day. After their visit, children were hurried to their bus before arriving back at school for a rushed meal. In some schools, further pressure could be created by having to catch up with the literary and numeracy work that would normally have taken place in the morning. Going a step further, one might consider the timing and pace of a gallery/museum visit in the context of a child's overall school experience. The crowded nature of the curriculum is tacitly acknowledged by, to give one of many possible sources, the Primary Curriculum Review.<sup>3</sup> Certainly it is rare for children to have an opportunity to sit and reflect for as long as they wished during their school day.

Teachers are generally well aware of the fast pace imposed upon children throughout their school days and they often have strategies in place in order to moderate the impact (e.g. having music in the classroom, establishing dedicated time for personal research.) The emphases in the 'Big Picture of the Curriculum' on learner choice, personalisation, emotional development, creativity and critical thinking are important elements in a changing scene. It may be that schools' expectations of gallery and museum visits are also changing. Galleries and museums could take a lead in moving this development forward; further investigation in this area would be very worthwhile.

The Manchester Art Gallery session was very successful in providing excitement and raising interest. This was clearly reported by children both during and after the session; the feedback from school staff was also very positive. For the interest thus aroused is to be captured and developed, the children need opportunities to complete the artwork they have started, to reflect further on the portraits that they studied in the gallery and to apply the interpretive tools they have acquired to other portraits. This highlights the importance of the partnership between the school and the gallery. The visit to the gallery needs to be seen as a part of a longer learning experience that is co-facilitated by the teacher and gallery educator.

Manchester Art Gallery stresses the importance of follow up work by school and is frequently sent examples of children's completed work. Discussion between the research team and gallery education team generated ideas

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<sup>3</sup> The Primary Curriculum Review commissioned by the Department for Children, Family and Schools is being conducted by Sir Jim Rose and will report in March 2009.

about strengthening existing practice. Proposals included further developing the guidance given to teachers and providing a dedicated area on the gallery website where schools could place completed work. It was noted that, for many Key Stage 2 children, the motivation for completing a piece of art work is to show it, or even give it, to the person who set the task – in this case, the session’s facilitator. When activities are started in the gallery but completed at school, this possibility is lost to the children. It could be partially re-instated if the relevant facilitator could respond to the children’s work in a virtual gallery.

**vi. Main findings**

- The Portraits session was successful and both children and accompanying adults greatly enjoyed the experience.
- Most of the individual parts of the session and the overall session were perceived as interesting or very interesting by a large majority of the children.
  - The whole session was designed to be fast paced and this was certainly perceived by children throughout the session. There was no clear link between children’s interest in an activity and its pace; they assessed it as ‘very fast’ or ‘fast’ whether or not they were engaged by it.
- There was a direct relationship between children’s interest in an activity and the length of time they wanted to spend on it. Children would have liked to spend more time in most activities and this was particularly noticeable when they had a specific task to complete (individually or collectively).
- There is an opportunity to further develop follow-up to the session in order to ensure completion of the various processes initiated at the gallery.

## 9. Harris Museum and Art Gallery: Is the building an attraction or a distraction?

### *i. Research questions*

A visit and conversation based on the tour of the museum indicated a need to find more about the physical and emotional experience children have within the building. The Harris Museum and Art Gallery is striking in scale and appearance. Both the interior and exterior provide a clear contrast with the local environment and with other buildings and spaces with which the children are likely to be familiar. It was felt that this specificity might have a direct influence on children's learning experience and the research process (see box) was devised with these questions in mind:

- *Is the building, interior and exterior, an attraction or a distraction or a mixture of both?*
- *What can we learn from the first question that is useful in designing children's experience of museums and gallery spaces?*

#### **Research process**

- Framing of research question by gallery/museum staff and research team
- Classroom session (young researcher training; group discussion on art and associated feelings and emotions)
- Gallery visit: informal visits where children looked for aspects of the building and items on display that attracted or interested them. All children had a disposable camera and were encouraged to take pictures to evidence the process
- Classroom session (2<sup>nd</sup>): children chose pictures of areas of interest and presented them in order of personal interest with written observations
- Classroom session (3<sup>rd</sup>): small focus groups based on the experience of the visit and on the individual picture displays (five groups of four; group of three)
- Review of research question by gallery/museum staff and research team.

#### **Information sources**

- Class discussion during 1<sup>st</sup> classroom session
- Observation and informal conversations during gallery visit
- Observation and discussion during 2<sup>nd</sup> classroom session whilst children created their individual display
- Small group discussion during 3<sup>rd</sup> classroom session
- Notes of meetings with the education team.

### *ii. Children's experience of the museum*

An important feature of the group of children involved in the research process here was the fact that most of them had already had regular contact with the Harris Museum and Art Gallery. A majority of them had been to the museum before; some went regularly during school holidays with their parents or carers, usually to use the library, which is also housed in the building. Children who reported going to the museum outside school were used to walking around relatively freely and looking at items of particular interest to them. They described these visits as a walk around the museum rather than any kind of structured approach. As a result, a certain degree of familiarity with the building was apparent and any element of surprise was likely to be limited.

On the whole, children were more familiar with the history collections than the art collections. As was the case for classes involved with the other venues, children's view of art focused on the appreciation of the skills necessary to produce paintings and sculptures and historic value; paintings were seen as a source of information and illustration of historical events. A whole class discussion took place and children considered the influence of art on feelings and emotions; children were introduced to the idea that art might be experienced like music and does not necessarily need to be part of a specific learning process with associated learning targets.

### ***iii. The visit process***

The class of 23 children was split into five small groups each supervised by one adult. Each child was provided with a disposable camera and was asked to look for the areas, parts of the building or exhibits they found particularly attractive and interesting. This approach actively engaged them in looking at the building and noticing features and characteristics. The participating adults, who had been briefed, avoided influencing children by directing their attention to specific areas or exhibits - they simply answered questions as and when asked.

Children were awarded a large amount of freedom due to the small size of the groups and, on the whole, they were able to spend time on their own looking at the exhibits and finding information about items and areas of particular interest. Many children were extremely articulate and managed to share feelings and ask pertinent questions of adults and other children. It is likely that this open attitude towards feelings and emotions had been enhanced by the classroom discussion on the previous day.

Initially, children seemed to find it difficult to spend much time looking at anything specific. There was a feeling of urgency and, although this was partly created by the relative short duration of the visit (under one hour), through observation it appears that children felt the need to take possession of the building, to find out what was available and what its potential was. It seemed that children wanted to make sure they would not miss out on the most interesting or most exciting part of the museum.

Most children wanted to go upstairs as soon as possible; some initially looked downstairs but found it difficult to concentrate and wanted to go upstairs soon after. Some of those children chose to return to the café area towards the end of the visit to have a better look; this indicated that the initial urgency was not

the consequence of a lack of interest, but rather the result of impatience and excitement. This was indeed confirmed during subsequent group discussions. There was a similarity here with the children's experience at Tullie House (described in the next section), where they seemed slightly unsettled until they had become sufficiently familiar with the building. The process could be compared with the way children open Christmas presents as fast as possible because they are impatient to discover what they have received and feel unable to play with anything until all the gifts have been unwrapped.

The tendency for children to 'rush about' and physically experience a space before settling to explore it in more detail has been recognised in previous research and termed 'cognitive mapping'. It is usually associated with children's first encounter with a space, yet at both the Harris Museum and Art Gallery and Tullie House, children clearly needed to build these cognitive maps even when they were familiar with the building. The explanation may be that all the children who had previously visited the museums had done so in the company of an adult on whom they could rely and who could guide them should they need it. During the research programme, children felt responsible and were leading the way; adults were merely accompanying and following them. During focus groups, children stated that the visits had been totally different to their previous experiences because of their sense of independence. Possibly, in response to the greater autonomy provided by the research process, the children experienced a need to make sense of the building for themselves.

At the second meeting between the research team and staff of the Harris Museum and Art Gallery (when the question was reviewed in the light of the initial analysis of the data), the education team responded to this finding by proposing to trial the free exploration of spaces within the museum and gallery at the start of class visits. Although it might not be feasible to allow children the run of the entire building, they could move freely around a designated area, possibly undertaking a task such as finding a specific piece of information or choosing items about which they would like to know more. Reporting back on the task could then feed into the more formally led part of the session. The team also proposed to trial this approach with family groups.

All children reported that they had greatly enjoyed the visit to the Harris Museum and Art Gallery and would like to go again. Given the choice of going to the museum or having an extended playtime at school, most children said they would like to go to the museum. The fact that six children chose the playtime was rather refreshing and indicated that they felt confident and safe enough to express a choice that might not garner adult approval.

#### ***iv. The collections***

When asked what they had enjoyed the most children overwhelmingly mentioned individual items on display rather than thematic areas or features of the building itself. Trying clothes on was mentioned the most often by both girls and boys and this was still the case when, several months later, a member of the research team re-visited the school to report on the progress of

the research programme. The Poulton Elk (a skeleton of an elk dating from the end of the last ice age) was also a favourite as were the emblem of Preston, the football memorabilia and 'Her Head'. The last is a large female head, cast in plaster by Dhurva Mistry in 1986, which attracted much attention during the visit, because of its size and slightly scary expression. The interest that these exhibits and activities aroused was reflected in the choice of photographs children made for their individual displays.

A number of issues emerged during the visit and were discussed further in focus groups.

First, most groups received explanations from a gallery attendant at some point during their visit. These mainly referred to the Poulton Elk and the Yard Works model. The latter is a detailed scale model of the huge Horrockses cotton mill in Preston, made by employees for a visit by King George V in 1913. Children appeared extremely grateful and really enjoyed hearing the stories behind these exhibits. In both cases information was provided that was not available in a written form. Some children suggested that guides should be available throughout the gallery to provide information as and when needed. The option of exploring the gallery freely, but with access to informative adults, was regarded as preferable to a guided tour that might prescribe how the children moved around the space, what they looked at, in what order and for how long.

Secondly, children showed a great deal of respect for both buildings and collection. They often refrained from touching ordinary fittings such as the large wooden handrail and the wide stone banister surrounding the opening between floors. On several occasions, children needed reassurance and encouragement. The same respect was apparent where clothes were made available to try on; some children had to ask several times before being convinced that this was allowed. Once this was made clear however, they greatly enjoyed the experience. This attitude reflects a level of respect towards the museum; plainly, children responded to usual instructions given in such contexts and believed that everything on display was old and precious and should therefore not be touched. The access to some items seemed to create confusion and blur the boundaries. After needing initial encouragement to touch and try on some old-fashioned school clothes, two girls then touched the bones of the elk. When reminded that they were forbidden to touch these, the girls seemed slightly puzzled. Later again, faced with the 'play' boat and sailor dressing up outfits, the same children asked tentatively if they would be allowed to wear the costumes and sit in the boat.

In common with the experience at the Whitworth, the perception of nudity caused some discomfort. Some sculptures were described as *rude* and many children found these difficult to deal with. Two girls apologised because they had taken pictures of statues before noticing that they were actually naked. They thought that they might get into trouble because of this.

Finally, access to information was often difficult and children soon gave up and walked on. This was particularly significant because there seemed to be a strong relation between understanding and liking things. During a focus group for instance, several children said they didn't like the clock and the pendulum

in the café. When asked for the reason of their dislike, they replied that they didn't understand what the pendulum was for and they couldn't read the clock (Roman numerals). After being provided with the relevant information, children seemed satisfied. They changed their minds and both objects became 'cool'.

#### v. ***The building***

During the focus groups, no child mentioned the building without being prompted. The outside appearance of the building at the time of the visit may have played a role in this apparent lack of interest; scaffolding and corrugated metal sheet covered much of the facade. However, none of the children commented on the building work and some had not noticed the scaffolding and sheeting.

The Harris Museum is a striking building both in size and style and it is surprising that it did not attract more specific attention, particularly in a research context where children had been made aware of the professional interest in the matter. Previous research that has addressed the impact of buildings or space suggests that a group of younger children might have had a stronger response to the size of the building (Kindler & Darras, 1997). The respect shown by children for the fabric of the building might indicate that they were somewhat impressed by its grand nature. However, similar respect was also apparent among children who visited Tullie House, which is a less dramatic building. Furthermore, children found it more difficult to discuss the building than its content. They could focus on details (*floors, stone pictures* [their words for relief carvings], *golden doors*) but not on the more general proportions, size and shape of the building.

However, a third of the children were unable to describe what the building was made out of:

*They [these kinds of buildings] are usually made out of brick.*

Several children suggested that the museum was made out of concrete or bricks. After comparing with the school building, it was apparent that some of the children were unaware that the building was made out of stone: they believed that the museum was built with the same materials as the school (bricks and concrete).

When asked to describe the building, most children referred to its classical looks:

*It looks like a Roman temple  
It has Roman carvings*

However, some children perceived it very differently:

*It's very tall, like a hotel.  
It looks like a prison [the classical columns reminded some children of metal bars]*

Despite the classical look and the scale of it, the building did not seem to inspire any feelings of awe. Children felt attracted by the place and at ease:

*It makes you want to go in  
I wanted to go and explore*

At no stage did children describe any feelings of coldness as might have been expected because of the scale of the building and the nature of the building materials. On the whole, most children felt that the place was comfortable and they were happy to spend time there. The only noticeable exceptions were the room containing a watercolours exhibition and one with an installation with projections of butterflies. The first was relatively dark and some children felt ill at ease:

*A bit gloomy and spooky; boring*

The installation produced mixed reactions: some children seemed very interested but others were scared and wanted to get out very quickly.

None of the children reported feeling lost in the building. It was generally described as simple and easy to get around:

*It's simple really, it just goes up and around.*

Only one child thought she had lost track of where she was at one point but soon realised where she was when she saw the stairs.

Stairs attracted a lot of negative comments from children; it was felt that the visit had required a lot of climbing up and down and lifts would have been welcome. Once again, the comments were not related to the style or the specificity of the building but simply to its organisation.

#### **vi. Main findings**

- The classical appearance of the building did not appear to produce strong reactions amongst children. The layout of the building seemed to be more relevant than its aesthetics.
- Children paid little attention to the architecture, size and shape of the building; they seemed far more attracted to specific features and ornamentation on a level comparable with the collections on display.
- The physical experience of the visit is certainly important but does not seem directly related to the obvious specificity of the building.
- Children needed time to explore and become familiar with their surroundings before they are able to fully concentrate on the displays.

- Children valued access to relevant information; informal comments provided by a gallery attendant were highly rated.

## 10. Tullie House Museum and Art Gallery: beyond trails - what is the value of informal learning.

### i. *Research question*

The question selected for Tullie House was directly related to the type of intervention normally offered by the museum:

*Beyond Trails: what is the value of informal learning?*

The sessions provided by the education team usually take place within the museum classroom rather than in the galleries themselves and are very structured. The question selected aimed at exploring the potential of informal learning within the galleries rather than formal learning in the classroom and the research process (see box) reflected that.

#### **Research process**

- Framing of research question by gallery/museum staff and research team
- Classroom session (young researcher training; group discussion on museum content, information available and previous experience)
- Gallery visit: informal visits where children looked for information related to personal interests. All children had a disposable camera and were free to take pictures to evidence areas or issues they found helpful or unhelpful in their research
- Two classroom sessions: children selected pictures they had taken during the visit and organised them, with written observations, in order to represent the trail of their visit
- Review of research question by gallery/museum staff and research team
- Further discussion with children by members of the research team

#### **Information sources**

- Class discussion during 1<sup>st</sup> classroom session
- Observation and informal conversations during gallery visit
- Observation and discussion during 2<sup>nd</sup> and 3<sup>rd</sup> classroom sessions whilst children created their individual visit trail
- Individual trail with pictures and comments
- Notes and recordings of meetings with education staff
- Notes and recording of further meeting with the children and their teacher.

## **ii. The visit process: getting to know the gallery**

Children enjoyed their time in the museum and they clearly reported doing so during the following classroom session.

Prior to the museum visit, children were introduced to the research process. Explanations were provided both about research in generic terms and about the actual research question. The relatively small number of children in the class (18 – one child was absent) and the teacher's approach were particularly conducive to raising the interest of the children and to getting their full cooperation. Only one child found it difficult to understand the process. This was due to pre-existing learning difficulties and, with one-to-one support, the child did complete the activity and seemed to enjoy it.

Every effort was made to ensure that the research process was child led. During the first classroom session, children, supported by their teacher and the researcher, compiled a list of themes they knew were available to them at the museum. This was made possible because all children had previously been to the museum, either with the school or with their parents. The list included 11 themes:

Prehistory / Ice Age	Border Reivers
Before the Romans	Industrial revolution
The Romans / Hadrian's Wall	Wildlife / Animals
Dark Ages	Social history of Carlisle
Middle Ages	Transport /trains
Siege of Carlisle	

All children were asked to choose two themes that they would like to investigate further during their visit to the museum. It was made clear to them that they would also be able to look at other specific items or themes that might attract their attention during the visit.

Children were asked to:

- find information about their chosen themes
- take pictures of things that they found helpful or unhelpful in their quest for information.

A clear emphasis was placed on the role of the children as active researchers. For that reason, they were told that they would not be tested on their chosen themes after the visit; they would be trusted to simply report any perceived improvement to their specific knowledge. This approach aimed at ensuring that the visit would remain enjoyable and that children would feel trusted and valued, and therefore fully engaged in the research process.

The visit lasted just over one-and-a-half hours. Children were split into small groups (of two to five) according to their stated interests and supervised by one adult. All groups spent 45 minutes researching their first area of interest. The whole class then watched a short film about Border Reivers before getting into groups and researching their second theme. This last phase was shorter than the initial one and some of the children did not have enough time to complete the process.

The pace of the visit was relatively fast but appeared to slow down as time went by. Initially, most children appeared excited and were very keen to look around the gallery and get an idea of what was on display rather than to look at anything in detail. After the initial half hour, most children seemed to settle down and spend more time trying to find information about their chosen themes. Towards the end of the visit, some children showed signs of tiring and many of them wanted to return to areas they had already visited and enjoyed, but also to share their findings with their friends.

The initial phase of the visit seemed to be used by children to build an understanding of their physical environment and create cognitive maps. Once this was done they felt more at ease and were able to concentrate on their tasks. As was the case at the Harris Museum and Art Gallery, this is slightly surprising given that many children were already familiar with the building. However, again as at the Harris, the children had been under the authority of an adult during previous visits; there had been no need for them to build cognitive maps of their surroundings because they could rely on someone else's. In the context of the research programme, children were aware that they had to be independent and in charge of their own learning. They had to get to know the gallery before they could feel confident about finding information and completing their research tasks.

The sense of autonomy marked this experience out from previous visits to the museum - whether made formally with the school or informally with a parent or other adult. The children valued the opportunity to look around the museum at their own pace and in the order of their choice. It was observable during the visit that most children had a sense of the need to be independent in their tasks and had taken charge of their own learning. During the focus group discussion, children commented on the difference between this and other visits and expressed the view that this different experience would influence the way they looked at the museum in the future.

### **iii. Children's interests**

#### **Interest in familiar subjects**

The initial choice of themes reflected largely the interests raised by the children in relation to previous visits to the museum. The largest group, eleven children, wanted to find more about wildlife. They recalled the animal specimens and natural displays with interest and wanted to spend more time looking at them and finding relevant information. The Romans attracted five children as did the siege of Carlisle; other themes attracted smaller groups.

The choice of themes was also influenced by classroom discussions; thus, some children asked about the siege of Carlisle and explanations were provided. Conversely, no information was provided about the Border Reivers before they visited the museum (it was assumed that the children were already familiar with this aspect of local history) and only one child chose this theme. During subsequent discussions, some children stated that they might have chosen the Border Reivers theme had they known more about it. With

hindsight, it might have made sense to provide a short explanation about each theme before the visit so that children could make a more informed decision.

The choices made seem to indicate that children were attracted to themes with which they were already familiar. The literature review refers to a consensus within the research community that the degree to which children are able to connect what they see and experience with their own knowledge of the world outside of the museum or exhibition is crucial in informal learning settings.

### In the museum

Several themes (detailed below) emerged from the maps that children made of their visit to the museum and the photographs that they selected to incorporate in these.

Interactive display: 13 out of 18 children included one or more photographs of them or their friends involved in a hands-on activity (e.g. being in the stocks, on the Roman saddle etc.). Most children appeared to enjoy greatly the activities on offer during the visit and they reported doing so during subsequent classroom session.

However, reservations were also expressed on two accounts: first, children did not always understand the purpose of the activity or display. Some thought that the stocks and pillory were used to cut off people's hand or feet. One child commented on the Roman saddle:

*I don't like this. You just sit on it. It does not say nothing.* (comment on a map)

When questioned about his comment, the child stated that he didn't know what was special about the saddle or in what way it differed from any other saddle. Similarly, during the visit, some children wrote on the wax tablet made available to them. They seemed to enjoy the experience from a tactile point of view but did not understand how it had been used in everyday life. This led to a discussion about the value and availability of paper that would not have taken place without the presence of an adult.

Secondly, it is interesting to note that many children reacted in a similar way as the classes that visited the other venues; they often found it difficult to reconcile one of the essential rules of museums (i.e. *Don't touch!*) with being allowed to touch or interact directly with some items. The stocks, for instance, created confusion; the original item carried a 'don't touch' sign whilst a replica was made available to the visiting public - children could take photographs of each other *in situ*. Although the difference between original and reproduction is probably apparent to most adults, this is certainly not the case for many children. Replicas are made to be as realistic as possible and this leads to confusion. As a result, some children had to be actively encouraged to use some of the items, such as the Roman shield, and others had to be discouraged from touching original items. Some frustration was also expressed by children who wanted to feel or touch such items. One child recorded the following comment on her map:

*I like the dress, I would like to try some on (comment on map)*

Human remains: six children presented a photograph of the skull of Robert the Bruce and four more (10 out of 18) had a photograph of a Roman skull (which had been used to reconstruct a man's face). An interesting aspect of this selection is that it did not appear to be related to the historic context, or the specific skills involved in the facial reconstruction (some children did not understand that the face had been reconstructed and represented a Roman man). Instead, children expressed a fascination with these exhibits because they were real human remains. Children expressed a range of mixed feelings in discussions during and following the visit; they appeared both attracted and repulsed by the displays and seemed to find it difficult to reconcile the respect associated with death with the public display of human remains. Generally adults have a notion of time scale or historical context that enables them to accept such displays – for the children however, the items were essentially human remains. This situation can be considered from two viewpoints. It illustrates the opportunities provided by museums to learn about the polarities of life and death. It also highlights the ethical issue, which several museums and galleries have considered, of displaying human remains.

*Robert the Bruce, the King of Scotland and cool exciting skull*

Animal specimens: Thirteen children chose photographs of stuffed or preserved animals. This certainly reflected the initial interest expressed by children in wildlife, but it also appears that many of them were particularly attracted by the fact that the animals were 'real'. Children felt attracted, yet somewhat scared and this created strong feelings they found difficult to express. This was also apparent in the reactions to an owl's wing that was available for children to touch. Some of the reactions were extreme. One child screamed and ran away when she realised that she was touching real feathers, yet she had to return several times to look at it – but keeping her distance. During discussions back in the classroom, children often commented on the fact that the animals in the photographs they had taken were beautiful, but also real.

During the research team's second visit to meet with the staff of Tullie House, the children's fascination with animal specimens was related to their responses to the human remains and the ways in which children might make sense of issues of life and death. Although it had not attracted interest on this occasion, a cremation urn has often drawn similar attention during class visits. Children are perhaps intrigued by the ambiguities – once alive but no longer alive, real or 'pretend' – and by the fact that things not normally seen, such as a human skull and human ashes, are so publicly presented.

#### **iv. Difficulties and barriers**

A large majority of the photographs selected to create the maps represented positive aspects of the visit. A few recorded hindrances to learning; these can be grouped in three categories.

### Finding their way: signage

Many children had difficulties in finding the area relevant to their chosen themes. This issue was partially – and somewhat artificially – solved by some of the accompanying adults who eventually guided their group to the right area. Children looking for information on the siege of Carlisle spent twenty minutes walking unsuccessfully around the gallery. They eventually found a plan of the museum organised by historical period but they were unable to use it independently because they were unsure when the siege had taken place. They eventually had to rely on adult help.

*This map helped us find the siege of Carlisle; it took us a long time to find it. (comment on a child's map)*

On the whole, it appears that many children found their way in the museum in a somewhat empirical way; rather than looking for a map or a plan, they chose to walk around (sometimes run!) in the first phase of the visit. This approach implies that children became familiar with the objects and the displays within the gallery without really knowing to which collection they belonged or which period they referred to.

### Themes/grouping

As well as difficulties in finding their way within the gallery, children often found it difficult to differentiate themes and collections. This was particularly true of the archaeology sections where children seemed to mix up Roman, Celts, Saxons, Vikings and the Middle Ages. Many children seemed to focus on objects they could recognise, regardless of the period (e.g. swords) rather than concentrate on their chosen theme. In this context, they happily mixed their choices of pictures:

*Picture of a gun; I don't know how old it is*  
Followed by  
*Weapons for battle (swords and helmet from archaeology section)*

### Information available

The children seemed to spend little time looking for information about items on display (this was consistent with other children's behaviour at the Harris Museum and the Whitworth Gallery); if the information was slightly out of sight or difficult to understand, children moved very quickly to the next item or area. On some occasions, the attitude of children, their lack of concentration or interest in a given subject could be seen as the cause of the misunderstanding. However, on the whole, children were interested and appeared keen to learn, often asking questions. This seems to indicate that the information available was difficult for this age group to access. Both format and content appeared unsuited to independent learning for young children.

Difficulties in finding information could be related to a number of issues. The area where the information was placed was important (e.g. too high or not close enough to the item it referred to):

*I could hardly read it, it was so small  
This wasn't helpful because I couldn't find the information (from various maps)*

The content of the information was also questioned; texts that appeared too long were often avoided and, without an adult or friend ready to discuss or provide explanation, children moved away none the wiser. Several children noticed the writing dating from the siege of Carlisle and felt unable to read it; they suggested that a modern version could also be displayed to help understand and see how the language evolved:

*This piece of writing did not help me at all because I didn't understand it.  
Poem old talking - need to be modern*

This difficulty in accessing the information had two main consequences: first, it led to some misunderstanding and certainly limited the learning potential of the visit (e.g. a flint was described as a shark tooth; Robert the Bruce was associated with the 18<sup>th</sup> century siege of Carlisle; the bronze head of Hadrian was described as *This is a Roman face I can't remember* - clearly, the head had not been associated with the wall)

Secondly, it reduced the level of interest expressed by children who might otherwise have paid more attention. There did appear to be a link between children's understanding of an exhibit and their interest in it; they were prepared to spend time researching a theme if the information was readily understandable:

*Very interesting: lots of information*

And conversely:

*I don't like it because I don't know what it is*

## **v. *The learning experience***

The aim of the case study was not to evaluate what or how much children could learn during an informal visit of the museum but to explore the potential value of informal learning within the museum.

The first important finding is that children value Tullie House and enjoy going there, whether for formal or informal visits, with the school or with parents/carers. They seem proud of it and of its connections with local culture. From the outset of the research programme, children regarded the museum as a place of interest and visits there were deemed enjoyable. The informal visit seemed to confirm this perception and all participating children stated they would like to repeat the experience.

The overwhelming conclusion is that the process was extremely valuable for both children and teacher. From a very broad point of view, the visit reinforced the idea that the museum is a place for learning but also a place of enjoyment. The informal character of the visit removed the pressure of performing, or doing well; children were there to learn without being tested in anyway. Many children stated that they would like to return to the museum with school but also with their parents and carers, in order to share and develop their experience.

From a more specific point of view, and although this has not been strictly measured, it does not appear that children have retained a lot of factual information during the visit. Throughout the two classroom sessions dedicated to making their maps, children were asked to talk about their chosen photographs and about their wider experience of the visit. It soon came to light that the visit had raised more questions than provided answers. It has been recognised (Roschelle, 1995) that a key difference between informal and formal learning is that, in the former, learners construct knowledge slowly over extended time periods, and new experiences usually do not change prevailing conceptions immediately; this makes learning difficult to measure in the short term. The visit had provided an extremely valuable basis for further discussion and subsequent learning. The children were extremely motivated and eager to find out more and get a better understanding of what they had discovered by themselves. As a result, they became active in seeking information rather than responsive to the demands of their teacher (and the education system at large).

The research programme suggests that informal visits have great potential in raising children's interest and appetite for learning. In order to increase this potential, several concerns could be addressed:

- Information and presentation of the items and displays could be better adapted to young children, with information designed to meet their needs displayed alongside that intended for an adult audience
- A brief introduction or tour of the gallery could be provided in order to help children get a general understanding of the environment and find out where and how the collections are organised
- Raising the interest of children for specific subjects prior to the visit is likely to encourage them to find further information for

themselves. This could be done either at school or at the museum by both teachers and/or museum staff.

- It appears paramount to provide a follow up to the visit in order to give answers to the questions raised during the informal visit. This could be done within the museum or at school.

**vi. *Main findings***

- Children needed to build a cognitive map of the gallery before they could concentrate on actual content and details.
- Children tended to investigate further what they were already familiar with. They showed less interest in subjects of which they had no knowledge.
- The children tended to be attracted to individual items rather than responding to thematic arrangements. They often had a sense of 'discovery' – finding something special within the collection and then wanting to show it to their friends.
- More clarity was needed with regard to the difference between original items and replicas and their accessibility or otherwise.
- Information was generally not sufficiently accessible to young children in either form or content.
- Informal museum visits have huge potential in terms of raising interest and appetite for learning. This needs to be complemented by careful planning and follow-up work with children.

## **11. Issues common to the four case studies.**

The research programme was set up to answer one overarching question: *In what different ways do gallery and museum spaces foster learning for Key Stage 2 visitors?* The research was then constructed around four case studies and a number of common issues emerged throughout the process. These are likely to be of interest to all four venues and are relevant to the overarching question.

### ***i. Children as researchers***

In the programme, children were given an active role. They responded positively and on the whole, they acted extremely responsibly. The use of cameras, for instance, helped them to feel valued and trusted; all of them acted in a very mature way and none of them wasted the allocated pictures.

The programme showed the potential of this approach; the data produced is extremely rich and reflects a depth of thought often missing when children are simply treated as subjects within a research programme. When they are given the opportunity and the right channels, children are an invaluable source of information. This aspect of the programme was particularly successful when it was fully embraced by the class teacher.

### ***ii. Cognitive maps***

In three<sup>4</sup> of the four venues, the first phase of the visit was characterised by the children's tendency to explore the space physically (perhaps by running around) and, to a certain extent, to take possession of it and to feel in control.

On the whole, children seem to need to understand buildings before they are truly able to concentrate on their content. What may appear simply as unruly behaviour is effectively part of building a cognitive map; this is an integral part of the visit process and should be taken into account when planning gallery or museum visits.

### ***iii. Building and content***

Both in art galleries and museums, young children seem to perceive spaces and content as one. Strong feelings resulting from displays could become associated with a room and conversely, reaction to spaces could influence the way displays are perceived (e.g. children not wanting to look at watercolours because the room where they were displayed was too dark). This should probably be taken into consideration when designing interventions in the venues.

### ***iv. Promoting independent learning: the need for information***

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<sup>4</sup> This was not relevant to the Manchester Art Gallery visit where children were guided throughout.

The programme has exposed the huge and varied potential of galleries and museums in providing a rich environment conducive to learning. Children have the opportunity to become active in the process and take charge of their own learning; their interest is often raised when individual items attract their attention and, as a result, they seek further information of their own volition.

Independent learning can however be impeded or even become counter-productive if the information available is not accessible in form or in content. In some cases, this can lead to misunderstandings. In other cases, children can quickly become disengaged or bored.

Children seem to favour an informal visit supplemented by appropriate information available on request rather than guided tours where the information is provided regardless of their personal interest.

This confirms previous research findings suggesting that boredom represents children's resistance when they perceive that they have little control over their own learning (Chen, 1998).

#### **v. *Experiential learning***

Children seem to value and enjoy sensory involvement and interactive exhibits (e.g. clothes, tools, art material etc.). These provide an opportunity to discover and learn through direct contact and create sources of interest and motivation to find further information. However, these experiences can be hindered because of the lack of information available to children or the confusing nature of the displays. Children are generally encouraged to respect items on display (e.g. no touching) whilst other items are made available to them for direct experiment. This can lead to some children not using the material made available to them – through fear of being told off - and conversely, other children – a minority - believing that all items on display are available to them.

#### **vi. *Challenging material***

Some of the material displayed, both in art galleries and museums, can be difficult for children and needs particular attention. In particular, representations of nudity, religious scenes and depictions of violence often created unease among the children. In relation to nudity, it may be that the children were more confused than uneasy; something that is taboo in most of the contexts that they encounter is permissible in this context.

In their ideal art galleries, several children included *adult only areas*. This might be a way of telling professionals and adults that children are not always prepared or equipped to deal with some of the challenging material displayed in galleries. Many children seemed to believe that, by depicting a subject – such as slavery or cruelty - the artist is condoning it. This draws attention to the role for the art gallery in promoting public debate about controversial issues and suggests that we consider how this should be introduced to children.

### **vii. Promoting Diversity**

Museums and galleries have a strong role to play in term of promoting diversity: through their displays, they can help children understand and empathise with, for instance, members of different cultures, age groups or historic eras.

The children involved in the programme demonstrated a considerable awareness of diversity within the visiting public. Several remarked on or designed facilities to meet specific needs (e.g. *the writing is good for old people; need sound boxes for blind people*). The visits reinforced the importance of access - in the broadest sense of the term.

### **viii. Emotional learning**

Museums and art galleries are traditionally thought of as very different entities, with the first ones conducive to learning facts and the latter more likely to contribute to social and emotional learning. In practice however, both types of venues have the potential to promote both types of learning.

During group and class discussions in all four participating schools, children could identify areas of knowledge available to them in museums (e.g. history, technology or wildlife). However, when faced with the question of learning in an art gallery, children were unsure. The only consistent answer was related to history: paintings were seen as a source of information or illustration of past events. Some children also mentioned the possibility of learning skills and techniques (e.g. drawing or painting). Understandably perhaps, there was no evidence that children thought art could be appreciated for its intrinsic beauty or were aware that it could be used by the artist to challenge ideas or by the viewer to make sense of their own feelings. Although the experiencing of feelings and emotions has not been given a high priority in the dominant models of education in recent years, the introduction of Social and Emotional Aspects of Learning (SEALs) in many schools is indicative of change (DCSF, 2007a). The Big Picture of the Curriculum (QCA, 2008) refers to learning approaches that provide opportunities for social and emotional development. It would be beneficial for galleries and museums to develop their experience of social and emotional learning – and promote their expertise in this domain.

## **ix Stimulating appetites for learning**

An interesting comparison can be drawn between the children who experienced the relatively structured session at Manchester Art Gallery and the children who had a more autonomous learning experience at Tullie House: the former commented that they had learnt a lot whereas the latter did not appear to have retained a lot of information – but did have a real enthusiasm for finding out more. Children visiting the Whitworth Art Gallery and the Harris Museum and Art Galley also responded positively to taking a high level of responsibility for their own learning. The literature review assists us in understanding the difference between structured experiences that ‘scaffold’ learning and have an immediate, demonstrable impact and the ‘slow burn’ of the informal learning experience. (Roschelle, 1995)

Museum and gallery educators and curators can mix these approaches to ensure that children have both an immediate experience of learning and the motivation to find out more. However, the findings of the programme suggest that, without return visits to the venue and/or high quality follow up work in school, neither approach achieves its full potential. In this way, the research programme has affirmed the importance of collaboration between schools and museums/galleries. Hopefully, the emphasis currently being placed on learning out of school hours (Every Child Matters, 2007) and in locations other than schools (DCSF, 2007b) provides a fertile environment for the continued development of such collaborations.

## Appendix i

### *Literature review*

#### Introduction

Until fairly recently, children's experiences of museums and galleries has been of limited interest in audience research but is an area of growing concern internationally as educational policy embraces learning outside of the classroom more formally. Researchers in Australia have led the way in research *with* children as distinct from research *on* children. In particular, a team at Queensland University of Technology Museums Collaborative<sup>5</sup> have carried out some important work and have suggested ways forward in terms of developing innovative methods of capturing children's voices and visions of museums and gallery spaces. However, in spite of growing interest, it has been suggested that 'the *voices* of children in expressing and articulating their experiences are astonishingly absent' in published research studies. One study, (Piscitelli and Anderson, 2001, pp. 270-271) '*Young Children's Perspectives of Museum Settings and Experiences*' attempted to explain this by arguing:

*Collecting data from young children relating to their learning and museum experiences is often difficult because of their limited ability to communicate, difficulty in self-reflecting on their past experiences, and reliability issues associated with data collection by unfamiliar adult investigators.*

The same study concluded:

*Future research investigating children's views of museum experiences must employ innovative methods to overcome such difficulties.*

This literature review is in no way comprehensive as there is a very large amount of research literature that includes analysis of data related to museums and galleries as sites for learning, but it hopes to highlight innovative methodological approaches and themes that relate somewhat to the four questions that have arisen in the Renaissance in the Regions Creative Spaces research programme.

The Creative Spaces four research questions were generated at each site through an adaptation of one of the research tools applied in The Mosaic Approach, a set of methods developed for work with very young children. (Moss and Clark 2001, 2005)

*Learning and touring as socio-spatial practices have the potential to create an intersection between seemingly disparate fields of educational pedagogy and tour design. (Sprake and Thomas, 2007)*

#### **The four research questions.**

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<sup>5</sup> <http://eab.ed.qut.edu.au/activities/projects/museum/papers.htm>

*What is an art Gallery? Children's Views*  
(Whitworth Art Gallery, University of Manchester)

Susan Groundwater-Smith, an academic researcher in Australia, has developed useful research tools to encourage the participation of young people in decision making about exhibition design. Her work is mainly with young people but it also draws attention to the capacity of children to see, reflect on and collaborate with adults in matters of design in gallery contexts. (Groundwater-Smith, 2007) The Australian Museum has used students from the Coalition of Knowledge Building Schools to find out what children find interesting, scary or boring among its exhibits. More than 250 students with disposable cameras visited the museum to document what they liked and did not like. The research showed how children related emotionally to the exhibits. (Turning the Tables, 2005)

Given that the research questions required children to take on the role or act as 'design partners' to construct their own idea of a gallery in physical form, the research study, 'Physical programming: designing tools for children to create physical interactive environments' is of relevance. (Montemayor et al, 2002 p 299-306) The aim of this research was to develop programming tools for physical interactive environments appropriate for use by young children (ages 4-6). The researchers explored numerous design approaches over two years and, employing narrative as a device to engage children, developed the concept of 'room sized stories'. While this study had a predominantly IT focus, the researchers worked with children using low-tech materials in a similar way to that intended in the Creative Spaces research. Another study exploring the dynamic interrelation of Contextual Inquiry, Technology Immersion, and Participatory Design in research with young children found that children between the ages seven to ten years make the most effective design partners especially in manipulating low-technology design materials. Citing the research of Druin & Solomon, (1996), and Druin et al., (1997), this group found that the research design ideally grouped two to three children with two to three adults when engaged in productive brainstorming and suggested that one lone adult should never be placed with two or more children in one design team as in this case the team dynamics take on the feel of a classroom with one teacher and many children. This finding highlights issues raised by conducting research in schools and classrooms when the research question concerns out-of-school spaces and places. The study produced a useful matrix with reference to participative design techniques for work with children.

*Time matters in gallery spaces: children's learning outside of the classroom*  
(Manchester Art Gallery)

The notion that time matters in gallery spaces relates strongly to the pre-planned design of the learning experience as organised and administered by museum educators but does not appear to have been the focus of research in many studies concerning children to date. Those that have been concerned with matters of time seem to have focused on the differences in time spent observing exhibits comparing family group with non-family group visits to museums and galleries or have attempted to relate time spent in a range of activities with the measurement of quality or depth of learning.

In relation to researching children's subjective experience, it is important to note that researchers have recognised that each visitor has a unique experience which is therefore 'incompatible with experimental or quantitative methods of research which would dictate that all subjects experience the same treatment'. (Barriault, 2007) Researchers with young children in Australia, who used video recordings of interviews exploring subjective experience noted 'the most striking aspect of children's self-report about their museum experiences was the diverse, highly individualistic, and idiosyncratic nature of each child's recollections, interests and learning'. (Anderson et al, 2001) A study by Carole Henry (2000), suggests that the negative experiential issues for pupil visitors to museums include a number of factors of which the perceived fast pace of their visits is one. Other factors included over-crowded galleries, adherence or enforcement of museum rules, and a feeling of not being empowered to enact their personal agendas. Anderson and Piscitelli (2001), in their study of recalled childhood experiences, discovered that one in eight parents, had the fast pace of museum visits as their prime memory in a further study of children's contemporary experience, they found that 77 four-to-six-year-old children, who were interviewed about their experiences of visiting museums, expressed views about the pace of their past museum experiences. Analysis of the data indicated that 25 per cent of children regarded their visits to museums to be either 'too rushed' or 'sometimes rushed'. It may be the case that the emphasis in research on children's experience of seeing, feeling and touching, and of the 'wow' factor, may have led to the question of feeling rushed being largely overlooked – 'being rushed' is a reaction unlikely to be offered up independently by children since they generally experience being rushed in their everyday lives and particularly in their normal educational settings, which are strictly timetabled.

One study (Piscitelli & Anderson, 2001), carried out using 'naturalistic methods' including observation and interviews with those experiencing visits to science centres, has offered a schema relating to depth of learning that is relevant with regard to matters of time if not to timing. The stages identified and labelled are not necessarily sequential but relate more to an idea of stages in deepening and making more permanent a learning experience. There is an emphasis on repetition that may be relevant to the Creative Spaces research question. The schema recognises a number of different behaviours (see box).

## **Stages in Learning**

### **Initiation Behaviours**

- a. *Doing the activity*
- b. *Spending time watching others engaging in the activity*
- c. *Information and assistance offered by staff of other visitor.*

### **Transition Behaviours**

- a. *Repeating the activity*
- b. *Expressing positive emotional responses in reaction to engaging in the activity.*

### **Breakthrough Behaviours**

- a. *Referring to past experiences while engaging in the activity,*
- b. *Seeking and sharing information*
- c. *Engaged and involved: testing variables, making comparisons and using information gained from the activity.*

(Piscitelli & Anderson, 2001)

A different study based in the USA explored time-related issues in interactive exhibitions at a Science Centre comparing family groups with non-family groups (Sandifer, 1997). The methodology used statistical analysis of five separate dependent measures. The findings showed that the informal family groups spent more time per exhibit than the formal non-family groups suggesting that, given a less formal structure, time taken to view exhibits is longer. This finding has been matched by research carried out at The Eden Centre in the UK by Alan Peacock (2006).

In general, children's time is largely structured in life by adults, particularly in learning and play. It appears to be rare that children have enough time of their own choosing to pursue an interest or take part in an engaging activity in school or out of school. These factors point to the importance of undertaking a contextual enquiry which recognises the situatedness of children's experiences. One piece of contextual enquiry research has explored what happened when children were enabled through the research process to use large amounts of time freely in a flexible technology-rich environment. The researchers were able to observe children of varying ages, in ways not usually available to study in schools or at home. The focus on time enabled them to observe *patterns of activity* rather than single shot recordings. (Druin et al, 2003)

In the early 1980s, John Falk carried out a feasibility study to test the hypothesis that observable behaviour and time can be used to predict learning. The study was carried out at the Hall of Human Biology of the British Museum, which has a closed circuit video system installed to assist with evaluation studies. School children aged 12 and 13 took tests before and after going round the exhibition and were also observed during their visit. The observation used ten behaviour categories with weighting that indicated how

much they contributed to learning, e.g. 4 was looking at a graphic display and 0 was playing with a peer. The analysis of the data according to these pre-determined categorisations demonstrated that the interaction of time and behaviour is an important factor in the learning process. It was concluded that this type of study provides a reliable, unobtrusive evaluation instrument. (Falk, 1983) One might argue that the emphasis on determining when and how learning is happening limits the potential of such research in the context of time related matters and children's experience. As one commentator suggests, 'predetermined lists of behavioural indicators may not be capturing the full nature of a visitor's learning experience'. (Barriault, 2004)

*Built environment: attraction or distraction?*  
(Harris Museum and Art Gallery, Preston)

*Touring buildings is not to do with trying to guess what the architect was trying to communicate but to bring our own selves into the business of making meaning. (Sprake & Thomas, 2007, p. 3)*

Several research studies have documented a strong connection between physical orientation and learning. It has been noted that museums can overwhelm first-time visitors with their plethora of visual and aural stimuli, causing distraction and anxiety. However, a counter argument suggests that further increase in familiarity with the surroundings can decrease the motivation to learn. (Burnett, 1996) This suggests the importance of the need to maintain a certain level of unfamiliarity and wonder.

Observations of children's behaviour in museum and gallery settings have recognised their predisposition to what is termed 'cognitive mapping'. At first inclined to rush around and explore, apparently in random fashion, after about thirty minutes they can be observed to slow down and are more inclined to explore purposively. This 'mapping' appears to be of fundamental importance to children, especially in new physical environments.

Research with young children has revealed something of the importance of the physical environment as an emotional and cognitive trigger. Kindler and Darras (1997) investigated 120 four-and five-year-old children's perspectives of museums and their museum experiences in terms of their verbal descriptions of the physical nature of the setting. Here scale and in particular largeness of objects in spaces was significant. It was found that children frequently cited large exhibits or large components of the museum as part of their description of the settings, such as 'dinosaurs', large rooms', and 'long corridors'. Meanwhile, a photography-based study with pre-school children carried out by Fasoli (2003), has reported the significance of what she terms 'nondescript space' in gallery settings. Here Fasoli draws attention to ways of seeing children and suggests that the dominant paradigm of the child in development can be placed to one side to see children as taking part in communities of practice in such settings – drawing from Wenger (1998) she argues that researching children in museum and gallery settings has the potential to disrupt 'traditional developmental ways of seeing young children and interpreting their behaviour, that, until recently, have been dominant in early childhood and in museum studies'. Fasoli's study is of particular

relevance to the Creative Spaces research since she also has used photography with young children.

Another relevant and very recent study was carried out at the Victoria & Albert Museum (V&A), London, by a team from Goldsmiths College in partnership with year nine students from Pimlico School secondary school (Sprake & Thomas, 2003, p 172). The V&A museum was taken as a case study to investigate how buildings are a physical manifestation of an institution, and how their physical presence records the way the museum has to respond to outside criteria, from government funding strategies to cultural trends. The 'in-between' spaces were of especial interest and the preparation of the children is of particular interest. They were encouraged to see – or investigate - the building as a dynamic ever-changing place in spite of its outward appearance of being static over time. The researchers posed the hypothesis that a museum building as a subject is a constantly changing environment thus offering the opportunity for young learners to develop their historical imagination and critical abilities. Year 9 students were asked to find and respond to evidence of physical change in the fabric of the V&A museum buildings. The children were encouraged to become involved in 'researching the stories, voices and histories associated with what they find from exploring these transitional spaces'. The children gathered content through a combination of sketchbooks, digital voice recorders and cameras and then represented this as an interactive map on hand held computer devices (personal digital assistants - PDAs). The specific spaces within the museum that the children identified as dynamic and changing were 'tagged' and located through imagery or through audio recordings – for example the sound of hollow sounding footsteps captured on a temporary floor. The concept of 'seeding' was developed; a term that suggests that the initial research creates a spot for further interpretation by others. The project began the process of initiating the micro-mapping methodology with the children in a familiar setting – their own school where they were encouraged to investigate the familiar and recognize hitherto mostly overlooked evidence of change. It was found that:

*Holding the first session at the school was effective. Preparing the students for the museum visit by using a known environment as a starting-point enabled them to grasp the fundamental aim of the project, which was to learn to look at their physical environment and understand it as a dynamic situation that they are part of, rather than a pre-established immutable reality. (Sprake & Thomas, 2003, p.175)*

The use of metaphor – the museum as a city – helped to generate the idea of the museum as an ever-changing dynamic space that was fascinating and more than what meets the eye. This is further explained via a linked website, 'Stories without words'. Finally the children were encouraged to project their 'seeds' into a kind of alternative tour of the museum for new visitors. 'Each group marked their hotspots on a map of the V&A using colour-coded stickers and then transferred these to a project master map. The master map forms the basis for the interactive digital map when reproduced for the PDA'.

*Beyond trails- the value of informal learning in museum and gallery contexts.*  
(Tullie House Museum and Art Galley, Carlisle)

What do we mean by informal learning in museums and galleries? What research has been completed that contributes to our understanding of this with children? Much recent research about informal learning in museums and galleries has taken a constructivist view of learning – one that situates the learner and the subject and/or object of learning within a complex web of meaning making and connectivity through links with prior knowledge, identity/identities and experience. Studies that have attempted to measure learning through pre- and-post-experience testing have shown that learners with the lowest level of prior knowledge about an exhibit subject were also the individuals that gained the most. (Aldeson et al, 2000; Falk & Alderman, 2003; Fork & Storksdieck, 2005). However, there appears to be a consensus that the degree to which children are able to connect what they see and experience with their own knowledge of the world outside of the museum or exhibition is crucial. Barbara Piscitelli and David Anderson (2001), in a study which used a range of methods to survey young children's experiences of museum displays in Brisbane, Australia, discovered evidence that exhibitions which provide readily accessible links with children's past experiences result in a more positive affect than exhibitions which are hands-on, engaging and/or multi-sensory in nature.

A study carried out by Summers (2004) examined characteristic attributes of non-formal education in a range of out of school learning spaces. Characteristic practices included those that:

*Initiated and fostered images of time and place; engendered phenomenological processes of teaching and learning through which knowledge was singularly negotiated; applied dialogue and conversation in teaching and learning processes; and used play to shape the bond between reality and probability by expanding the notion of what was considered within the bounds of plausible reality.*

Summers used a theoretical framework to inform the design of worksheets as free-choice learning devices, thus bridging the divide between formal and informal learning within a structured museum based activity. The research found that the use of the worksheet increased the number and diversity of curriculum-related conversations among school groups during the visit, suggesting that the use of carefully designed worksheets may increase students' exposure to curriculum during a museum visit, and thus may help build better bridges between teacher needs and museum free-choice identities. (Mortensen and Smart, 2007)

Another study asked: 'How can museums meet teacher expectations and still maintain their identities as places of free-choice learning?' (Mortensen and Smart, 2007, p 1390) This is a pertinent question as museums and galleries, while they are becoming linked through extended schools policies, are *not* schools and while they are places of learning they function to provide many other important practices.

It has been recognised that a key difference between informal and formal learning is that, in the former, learners construct knowledge slowly over extended time periods, and new experiences usually do not change prevailing conceptions immediately thus making learning difficult to measure in the short term. (Roschelle, 1995)

Perhaps a key area is one pointed out by Falk in a recent paper, which advances the thesis that museum visitors' identities, motivations and learning are inextricably intertwined. Falk (2006) suggests that all individuals enact multiple identities, many of which are situational and constructed in response to a social and physical context. Identity influences motivations, which in turn directly influence behaviour and learning. Falk has proposed five museum specific identities, described as: explorer, facilitator, professional/hobbyist, experience seeker, and spiritual pilgrim. He suggests that a visitor might adopt one of these or a combination of them. It may be interesting to consider these in relation to Key Stage 2 children learning beyond trails.

Bamberger (2007) studied about 750 students participating in class visits at four museums, focusing on the levels of choice provided through the activity. The museums were of different sizes, locations, visitor number, and foci. A descriptive-interpretative approach was adopted, with data sources comprising observations, semi-structured interviews with students, and museum worksheets. Analysis of the museum activities yielded four levels of choice that affect learning from no choice to free choice activities. The effectiveness of learning was examined as well by looking at task behaviour, linkage to the students' prior knowledge and their school's science curriculum, and linkage to the students' life and experience. Findings indicated that activities of limited choice offered scaffolding, allowed the students to control their learning, and enhanced deeper engagement in the learning process. However, it was noted that within all the choice opportunities, the students connected the visit to their own life experiences and their prior knowledge, even when the guided activity scarcely addressed it. This study concluded that guidance - which recognises the importance of connectivity - was necessary to support the experience even if that guidance is of a limited kind.

## Appendix ii

### *School information*

**Table 1: Aggregate of test percentages (three core subjects); pupils achieving expected level 4 or above**

	<b>School A</b>	<b>School B</b>	<b>School C</b>	<b>School D</b>	<b>England</b>
<b>2004</b>	269	259	230	246	237
<b>2005</b>	272	207	236	247	240
<b>2006</b>	268	204	229	244	242
<b>2007</b>	268	265	188	223	245

2007	A	B	C	D
Total number of pupils	474	188	284	311
Statements of SEN or supported at School Action Plus	4.20%	7.40%	12.30%	7.70%
Pupils with SEN, supported at School Action	15.20%	8%	8.80%	3.20%
KS1-2 CVA Score	100.7	100.3	97.7	99.6
Coverage indicator (VA)	93%	100%	91%	100%
Lower Limit of CVA Confidence interval	100.2	99.5	97	99.1
Upper Limit of CVA Confidence interval	101.2	101	98.4	100.1
Percentage of sessions missed through Overall absence	5.40%	5.20%	6.50%	6.10%
Percentage of sessions missed through Unauthorised absence	0.40%	0.70%	1.40%	0.20%
Percentage of pupils who attained 'level 4 or above' in the Key Stage 2 tests	89%	88%	63%	74%

## Appendix iii

### i. **List of portraits, scales, ratings and correlations (Manchester Art Gallery)**

#### List of portraits included in the session

Portrait 1  
Bobby Charlton, 1974  
David Wedgbury,

Portrait 2  
The Ladies Noel, about 1740  
Bartholomew Dandridge,

Portrait 3  
Ellis Cornelia Knight, 1793  
Angelica Kauffman

Portrait 4  
Portrait of an unknown model, c1918  
Artist: Amadeo Modigliani

Portrait 5  
Inhale (Yellow), 2002  
Michael Craig Martin

Portrait 6  
Mask of the Tailight Warrior, 1983  
David Kemp

#### Scales

Did this go:

Very fast						Very slow
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Would you like it to be:

Longer						Shorter
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Was it:

Very interesting						Not interesting	very
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Children's Ratings

Table 1: Perception of pace reported by children (frequency)

	1 very fast	2	3	4	5 very slow
Portrait 1	4	4	14	0	3
Portrait 2	5	4	12	2	2
Portrait 3	4	3	10	3	5
Portrait 4	9	5	5	4	2
Portrait 5	7	4	7	4	3
Portrait 6	11	4	9	1	0
Group activity	14	2	7	2	0
Individual Portrait	12	2	8	1	3
All day	13	7	3	0	5
<b>TOTAL</b>	<b>79</b>	<b>35</b>	<b>75</b>	<b>17</b>	<b>23</b>

Table 2: perception of duration reported by children (frequency)

	1 Longer	2	3	4	5 Shorter
Portrait 1	10	7	5	1	2
Portrait 2	10	2	11	1	1
Portrait 3	12	5	5	2	1
Portrait 4	9	2	7	1	6
Portrait 5	16	4	2	0	3
Portrait 6	20	3	1	0	1
Group activity	20	1	2	1	1
Individual Portrait	21	2	1	1	0
All day	18	5	1	0	1
<b>TOTAL</b>	<b>136</b>	<b>31</b>	<b>35</b>	<b>7</b>	<b>16</b>

Table 3: Perception of interest reported by children (frequency)

	1 very interesting	2	3	4	5 not very interesting
Portrait 1	14	4	4	2	1
Portrait 2	12	3	4	5	1
Portrait 3	12	7	4	1	1
Portrait 4	10	2	4	1	8
Portrait 5	19	3	2	1	0
Portrait 6	22	1	0	0	2
Group activity	20	2	2	0	1
Individual Portrait	20	4	1	0	0
All day	20	4	1	0	0
<b>TOTAL</b>	<b>149</b>	<b>30</b>	<b>22</b>	<b>10</b>	<b>14</b>

## Correlations

All correlation are 1 tailed. Only significant results are reported.

Portrait 1:

Pace / interest: Significant negative correlation ( $r = -0.483$ ,  $n=25$ ,  $p<0.01$ )

Portrait 2:

Pace / interest: Significant positive correlation ( $r = 0.366$ ,  $n=25$ ,  $p<0.05$ )

Portrait 3:

Length / Interest: Significant positive correlation ( $r = 0.545$ ,  $n=25$ ,  $p<0.01$ )

Portrait 4:

Length / Interest: Significant positive correlation ( $r = 0.619$ ,  $n=25$ ,  $p<0.01$ )

Portrait 5:

Length / Interest: Significant positive correlation ( $r = 0.528$ ,  $n=25$ ,  $p<0.01$ )

Portrait 6:

Length /pace: Significant positive correlation ( $r = 0.413$ ,  $n=25$ ,  $p<0.01$ )

Length / Interest: Significant positive correlation ( $r = 0.567$ ,  $n=25$ ,  $p<0.01$ )

Group activity:

Length /pace: Significant positive correlation ( $r = 0.367$ ,  $n=25$ ,  $p<0.05$ )

Pace / interest: Significant positive correlation ( $r = 0.446$ ,  $n=25$ ,  $p<0.05$ )

Length / Interest: Significant positive correlation ( $r = 0.851$ ,  $n=25$ ,  $p<0.01$ )

Individual portrait:

Length / Interest: Significant positive correlation ( $r = 0.906$ ,  $n=25$ ,  $p<0.01$ )

General rating for whole session:

Length /pace: Significant positive correlation ( $r = 0.569$ ,  $n=25$ ,  $p<0.01$ )

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