



University  
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Talking About Art:  
The impact on family learning of self-led interpretation activities at  
Dundee Contemporary Arts

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## Abstract

This project researched how different self-led activities at Dundee Contemporary Arts affect family learning about visual art exhibitions. Active (creative) and passive (video) gallery resources were compared for their effect on the families' ability to articulate and contextualise their experience as a group, and to recall the experience.

Twelve family groups took part (N = 44; 19 adults, 25 children; child age range 1-12 years, M = 6.6), all of whom regularly visited galleries and took part in art activities as a family.

Significant differences were found between groups in two areas: verbal evidence of the intervention activity was found in both groups but was significantly higher in families who watched the video, and creative activity increased instances of family problem solving.

Recommendations include providing a conversational tool to help families discuss their experiences, paired with physical creative activities that encourage all generations of the family to work together.

## Introduction

Children in Scotland spend approximately 85% of their waking time at home or in community settings, and 15% in school. This presents parents with a substantial opportunity for raising their child's attainment, and developing family relationships through family learning (The Scottish Government, 2016). Visits to museums and galleries provide such an opportunity for informal learning to take place; this study explored the impact of family learning resources at a specific art gallery in Dundee. Talking About Art researched how families use and engage with the self-led activities at Dundee Contemporary Arts (DCA), UK, and aimed to determine how these activities affect family engagement with the visual art exhibitions. Self-led activities are those which do not require a member of staff to facilitate, and can be encountered by casual visitors without booking. The study compared the impact of active (creative) and passive (video) gallery resources on families' ability to articulate and contextualise their experience as a group, and to recall the experience at a later date. Self-led activities aimed at a family audience are a relatively recent addition to the gallery sector, and there is very little evidence demonstrating their effectiveness in family learning. Indeed, most recent studies concerning family learning in a museum context are undertaken in science or history museums, and there is a knowledge gap within the contemporary art sector.

The impact of family arts participation programmes in galleries is often only measured on a project-to-project basis, to provide data for funding bodies, such as attendance figures, demographic data, and qualitative feedback (e.g. Creative Scotland, 2019). These staffed projects are simple to measure because they are time-limited, and often evaluated by the members of staff involved in delivery. However, this approach risks neglecting visitors'

interactions with more permanent, unstaffed, interpretation resources designed for the same audience, such as creative play spaces. These resources may actually form a more consistent point of reference for repeat family visitors, and so it is important to understand what role they play in the visitor experience. A 2008 survey of 77 US art museums found that 60% had a dedicated 'family gallery' where visitors could interact and engage with creative play, 80% of which were created relatively recently, after 1999 (Adams, Luke & Ancelet, 2010). In the UK, for example, the Ferens Art Gallery in Hull, opened a Children's Gallery in 2017, which displays real artworks alongside interactive and creative activities which serve to draw visitors' attention to aspects of those artworks, such as colour, shape or line. This is intended to offer a simple starting point for families to talk about art with young children, and develop their confidence to explore the wider collection. A review of US art museums found that the two main motivations for establishing these spaces were to increase the number of families visiting the gallery, and to provide a comfortable space which might encourage them to further explore the main exhibits, but there is little evidence to support the efficacy of these spaces in achieving these aims (Adams, Luke & Ancelet, 2010).

Families are a relatively new target audience for galleries and museums, as a survey of printed museum guides in France suggests, finding that few printed guides successfully tackled the joint working relationship between child and adult, being aimed at one age group or the other (Rigat, 2017). DCA began programming activity specifically for families from the organisation's outset in 1999 but had ceased programming activities for 8-12-year-olds by 2011, because parents were asking for opportunities to take part in arts activity *with* their children, rather than enrolling them on workshops for children only. This shift is reflected in their 2015/16 Audience Development Plan and Communications strategies, which began

promoting the Learning Programme as a fourth programming strand in the last two years (alongside Cinema, Exhibitions, and Print), with its own monthly Family Activity Calendar and the aim of offering activity for families every weekend (Rumble & Derrick, 2019). The Scottish Government's Review of Family Learning (2016) states that 'family learning' recognises the role of the parent as the child's first educator, and that the benefits of intergenerational learning are apparent not only in the child's attainment but also develops the parent's skills, attitude to learning, and raises aspirations. Family learning programmes in general also offer secondary benefits such as increased wellbeing and improved family relationships (The Scottish Government, 2016, p12). Family resources in public venues such as galleries or museums are therefore part of a wider shift towards 'family engagement', rather than expert-led 'education.' Tate Modern began a family programme called Small Steps in 2002 and found that parents valued their role as "intermediaries" (Hancock, Cox & Griffin, 2009, p6) between the artist-educators and their children: they learnt to support their child with unfamiliar materials and with broader workshop participation, but they also learnt about the artworks from a new perspective. At the time, the provision for families with children under 5 included a self-led trail and a simple activity sketch book, and the gallery felt it needed to address this new audience with the new series of Small Steps workshops. However, as gallery workshop capacity is limited, family engagement also needs to be achieved by offering casual family visitors access to self-led resources which provide the level of intergenerational discourse achieved by facilitated workshops.

Adams, Luke and Ancelet (2010) found that most families visit museums for social interaction and to learn together, so, crucially, the impact of family resources must be properly evaluated to ensure that they are meeting the learning needs of family visitors. It is worth

noting here that most of the studies referenced below were conducted in science or history museums, and that art galleries, especially contemporary art venues where there is often a 2-4-month turnaround on exhibitions, and no permanent collection, simply do not have the resources to conduct such research. As discussed by Hohenstein and Moussouri (2018) there is more funding available for research into STEM learning than arts learning, but some recent studies in STEM contexts explore aspects of family learning that could be transferable, including parent-child discourse. For example, a study by Haden et al. (2001) demonstrated that an experience that involved joint object handling *with* joint discussion between mother and child dyads was more effective in long term recall than an experience with object handling and maternal description only. Creative activities in an art gallery can provide opportunities to learn through physical exploration paired with discussion: family visits to art galleries are an opportunity to foster intergenerational discourse, which could be improved when paired with appropriate physical resources.

A study by Benjamin, Haden and Wilkerson (2010) found that parents who were given clear information about techniques used in an architectural exhibit and who were instructed to ask *wh*-questions (where, why, what and how), conducted conversations with their children that led to an improvement in the child's learning and in their ability to report their experiences immediately afterwards, and two weeks later, when compared to parents who were simply shown a model or offered no instruction. Similarly, Boland et al. (Boland, Haden & Ornstein, 2003) found that mothers who were given conversational instruction including using *wh*-questions and associations were able to engage their child in conversation which resulted in significant effects in child language skills at 1 and 3 weeks later. A recent study of educational activities in galleries found that artworks are described as more attractive and may be

interpreted differently if the participant understands the context of the artwork (Szubielska, 2018). Contemporary art galleries rarely display text amongst the artwork, as the whole exhibition is considered to be a complete installation: the contextual information is provided outside the space, at the entrance, or as a printed guide. The use of video interviews is a common method of conveying some of this contextual information without lengthy reading. A study in a science museum showed that parental and child explanatory conversation was highly correlated when the parents used exhibition text labels to inform their discussions (Tare et al., 2011). This suggests that gallery resources must ideally provide parents with information about the exhibit, *and* offer them conversational tools to help structure their interactions with their children.

*Types of resource* have been studied in the context of a history museum, comparing a booklet to encourage a search for particular information, a backpack of practical activities to encourage kinaesthetic experiences, and a control with no materials (Tenenbaum, Prior, Dowling, & Frost, 2010). Children using the booklet used more historical terms, but both intervention groups spent more time in the museum and asked more questions than the control group. The Talking About Art study seeks to determine if contemporary art gallery resources have measurable effects on family learning, by comparing DCA's Create Space (a creative activity room open to all visitors) with their Information Space (an interpretation room containing an informative video, and reading material).

## Talking About Art

This study seeks to describe how different *types* of resource affect family learning and memory, by comparing an activity-based resource with an information-based resource. It began with an observational study, auditing the use of DCA's Create Space by family visitors over the course of two weekends. Observations were made to determine what proportion of families using the Create Space also visited the gallery (before, after, or not at all), the duration of time spent in the Create Space, and also which activities were most frequently used.

The observational study informed the duration of activity in the subsequent family sessions, in which families were recruited to participate in a 45-minute study. These sessions consisted of a gallery visit, an interview, a drawing-from-memory task, an intervention (either the Create Space activity or viewing an information video), followed by a second gallery visit, interview and drawing task. The design compared the effects of the intervention on the families' observations and discourse in their second gallery visit and interview. Both groups in the Talking About Art study were asked a standard set of questions, which would function as a conversational tool for their second viewing of the exhibition, and as the pattern observed by Benjamin et al. (2010) suggests, this should result in verbal evidence of the intervention in *both* groups in the second interview. For instance, one question concerns colour and shape, and so it would be expected that a colour mentioned in the video or a shape mentioned on a worksheet would be referenced after the second gallery visit. These questions and activities are a form of priming technique: a brief exposure to words or ideas whose effects can then be measured when a participant re-introduces these words in their

response (Rose et al. 2004). Gallery interpretation resources are almost always a form of priming, in that they ask specific questions of the audience and direct attention to particular aspects of an artwork.

Following the gallery sessions, the families were emailed a follow-up questionnaire one week later, which repeated the interview questions. Interviews were transcribed, and coded for five measures: 'unique descriptive statements,' 'emotional responses,' 'working together,' 'family problem solving,' and 'evidence of the specific intervention.' Follow-up questionnaires were coded for 'unique descriptive statements,' and 'emotional responses.' The drawing task conducted after each interview was coded for number of 'unique drawn details.' This was influenced by Florence Goodenough's Draw-a-Man test (Goodenough, 1926), which counted number of distinct details in children's drawings of a person as a measure of intelligence. In the interviews and drawings, a comparison was made between each participant's first and second response, thereby determining if the intervention they were allocated to had influenced their second gallery visit, and if the two intervention groups differed. In the follow-up questionnaire, a direct comparison between the two groups was made to determine if there was any effect on recall after a week. Observational skills were measured in the variables 'unique descriptive statements' and 'drawing details,' and general engagement measured by 'emotional responses.' Collaborative behaviour was measured in the variables 'working together' and 'family problem solving.'

A number of cognitive studies have demonstrated that participants learning words in conjunction with a physical activity (enactment) show a substantial improvement on recall performance than words encoded only verbally (e.g. Bäckman, Nilsson, & Chalom, 1986;

Kormi-Nouri, Nyberg & Nilsson, 1994; Zimmer & Engelkamp, 1989). Talking About Art participants who take part in the physical activities (Create Space) will be considering specific words at the same time, guided by the worksheets, so it is expected that these participants will demonstrate an improvement in recall of these words in the follow-up questionnaire (coded as 'unique descriptive statements'). However, as this activity is not controlled (the families are unsupervised in their use of the activity sheets) the degree of enactment may not be as effective as the laboratory experiments cited. Those that view the informative resource (Information Space) might respond more articulately in their immediate interview, and show greater immediate understanding of the exhibition, having been primed with specific verbal information about the artwork, but not score as highly on recall.

It is anticipated that the families taking part in the physical creative activity will spend more time interacting with one another and score more highly on measurements of collaborative behaviour in the interviews. Slavin (1996) discusses the 'cognitive elaboration perspective' in cognitive psychology, in which information is better retained and related to existing memory if the learner elaborates on the material, by, for example, explaining it to another person. In the measure 'family problem solving' each member of the conversation will be taking on the role of listener and elaborator in turn, which has been shown to be more effective in learning than listening alone (O'Donnell & Dansereau, 1992; Webb, 1989, 1992). Likewise, the measure 'working together' requires the participant to listen to conversations which occur in the gallery and then elaborate on them in the interview. This process of collaborative behaviour is predicted to increase during the Create Space intervention activity, which should therefore result in a higher collaborative score for this group. These measures of

collaborative behaviour alone will not necessarily indicate that the families have learned more, but that the type of resource offers better conditions for doing so.

A study comparing museum visits to art viewed in laboratory settings found that “by allowing people to encounter authentic artworks in a special context that enables actual physical exploration, art is experienced as more arousing, positive, and interesting, it is liked more and remembered better” (Brieber, 2014). It is therefore important that this study took place in the public spaces of a real gallery, and offered a close facsimile of a routine visit. The families encountered the artworks in situ, and at the same time as other visitors. It is also hoped that by conducting this study in a manner which requires little additional resource from the gallery that this may begin to inform a model for evaluation that other galleries can adopt. Sarah Derrick, Head of Learning at DCA, was involved in the development of an evaluation toolkit which advocates for the role of an observer in art project evaluation (Creative Scotland, 2016, p10). Whilst this is common practice in psychological studies, it has yet to be widely adopted by galleries, and it is hoped that some of the methods used in Talking About Art could inform simple approaches for galleries in future.

## Method

### **Design: Context**

The research took place in public spaces at Dundee Contemporary Arts. This included the main art gallery, the Create Space and the Information Space. All of the spaces were open to the general public for the duration of the research, to make the families' experience as ecologically valid as possible. The exhibitions in the gallery changed twice over the course of the research: during the observational study and the first ten family sessions the exhibition was "Pieces of You are Here" by Lorna MacIntyre, a primarily sculptural installation, with photographic work on the walls, and one video piece. In the final two sessions the exhibition was "Underworld" by David Austen, which was primarily wall-based painting and drawing, with a few hanging sculptures and a video piece.

Both exhibitions were created by living artists, which allowed for a video interview to be created by the DCA for display in the Information Space. These interviews are displayed on a loop, and have a typical duration of around 5 minutes. Whilst not aimed at children, they are designed to be mindful of the public context in which they are displayed, and can therefore be considered suitable for family viewing. The Information Space also includes a selection of reading material which supports themes and processes presented in the exhibitions, again largely aimed at adults (Figure 1).



*Figure 1: Information Space at Dundee Contemporary Arts*

The Create Space is designed for family use, and is usually open to the public unless a private workshop is programmed for a specific group. The room is visible from the gallery entrance, and includes brightly painted walls with text instructions prompting a creative response to some of the exhibition's themes. There are paper worksheets available to focus visitors' attention on these tasks, and blank paper and pens for free drawing. There is a small library of relevant children's art books, and a corner for relaxed reading (Figure 2).



*Figure 2: Create Space at Dundee Contemporary Arts*

### **Design: Observational Study**

The research began with an observational study of the independent use of the Create Space by families at weekends. This was conducted on three occasions on 15<sup>th</sup> and 16<sup>th</sup> December 2018, and 5<sup>th</sup> January 2019, at both morning and afternoon periods for a total duration of 9.5 hours. The observation recorded number of visitors, estimated ages, which activities they engaged with and the duration of engagement within an overall duration in the Create Space. With assistance from the DCA gallery assistant it was possible to note if a family visited the exhibition before their time in the Create Space, after, or not at all.

This study was an audit of movement in a public space, and visitors to the gallery would ordinarily expect to be observed by the gallery staff for purposes of visitor safety, security of artworks, and monitoring footfall to report to funders and to avoid overcrowding. No personal information was gathered about gallery visitors at this stage, and the visitors observed here are expressly *not* the participants of the second part of the study.

The aim of these sessions was to determine:

- a. The ecological validity of the use of the Create Space in the second part of this study  
i.e. whether use of the Create Space naturally coincides with visits to the exhibitions
- b. The average amount of time spent on activity in the Create Space, which was then used to inform the duration for the activity in the second part of the study
- c. The popularity of the types of activities on offer

## **Recruitment and Ethics**

Families were then recruited to take part in the second part of the study using public channels: through DCA social media, printed postcards distributed in the Create Space and at a few local cafes, and a vinyl poster in the Create Space. The definition of 'family' for the purposes of this study is an intergenerational group with at least one child under the age of 16. This is in line with the age range for formal creative classes for young people at DCA. Recruitment was conducted in partnership with the DCA Communications team, and the most appropriate wording agreed, because it targets their existing visitor base. Interested parties were directed to a website which hosted the project information (Appendix 1) and an email link to arrange a session.

On arrival, participants were asked to sign a consent form approved by University of Dundee Ethics Committee: adults in the family unit were asked to give full written consent (Appendix 2), and children were asked to indicate their assent by ticking a box and signing their name on the child consent form (Appendix 3). The aim was also to help the younger members feel that they are an equal part of the unit. Very young children will be unable to sign their name, so in line with BPS guidelines, their assent was also visually monitored for signs that the child wished to cease participation (British Psychological Society, 2014, p17).

The DCA has one or two exhibitions on at any given time, and the families were only working with material the gallery has deemed suitable for children. There are clear warnings and guidelines in place if any exhibition has adult content, and this study did not include visits to those parts of the exhibitions. At all times, the family unit included adults responsible for the children involved, and this study did not require children to be placed in a one-to-one position with the researcher.

The observational study did not overstep the existing monitoring of the space, and the tasks asked of the gallery assistant fell within their usual role. It is in line with the British Psychological Society's Code of Human Research Ethics regarding observation taking place in a context in which the public would ordinarily expect to be observed (British Psychological Society, 2014, p25).

Twelve families were recruited, totalling 44 individuals, with 19 adults and 25 children (child age range 1-12 years, mean age  $M = 6.6$  years). Following the family session each individual was given a sketchbook and a drawing pencil as a gift for taking part. Due to scheduling

problems with the availability of the artist's video in the Information Space the group sizes were unequal (Create Space: families N = 8, individuals N = 31, Information Space: families N = 4, individuals N = 13).

### **Design: Family Sessions**

The recruited family groups were invited to take part in private sessions, at mutually agreed times on weekends throughout January-March 2019. After participants were briefed, and gave their consent, the study began with a questionnaire to record their previous gallery attendance, participation in arts activities, and participation in other family activities (Appendix 4). The families then took part in a gallery-based study, as follows:

Target group:

#### 1. Gallery visit (unsupervised)

The family was led to gallery, and asked to explore the exhibition together for five minutes. They were observed during this visit, but not given any verbal assistance with the artwork.

#### 2. Interview (in Create Space)

The family were then escorted back to the Create Space for their first interview. The interview consisted of four questions asked to the whole group, which were based on a standard learning tool used by DCA for critical evaluation of artworks. This structures a visitor's response so that they consider the elements of form, content, process and mood in any given artwork (Taylor, 1986):

*What colours, shapes, marks or textures can you see?*

*What do you think it is about?*

*How do you think the work was made?*

*What is the mood of the work, or how did it make you feel?*

The interview was recorded as an audio file for later transcription.

### 3. Drawing task (in Create Space)

A two-minute drawing task followed, in which each participant was asked to draw a quick sketch of what they remembered from the exhibition.

### 4. Activity: Create Space

The target group was asked to take part in their choice of the available activities in the Create Space, which typically included a specific drawing task which can then be added to a display wall. This activity was unsupervised, but observed, and lasted for ten minutes.

### 5. Gallery visit (unsupervised)

The family was escorted to the gallery for a second visit, as before.

### 6. Interview and drawing task (in Create Space)

Finally, the questions and drawing task from stage 2 and 3 were repeated.

Control group:

The control group were given an identical session with the exception of stage 4:

### 4. Activity: Information Space

The control group was asked to wait in the Information Space, watch the short artist's interview video (which consisted of the artist discussing the process or inspiration for the work in the gallery), and browse the books. There were no creative activities.

The sessions fell across two exhibitions, Lorna Macintyre: Pieces of You Are Here, and David Austen: Underworld, to help to ensure validity; any differences between target and control groups should be reflected in the second exhibition too.

Both groups were sent an email questionnaire a week later, repeating the questions from the interviews, with the instruction to complete in short phrases as a group. Only 33 responses were received for this part of the study.

## **Coding**

The gallery interviews were documented in the form of audio recording, which was transcribed by the researcher immediately following the interview to ensure responses were attributed to the correct member of the family.

The follow-up questionnaires were returned as text files via email, and each statement was followed by the age of the respondent to allow it to be matched to the individual participant.

Broad categories were established, and then the criteria for inclusion and exclusion was refined by reading three or four interviews until no more categories emerged. Notes about these refinements are included in the categories below. All interviews were then coded to measure the following five variables:

### **1. Unique Descriptive Statements**

This included observations or speculations, and were counted once. For example, if a participant observed there was “a lot of black and white” in the gallery, and then later

described a frame as black, the statement 'black' would only be counted once. The coding of statements was adapted from Reese and Fivush (1993). For example:

*"There was like skin[1], pink[2] skin colour in[3] the video[4]. There was some blues[5] on[6] the spoons[7] and some blues on the materials[8]"*

## 2. Indications of Interest or Emotional Response

These included statements which referred to a personal emotional response to the artwork, or which singled out an object or idea as being of particular interest to the participant. The aim was to measure general engagement with the exhibition. Through process of refinement it was decided that separating positive, negative and ambivalent emotions might not be relevant, as some participants expressed serious responses that were 'dark' but not necessarily negative as the thought process was a positive experience. Likewise, if an exhibition is "really sad" it does not follow that the participant didn't 'enjoy' it: describing an emotional state implies the exhibition has affected the participant. For example:

*"other things made me feel more...like thinking back to the past[1], like the glass and that. And some of them were a bit sad[2] as well, I think."*

## 3. Evidence of Working Together

These were references to each other's responses, either in the gallery or in the discussion, and indicated an awareness of operating as a group. For example:

*"Yeah, because when we were talking about the one at the top end you said[1] it was kind of dreamlike or something, didn't you?"*

#### 4. Family Problem Solving

Family problem solving described instances of two or more voices developing an idea together, rather than one party answering questions posed by the other. They excluded general parental prompts, or *wh*-questions, such as “What did you think?” which were in many cases used to regain the attention of a child rather than contributing to joint verbal engagement. A richer understanding of an experience may be reached when these types of questions are followed by the child’s verbal elaboration and opportunities to draw on personal associations to make sense of the current stimuli (Benjamin, Haden, & Wilkerson, 2010, p513). Responses were credited to individuals for each contribution made to the development of the idea. For example:

*B: And those big black wooden structures, they were like rectangles, but they looked like a mirror[1]*

*A: because they had a teapot on either side[1]*

*B: it looked like a mirror that was distorted[2]*

*A: it looked like at fairs[2] and stuff when you look in the mirror and you look really short and fat! Or really tall and skinny*

*F: You had to walk around it to check[1] it wasn’t really a mirror*

*B: It looked like a mirror but...*

*C: you can’t see yourself[1] in it so...*

*B: that is puzzling my brain...*

*M: If you didn’t see yourself in the mirror, did you see yourself[1] in the different pieces that are there? And I don’t mean see yourself, like reflected, I mean see bits of yourself?*

## 5. Evidence of intervention

In the second interview it was possible to count references to the intervention activity which influenced the second viewing. These might include paraphrasing of the artist's video in the Information Space, or references to the prompts in the activity sheets in the Create Space, such as looking for 'hands' or 'crystals'. For example:

*"I saw the pinks as well, after she spoke about the cherry juice[1]"*

To account for variations in personal vocabulary range, the comparison was made between the first and second interviews for each individual participant and presented as a percentage increase or decrease of descriptors or references. This method does not therefore exclude "early verbal children" (Bauer, Hertsgaard & Dow, 1994, p355) under the age of 2.5 years from the experience as their limited verbal contributions are presented only in relation to their previous answers. However, in one or two cases where very limited responses had been made the percentage change resulted in an outlier (of e.g. 300%) if one response in the first interview was followed by three in the second. These cases were retained, however, as they demonstrated an accurate within-subjects change.

The follow up questionnaires only measured 'unique descriptive statements' and 'indications of interest or emotional response', due to the non-conversational format, and were coded as above.

As verbal data gathering may prevent quieter children (or indeed adults) from participating, there was an additional drawn response task. Individual's first and second drawings were analysed for changes in the number of 'distinct details' (not the 'artistic quality' of the

drawing), and counted as a percentage change as with the verbal descriptive statements. In this study, the details included object type, surface details, and spatial details such as relationships with other objects or indications of volume (Figures 3 & 4).



Figure 3: Example of simple teapot on plinth

Coding: "Teapot," "standing on," "plinth" = 3 points



Figure 4: Example of complex teapot including lid detail

Coding: "Teapot," "with lid," "standing on," "plinth," "volume indicated," "in front of," "freestanding frame" [part shown in this figure] = 7 points

## Inter-rater reliability

An independent coder was asked to count 'unique statements' and 'indications of interest or emotional response' in the interviews, with no prior knowledge of the exhibition. One full family transcript, allocated at random, resulted in similar scores (M=106%) to the original count. The drawing detail counts were also independently coded, but resulted in a more generous score of M=138.5% of the original count. However, as the coder did not view the exhibition there are a few instances of mis-counting additional spatial relationships in the drawings, which were not intended by the participant (e.g. the proximity of a wall-hanging picture to a floor-based sculpture, which was actually in another part of the gallery). Every interview, questionnaire and drawing score was counted twice by the researcher to ensure consistency.

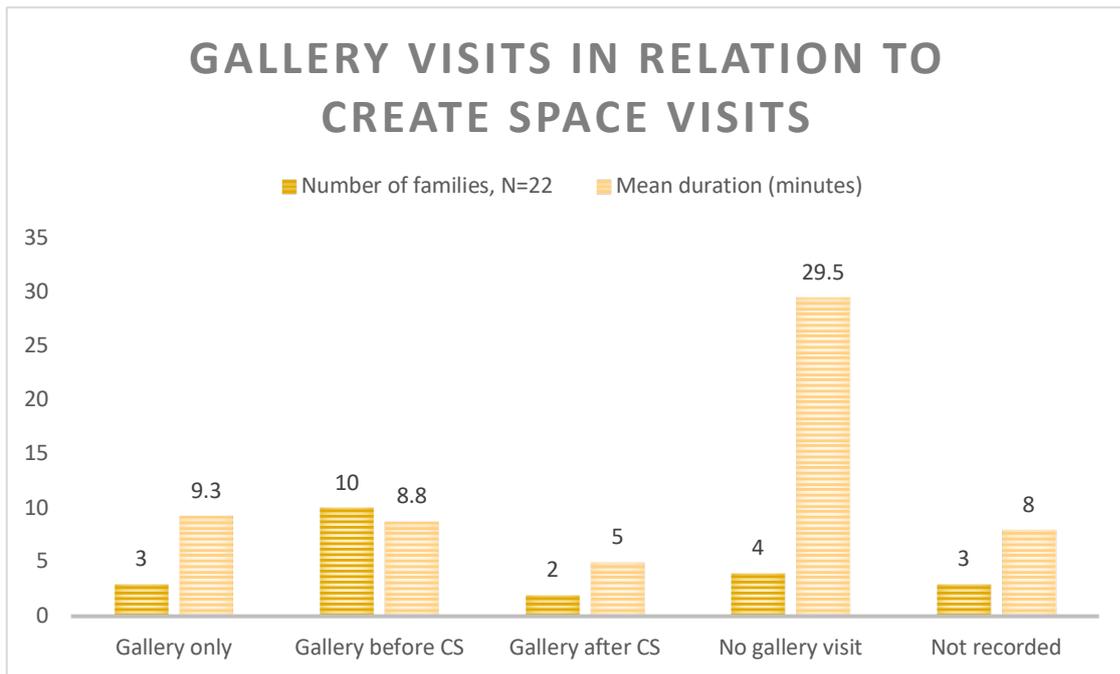
## Results: Observational Study

The observation recorded number of visitors, estimated ages, which activities they engaged with and the duration of engagement within an overall duration in the Create Space. With assistance from the DCA gallery assistant it was possible to note if a family visited the exhibition before their time in the Create Space, after, or not at all.

### **Number of visitors, duration of visit, and estimated ages**

This was conducted on three occasions on 15<sup>th</sup> and 16<sup>th</sup> December 2018, and 5<sup>th</sup> January 2019, at both morning and afternoon periods for a total duration of 9.5 hours. 22 families were observed using the space. 45% of families observed had visited the gallery before visiting the Create Space, suggesting that activities in the space might function as a reflective tool (see Figure 5). Only 9% of families visited the gallery *after* the Create Space, and 18% did not visit the gallery at all, which suggests that DCA could develop more resources to encourage casual users of the Create Space to explore the related exhibitions. In the observation period, 3 families (14%) visited the gallery but not the Create Space, and 3 families (14%) arrived in a busy period when the gallery assistant was unable to record the details of their larger visiting pattern.

Of these above groups, those that did not visit the gallery at all spent the longest average time in the Create Space (M = 29.5 minutes). Those who visited the gallery after the Create Space spent an average of 8.8 minutes on the activities, and so the length of the intervention activity in the Family Sessions was set at 10 minutes to reflect a natural visit.



*Figure 5: Gallery visits in relation to Create Space visits (number of families and mean duration of visit)*

Fifty-seven individuals were observed, with the highest proportion (46%) aged approximately 25-50 years old. Of the twenty children using the Create Space, 60% were aged approximately 5-16, and 40% were under 5 years old. (Figure 6).

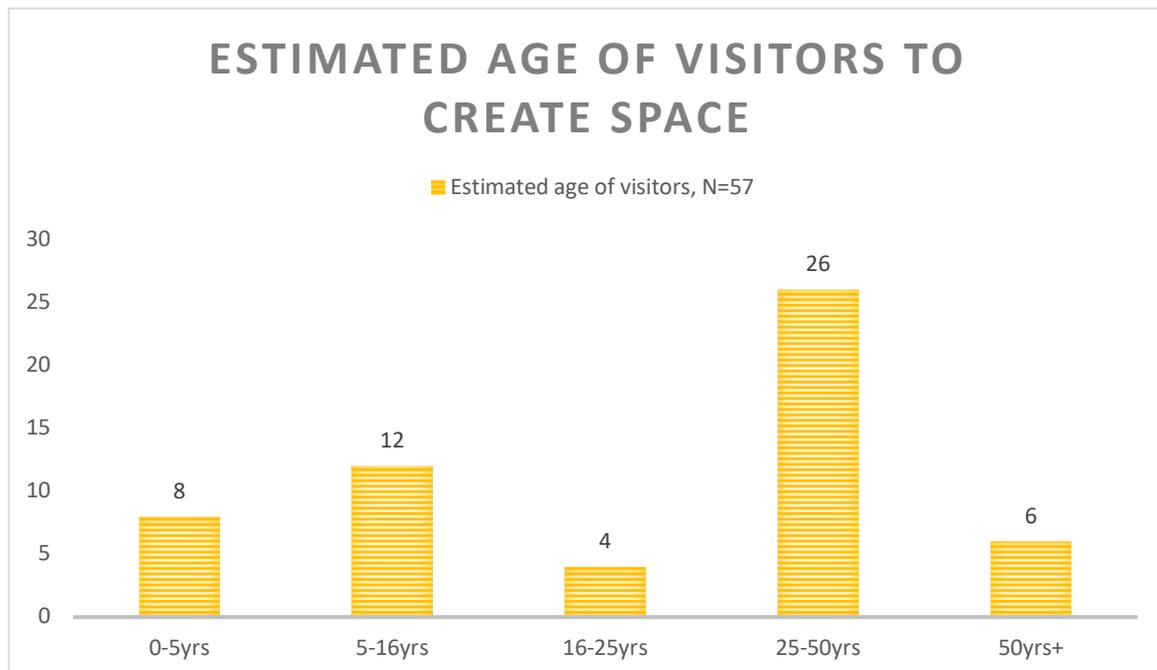


Figure 6: Estimated age of visitors to Create Space

### Participation in activities

There was some overlap between the activities some families engaged in, but the main uses of the space were as follows (Figure 7): browsing the activities on offer, but not participating; active participation in DCA activities; devising their own activities such as drawing or paper cutting; and using the Create Space for resting or eating. Those taking part in DCA activities or their own creative activity showed evidence of working together as a family, such as discussion, passing materials, and displaying their works on the wall. Those families who had spent longest in the Create Space, but not visited the gallery at all, took part in both DCA

activities and their own, suggesting that the Create Space is used a resource for general creative family activity rather than solely as a supportive exhibition interpretation resource.

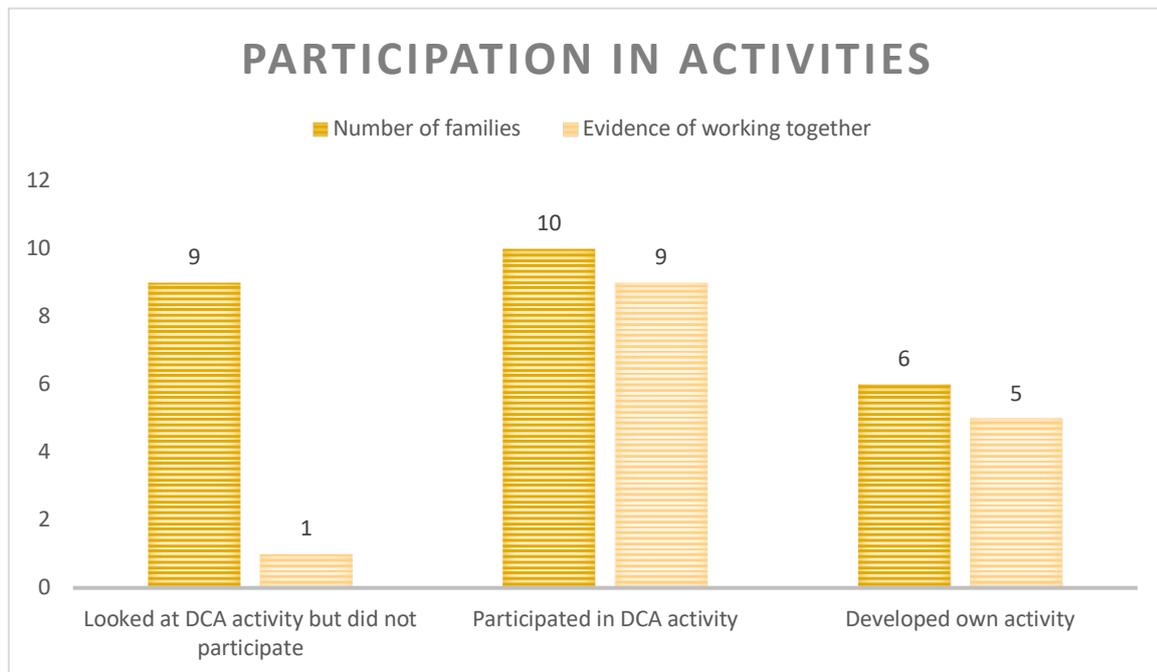
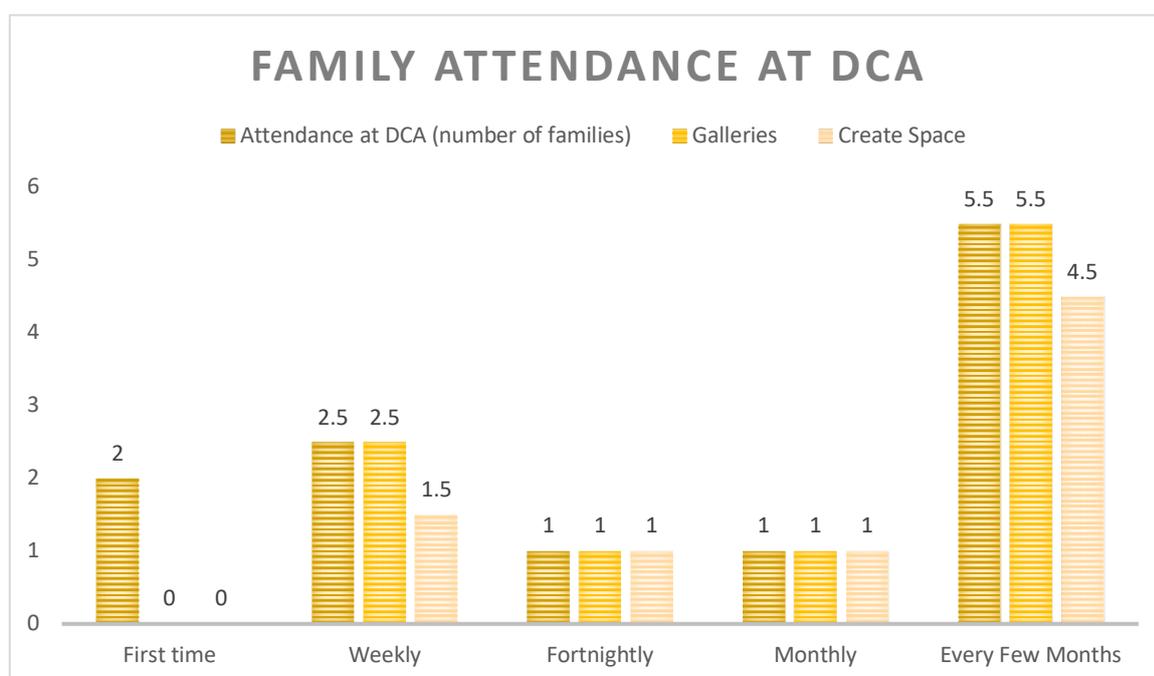


Figure 7: Participation in activities in Create Space

## Results: Family Sessions

Twelve family groups took part in the study, all of whom regularly visited galleries and took part in art activities as a family. Two families were first time visitors to DCA, but others attended every few months or more frequently (Figure 8). The regular visitors routinely used both the galleries and the Create Space.



*Figure 8: Family attendance at DCA, showing attendance frequency to venue, and regular attendance in the Galleries and Create Space.*

*Note: one family group is split into two 0.5 counts because it comprised of two mothers with different attendance patterns. This family group was included in the study because they often visited together.*

## MANOVA: Interviews and drawings

The interview transcript and drawing scores were analysed using a multivariate analysis of variance (MANOVA) to compare the between-group effects of *resource type* on verbal evidence of intervention, verbal descriptive statements, verbal emotional responses, verbal evidence of working together, verbal family problem solving, and visual drawing details. A frequency analysis was conducted on all outcome variables to check the assumption of univariate normality. As the samples were quite small, six of the eight variables showed a degree of skew (Figure 9), and the group sizes were unequal (Create Space N = 31, Information Space N = 13), but it was inappropriate to delete cases to equalise the groups because of the small sample size. With these limitations in mind, the MANOVA was conducted without corrections. The age of participants was controlled for by comparing the percentage increase or decrease of statements within-subjects, so it was not necessary to control for age as a covariate.

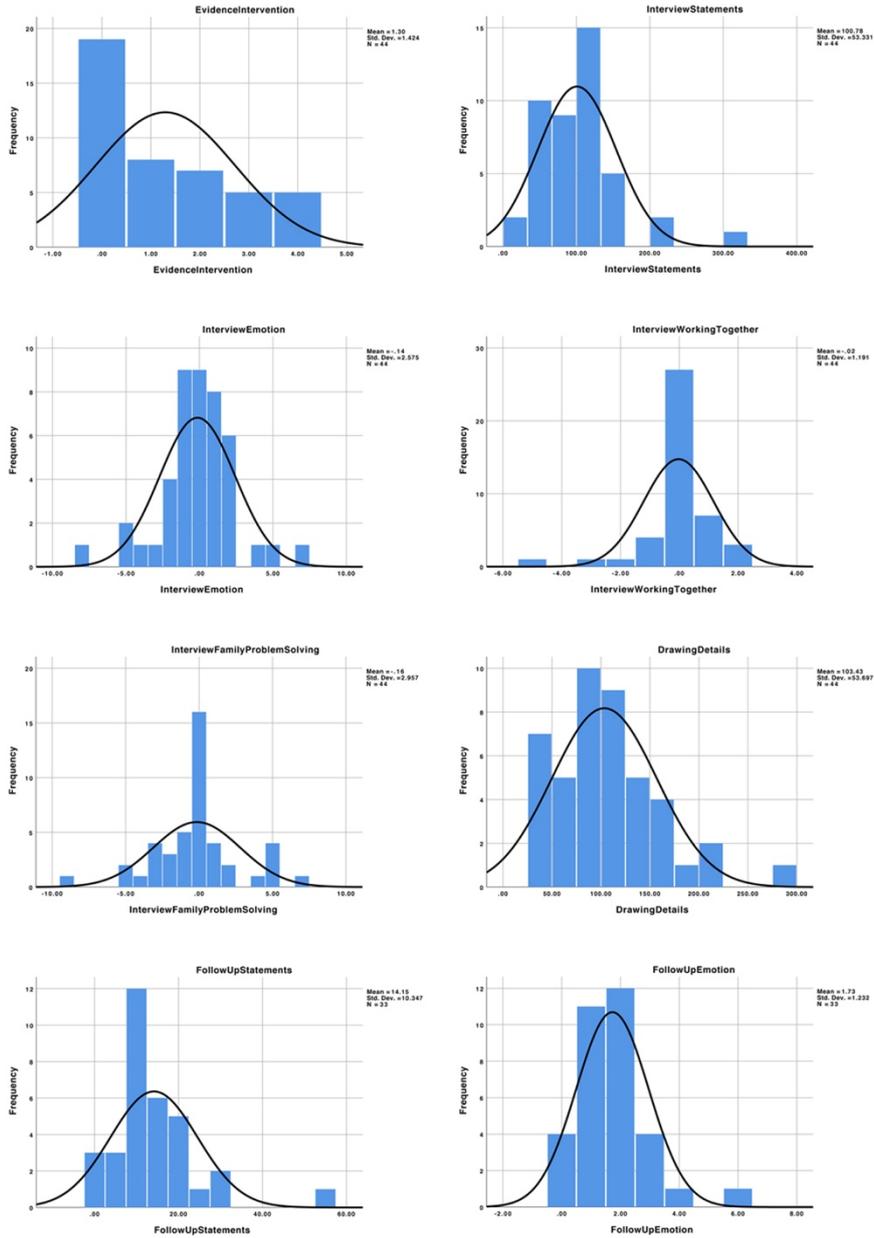


Figure 9: Skew found on six outcome variables

Box's Test of Equality of Covariance Matrices was not significant  $p = 0.23$  which implies that equality of covariance matrices can be assumed. Using Hotelling's trace statistic, there was a significant effect of resource type,  $T = 0.47$ ,  $F(6,37) = 2.89$ ,  $p = 0.21$ . Separate univariate tests on the six outcome variables revealed:

A significant effect of resource type on **verbal evidence of intervention**,  $F(1,42) = 4.93$ ,  $p = 0.03$ . Verbal evidence of intervention was significantly higher in participants who had visited the Information Space ( $M = 2.0$ ,  $SD = 1.63$ ) than those who had visited the Create Space ( $M = 1.0$ ,  $SD = 1.24$ ).

A significant effect of resource type on instances of **family problem solving**,  $F(1,42) = 10.20$ ,  $p = 0.003$ . Instances of family problem solving between the first and second interview increased in participants who had visited the Create Space ( $M = .68$ ,  $SD = 2.69$ ) and decreased in those who had visited the Information Space ( $M = -2.15$ ,  $SD = 2.67$ ).

There were no significant effects of resource type on number of **verbal descriptive statements**,  $F(1,42) = 0.10$ ,  $p = 0.76$ . Participants who visited the Information Space slightly decreased the percentage of statements offered in their second interview by 3.17% ( $M = 96.83$ ,  $SD = 70.90$ ) and those that visited the Create Space slightly increased the percentage offered by 2.44% ( $M = 102.44$ ,  $SD = 45.35$ ).

There were no significant effects of resource type on number of **verbal emotional responses**,  $F(1,42) = 1.59$ ,  $p = 0.21$ , although participants who visited the Information Space demonstrated a slight increase in responses in their second interview ( $M = 0.62$ ,  $SD = 1.66$ )

and those that visited the Create Space demonstrated a slight decrease ( $M = -0.45$ ,  $SD = 2.84$ ).

There were no significant effects of resource type on instances of **verbal evidence of working together**,  $F(1,42) = 1.06$ ,  $p = 0.31$ , although participants who visited the Information Space demonstrated a slight decrease in responses in their second interview ( $M = -0.31$ ,  $SD = 1.03$ ) and those that visited the Create Space demonstrated a slight increase ( $M = 0.10$ ,  $SD = 1.25$ ).

There were no significant effects of resource type on number of **visual drawing details**,  $F(1,42) = 0.03$ ,  $p = 0.87$ . Both groups demonstrated a small increase in percentage of details in their second drawing, with those visiting the Create Space showing a slightly higher percentage ( $M = 104.23$ ,  $SD = 57.79$ ) than those visiting the Information Space ( $M = 101.41$ ,  $SD = 44.46$ ).

#### **MANOVA: Follow up questionnaire**

A separate MANOVA was conducted to compare the effects of *resource type* on number of delayed descriptive statements and emotional responses in the follow-up questionnaire.

This decision was due to there being fewer respondents (33), allowing the results of the main study to include all 44 participants, and not excluding the cases which had missing data for the follow up questionnaire.

Box's Test of Equality of Covariance Matrices was significant  $p = 0.03$  which implies that equality of covariance matrices cannot be assumed. As group sizes are unequal (8, 25)

robustness cannot be assumed. Using Hotelling's trace statistic, there was not a significant effect of resource type on the number of follow-up descriptive statements or emotional responses,  $T = 0.10$ ,  $F(2,30) = 1.53$ ,  $p = 0.23$ . Participants visiting the Information Space gave a slightly higher number of descriptive statements ( $M = 17.5$ ,  $SD = 15.49$ ) than those who visited the Create Space ( $M = 13.08$ ,  $SD = 8.23$ ). Similarly, participants visiting the Information Space gave a slightly higher number of emotional statements ( $M = 2.38$ ,  $SD = 1.77$ ) than those who visited the Create Space ( $M = 1.52$ ,  $SD = 0.96$ ). However, separate univariate tests on the two outcome variables confirmed a non-significant effect of resource type on number of descriptive statements,  $F(1,31) = 1.11$ ,  $p = 0.30$ , and on number of emotional responses  $F(1,31) = 3.11$ ,  $p = 0.09$ .

## Discussion

The observational study demonstrated that the Create Space functions for families mainly as a space for reflection or relaxation after visiting the galleries, or as a space for social creative activity entirely independent of the gallery programme. Families took part in the suggested activities but also devised their own (largely drawing, or paper cutting) using the limited range of materials available. In both examples, collaborative behaviour was observed, suggesting that the space does provide enough stimuli to encourage intergenerational discourse. For the 27% of visitors that did not visit the gallery or visited *after* the Create Space, it might be advantageous to place some portable interpretation tools near the exit, such as a 'treasure hunt' (or similar familiar format) to encourage and structure a gallery visit, particularly for any parents who may not be confident in conversing with their child in an unfamiliar context (Benjamin, Haden and Wilkerson, 2010; Szubielska, 2018; Tare et al., 2011; Tenenbaum, Prior, Dowling, & Frost, 2010).

It was predicted that the families taking part in the Create Space activity would spend more time interacting with one another and therefore score more highly on measurements of collaborative behaviour, such as 'working together' and 'family problem solving'. The study did find a significant increase in instances of family problem solving in this group, and a decrease in instances in the Information Space group. However, the groups did not differ in 'working together'. Families were observed whilst undertaking the Create Space activity, and each family demonstrated instances of sharing of materials, helping with scissors, displaying each other's drawings, and discussing what activity to do and what colours to use. In one of the tasks, the prompt was to "Make a memory" and this produced associative discussion. It is

possible that these activities primed families to continue ‘problem solving’ in the second visit to the gallery, using individuals’ unique associations to develop an idea collectively. It was surprising that there was not a significant difference on the ‘working together’ measure. This may be due to a difference in which members of the family were involved in each: ‘family problem solving’ featured inclusive conversation, with younger members of the families taking part more than adults (18 mothers, 6 fathers, 30 children, across first and second interviews); ‘working together’ however, seemed to function more as parental prompts, with 15 of the 22 individual contributors across both interviews being mothers, and only 7 being children. Despite efforts to exclude parental prompts in the coding of both collaborative variables (such as “What did you think?”) it may be that this ‘working together’ measure wasn’t as indicative of intergenerational collaboration as anticipated. However, the finding that the Create Space activity did result in more ‘family problem solving’ (with listening and elaboration) indicates that it provides the right conditions for cooperative learning, and is therefore potentially an effective family learning resource (Slavin, 1996; O’Donnell & Dansereau, 1992; Webb, 1989, 1992).

It was predicted that participants who viewed the Information Space video might respond more articulately in their second interview, and show greater understanding of the exhibition, after the study of text label use by Tare et al. (2011). Participants’ observational skills were measured in the variables ‘unique descriptive statements’ and ‘drawing details,’ and general engagement measured by ‘emotional responses.’ However, ‘descriptive statements’ did not differ between the two groups. In this variable, it is important to consider the effect of fatigue: younger participants were certainly making more comments such as “Same as I said before” rather than making new observations, so it is likely that there

was the assumption that previous answers would be adequate. Similarly, there was no significant difference between the two groups in terms of percentage change in number of drawing details. Comments in the second interview suggested that families spent more time looking in detail at things they had missed the first time, and it was conceivable that this would be reflected in the drawing comparison with the second drawing consisting of fewer objects in greater detail. However, there is no consistent evidence of this when comparing the drawings (see Appendix 5). This measure was exploratory in nature: whilst informed by Goodenough's Draw-a-Man Test (Goodenough, 1926) it did not have the strict parameters of her instruction to "draw a man," instead allowing participants a little interpretation of the instruction to "draw what you can remember about the exhibition." It would be worth repeating this method of testing observational memory with a stricter instruction to encourage participants to draw "everything" they remember about the exhibition, which might have the effect of faster sketches and fewer closely observed details. Observing the drawing taking place, it seemed that participants spent more time perfecting details in their second drawing, but again this cannot be verified without a repeated test, perhaps with video analysis.

In terms of emotional response, there was no significant difference between the groups, but it is important to remember that this was a verbal measure, and may not fully represent the responses of quieter participants in the same way that a study of physiological responses would. There have been some fascinating studies by Martin Tröndle and colleagues on the "e-Motion – Mapping museum experience" research project (e.g. Tröndle & Tschacher, 2012) on visitor reaction to artworks, using heart rate and skin conductance monitors in addition to

specific questions on aesthetic-emotional factors (such as aesthetic quality, surprise/humour, or negative emotion) to gauge a broader understanding of emotional reaction. This approach was beyond the scope of the Talking About Art study, but would be an interesting follow-up study exploring the influence of gallery interpretation resource types on emotional response to artworks.

Both groups were asked the same set of questions, which functioned as a priming tool for their second viewing of the exhibition and a method for structuring their conversations in the gallery. Participants understood the priming role of both the intervention, and of the interview questions themselves:

*“Having done that **activity about hands**, and what hands do I was more aware of hands as I walked in... Some of the shapes reminded me of hands, because I was primed to think about hands”*

It was anticipated that as both groups had access to this tool, they would both demonstrate verbal evidence of their specific intervention during the second interview, as suggested by studies in dyadic conversation instruction (Benjamin, Haden and Wilkerson, 2010; Boland, Haden & Ornstein, 2003). In fact, both groups did demonstrate evidence that their intervention activity had influenced their second visit, but the study also revealed a significant difference between groups, where verbal evidence of intervention was significantly higher in participants who had visited the Information Space. It is worth considering the possibility that this is due to differences in the verbal content of both resources: families watching the video were referencing phrases from the resource, which may simply indicate that the higher score is due to easier verbalisation of a spoken

intervention, in contrast to those attempting to verbalise a physical creative intervention. The worksheets did include some text, as instructions, but there was some anecdotal evidence that participants had not immediately understood the connection between the printed instructions and the exhibition when doing the activity:

*“I finally figured out where the crystals came from the **second time round.**”* [referring to the crystal colouring sheet]

One family even answered the question about mood before it had been asked for the second time, which clearly indicated that the interview questions were focussing their attention in the second gallery visit:

*“Serious? Yeah, that’s good? (B child’s name) how did it make you **feel** when you were looking around the exhibition?”*

It is evident that the provision of a conversational tool (interview questions) in conjunction with contextual information (artist’s video) provides an enhanced conversational experience for families, which is supported by the study by Tenenbaum, Prior, Dowling, and Frost (2010) that demonstrated the positive effect of information booklets on children’s word use in museums. Informal feedback emailed by two families after the follow-up questionnaire stated that the structure offered by the questions will be used by some participants in future family visits, and had already been applied in a different gallery. The emphasis on discourse was also valuable for the participants:

*“We really enjoyed our time with you and it was great to hear the kids talking about the exhibition afterwards, it really encouraged us to discuss the exhibition as a family.”*

*“The younger kids especially loved that we’d all listen to and think about their thoughts and responses to art just as much as we do to adults.”*

Finally, it was anticipated that those families who took part in the Create Space activities might show a greater recollection of their visit when surveyed a week later, measured by 'descriptive statements' and 'emotional responses', based on the literature on enactment (e.g. Bäckman, Nilsson, & Chalom, 1986; Kormi-Nouri, Nyberg & Nilsson, 1994; Zimmer & Engelkamp, 1989). However, the difference between groups was non-significant on both measures. The activity itself was not controlled (families were asked to choose their worksheets and complete them unsupervised for 10 minutes, as they would if using the Create Space as part of a routine visit), so the effects shown in enactment studies may not be apparent if the participants was not reading/listening to the worksheet instructions at the same time as completing the creative task. Also, in this case the participants were asked to answer in short phrases rather than full sentences, but for consistency this follow-up survey should perhaps have been conducted as a face-to-face interview allowing for natural patterns of speech as in previous interviews.

There were limitations to the study, the primary one being the unequal group sizes. This was due largely to scheduling problems: the artist's video was not available for the early sessions in the second exhibition and so groups that would have been allocated to that space had to take part in the other condition. Two families also cancelled at last minute which skewed the previously allocated groups towards Create Space activity. A robust comparison between these types of resource may not therefore be generalisable, but the results are encouraging and warrant a longer-term study which can accommodate the schedule of public venue (the availability of both types of resource) and the availability of participants. A secondary limitation is the similarity of family experience of those taking part. Each family had responded to a public recruitment campaign largely circulated by DCA, and were therefore

already interested in visual art. All participant surveys state that they regularly attend galleries and take part in art activities as a family. Whilst this is useful for controlling covariates, it would nevertheless be an important next step to repeat this study with families that have no prior experience of visiting galleries. Thirdly, elements of the design could be improved, as discussed above: the measure of emotional response, the clarity of the drawing instruction, and the format of the follow-up survey.

## Conclusion

This study highlighted a few key areas which DCA could develop to increase the impact of their self-led resources on family learning and engagement. Firstly, the importance of conversation instruction is clear (Benjamin, Haden & Wilkerson, 2010; Boland, Haden & Ornstein, 2003), and whilst the Talking About Art interview questions were based on a framework used by DCA in their formal schools programme 'Visual Detectives', they are not currently part of the self-led activities on offer to families. Rod Taylor's (1986) questions could be provided as a prompt on cards to take into the gallery, or as simple text on the wall in the Create Space for those who have visited the galleries and wish to structure their conversations afterwards. There was evidence that the questions themselves influenced the second viewing of the exhibition, and structured subsequent family discussion, not just the allocated activity.

There could be a more immediate link between the creative activities and exhibition content to aid sense-making for families who also visit the galleries (such as a visual example of the subject from the exhibition or a shorter edit of the artist's video installed in the Create

Space). Some families were unsure how the worksheets related to the exhibition until they had visited a second time. This may also aid recall if enactment of specific themes can be undertaken as a creative activity in conjunction with a clear example of the theme from the gallery.

Significantly more family problem solving was found in Create Space participants, and collaborative working was also observed in families who attend that space *without* visiting galleries. The Create Space is therefore important for developing family discourse, and DCA should retain provision for these casual visitors to enjoy shared making and discussion in a non-didactic activity (such as a 'freestyle drawing' space). Providing ways for both these types of family visitor to engage should allow *all* families to engage: a study by Palmquist and Crowley (2007) showed that the level of a child's development guides the whole family conversation, which is adjusted according to their level of expertise in the subject. In their study it was the child's level of expertise on dinosaurs, which either resulted in a greater proportion of conversation time allocated to the child if they were considered expert, or parents spending more time scaffolding the child's learning if they felt they were novices. If children who have visited the galleries are able to become experts by using careful prompts in the Create Space, and casual visitors are able to access tools which might scaffold their visit, then both types of visitor should develop their understanding by using the same space.

Finally, in terms of using findings from this study to develop methods for galleries to evaluate permanent resources, the observational study was easy to implement, required the development of a simple checklist which could be used by gallery staff, and gave a good indication of how the Create Space was being used. It is a method that could be adopted with

minimal cost to galleries, requiring a couple of hours observation over a few time slots, which could be achieved with existing gallery staff, and quickly produces a fair assessment of the typical use of a self-led resource.

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## Appendix 1: Participant information sheet

### PARTICIPANT INFORMATION SHEET

#### **“How do art gallery resources affect how we describe art?”**

**- The impact on family learning of self-led interpretation activities at Dundee Contemporary Arts.**

#### **INVITATION TO TAKE PART IN A RESEARCH STUDY**

Thank you for your interest in this study. My name is Holly Rumble, and I am an MSc student at University of Dundee. This project will research how families, like yours, use and engage with the self-led activities at Dundee Contemporary Arts. I aim to determine how these activities impact on family engagement with the visual art exhibitions.

#### **WHAT TO EXPECT**

On your study day, you will first be asked to complete a simple questionnaire about your experience of art galleries, and any other family activities you do together. We will then go into the DCA gallery where you will explore the exhibition as a family. I will then ask you all four questions about the exhibition which I would like to record as an audio recording. Then I will ask you each to make a quick sketch of the exhibition: don't worry, I'm not grading artistic skills! You will then have a short period to use the DCA exhibition resources. Then, we will go back into the gallery for another few minutes, followed by another short group interview and drawing activity. One week later I would like to send you an email questionnaire to complete as a group: it's short, I promise!

#### **TIME COMMITMENT**

The study day at Dundee Contemporary Arts will take place **once**, either at a weekend or during school holidays between January-April 2019. I will arrange this to suit you. The session should take no longer than **45 minutes**. The email questionnaire should take no more than 5-10 minutes to complete (depending on how much you have to say!).

#### **COST, REIMBURSEMENT AND COMPENSATION**

Participation is completely voluntary, and there is of course no charge to be involved. You will be able to take away the pack of sketching pencils we use as a small gift, to thank you for your time, and if you would like to contact me afterwards for ideas or tips for art activities you can do at home I would be more than happy to help.

#### **RISKS**

There are no known risks involved in this study.

#### **TERMINATION OF PARTICIPATION**

You may decide to stop being a part of the research study at any time without explanation and without penalty. If you wish for your family's interviews and drawings to be withdrawn from the study at any point up until the end of April 2019 then please let me know. However, the study will be written up in May 2019, so if you withdraw after this point the anonymised data will be included in the report.

#### **CONFIDENTIALITY/ANONYMITY**

The only place your names and email address will appear is on the consent form. These forms will be scanned and stored on University of Dundee's secure file storage system, where they will only be accessible by myself. They will be deleted in August 2022. The paper copies will be shredded as soon as they have been scanned. We will give your family a code name, which I can then use to identify all

the drawings and interviews: you and I will be the only people who will know your code name, so all the interviews and drawings will therefore be anonymous. The age of the participants will be the only personal data presented as part of the study. The interviews will be recorded with an audio recorder, and then typed up as text: your recorded voices will never be made public. Your drawings will be scanned and stored digitally: if you would like the originals back let me know and I will post them to you. The anonymised drawings and typed interviews will be stored on the University of Dundee secure file storage system.

The results will be written up as my University dissertation, and I also hope to publish the findings as an article in a specialist journal. Anonymised drawings and interview transcripts will be included as appendices. You will not be identifiable in the article.

I will be the only person who has access to your email address and will only use it for the purposes of sending you the follow-up questionnaire, and to email you a copy of the report once it is complete should you wish to read it. I will delete your email address from my account after 5<sup>th</sup> September 2019.

#### **FOR FURTHER INFORMATION ABOUT THIS RESEARCH STUDY**

Please contact me at:

[h.rumble@dundee.ac.uk](mailto:h.rumble@dundee.ac.uk)

Holly Rumble

My supervisor can be contacted at:

[j.u.ross@dundee.ac.uk](mailto:j.u.ross@dundee.ac.uk)

Josephine Ross (supervisor)

You can write to both of us at:

c/o Scrymgeour Building

Park Place

University of Dundee

Dundee

DD1 4HN

I will be happy to answer any further questions about the study.

If in the unlikely event that you wish to file a complaint, please contact the Convener of the University Research Ethics Committee, University of Dundee, Nethergate, Dundee DD1 4HN.

“The University Research Ethics Committee of the University of Dundee has reviewed and approved this research study.”

FORM UPDATED 23.10.18



### Talking about art

Hello! My name is Holly. I want to hear what you say about an art exhibition.

I will see you and your family for 45 minutes: we will look at an art exhibition, and talk, and draw.

I will record your voice when you answer my questions so that I remember what you say!

You will be given a code name so that only your family and I will know which answers and drawings are yours.

You don't have to help me if you don't want to and you can change your mind if you like – but I hope you will help me!

Please tick one of these boxes to show if you will help.

**YES.** I WILL HELP WITH THIS STUDY

**NO.** I DON'T WANT TO HELP

Now please write your name here:

---

THANK YOU!

## Appendix 4: Participant questionnaire

### Participant Questionnaire (one per family)

1. Please write the age and gender of **each person** in your family taking part today:

Age	Gender

2. What is your postcode?

3. Have you been to Dundee Contemporary Arts before? (please tick one)

- No, this is our first time:
- Yes, annually or less:
- Yes, every few months:
- Yes, monthly:
- Yes, weekly:
- Yes, more than weekly:

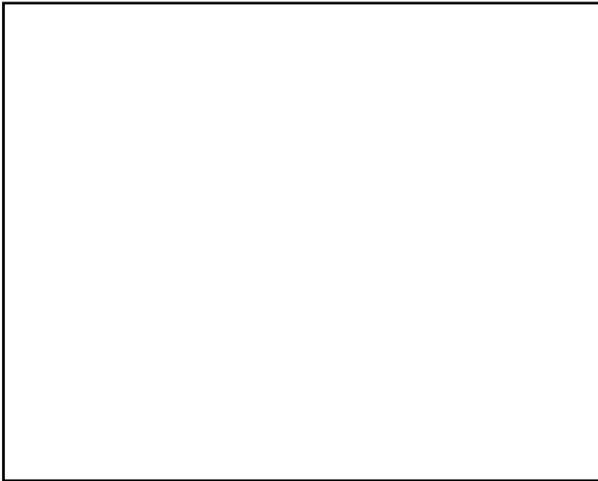
4. If yes, where do you go while you are here? (please tick all that apply)

- Art Galleries
- Cinema
- Create Space
- Information Space
- Café
- Shop

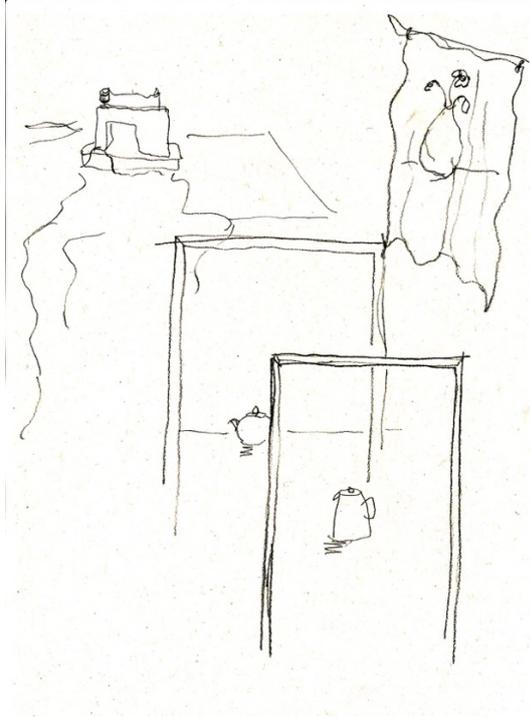
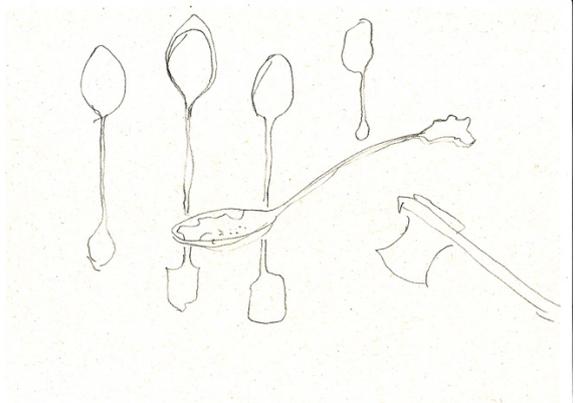
5. Do you take part in practical family art activities like painting, printing or drawing?  
(please tick all that apply)

- No:
- Yes, at DCA:
- Yes, at other galleries/museums:
- Yes, at home:
- Yes, elsewhere:

6. What other family activities do you all take part in together (eg. reading stories, playing games)?

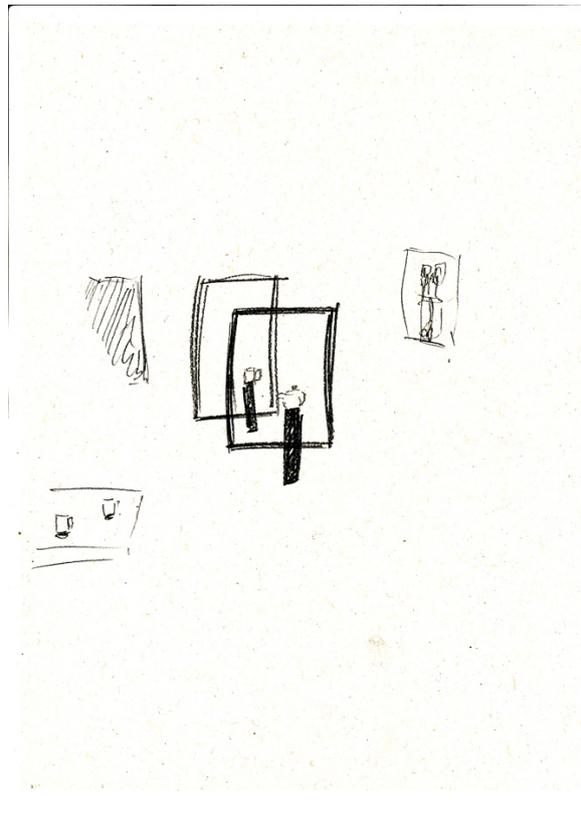


Appendix 5: Drawing examples from one family

Drawing 1	Drawing 2
<p> <b>01M =17</b>            Frames: freestanding            Teapot            Coffee pot            With lids            Pots placed within frames            Pots and frames overlapping            Fabric print            of flowers            in vase            wilting            Hanging from            Hooks            Branch            Sewing machine            With cotton reel            Fabric (sewing)            Sewing machine and fabric on table         </p> 	<p> <b>01M =6</b>            Spoons            With different-shaped            ornate handles            Holes/Corrosion            Holes and corrosion in bowl of spoon            Axe         </p> 

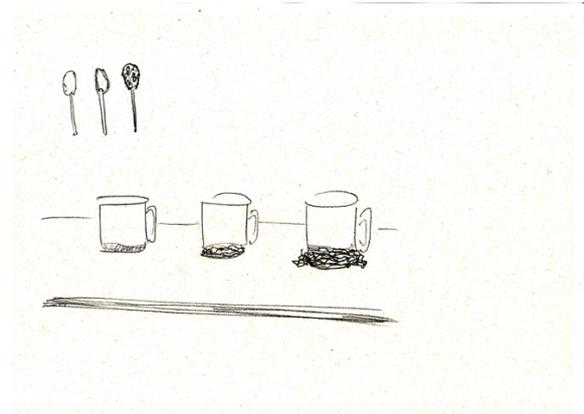
**01F =17**

Teapot  
Coffee pot  
With lids  
Frames: freestanding  
Plinths  
Black  
*Tea/coffee pots on plinths  
between frames*  
Image of flowers  
in vase  
Wilting  
Cups  
Crystals  
Granite slab  
*Crystals on base of cups*  
*Cups on granite slab*  
Draped fabric screen



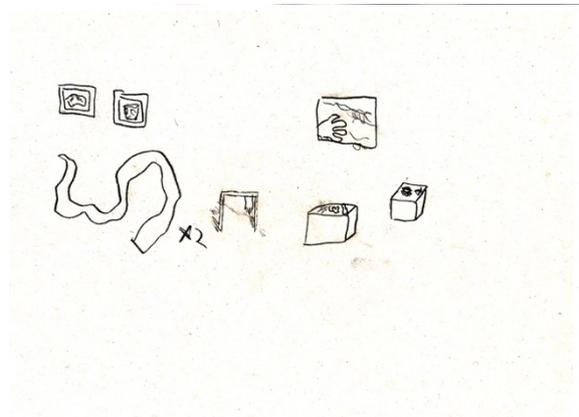
**01F =9**

Spoons  
Corrosion  
Different degrees of corrosion  
Cups  
Crystals  
Granite slab  
Different degrees of crystal growth  
*Crystals on base of cups*  
*Cups on granite slab*



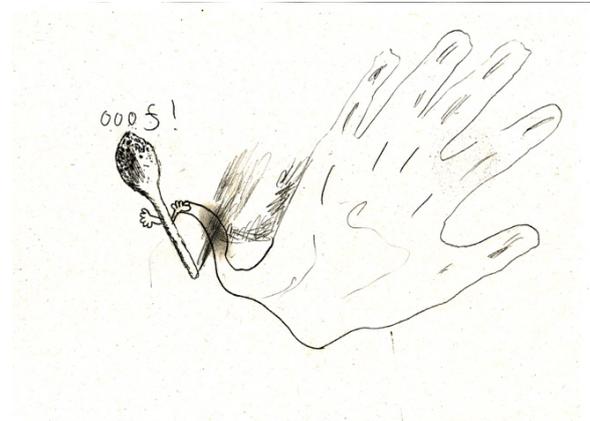
**01A =13**

Framed pictures  
Pictish stone  
Dog pawprint  
Thread "x2"  
Freestanding frame  
draped fabric  
*Fabric draped over top of frame to one side*  
Video screen  
with baby's hand  
Plinths  
Volume demonstrated  
Spoons  
Small objects  
*Spoons and small objects resting on plinths*



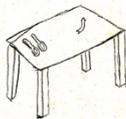
**01A =4**

Spoon  
Tiny holes  
*Holes concentrated at top end of spoon*  
Hands [imaginative interpretation of hand video]



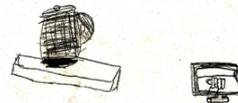
**01B =5**

Table  
Square table legs/volume demonstrated  
Spoons  
Small object  
*Spoons and object resting on table top*



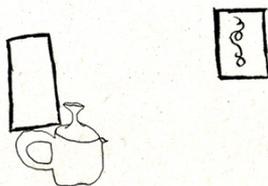
**01B =11**

Coffee pot  
With lid  
Granite slab  
Volume demonstrated  
Dark colouring [patina]  
Crystals  
*Crystals on base of coffee pot*  
*Coffee pot on granite slab*  
Video screen  
With base  
showing baby's hand



**01C =6**

Frame: freestanding  
Teapot  
With lid  
*Teapot in front of frame*  
Pattern from pictish stone  
*Pattern within frame*



**01C =7**

Cup  
Crystals  
*Crystals on base of cup*  
Bowl  
*Crystals around bowl's diameter*  
Video screen  
with baby's hand

