SHARING STORIES WE KNOW

Engaging Families in Museums

A Resource for Museum Staff

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1. EXECUTIVE SUMMARY

Museums are designed to engage families with young children with a welcoming, safe and stimulating environment. The staff involved with education, community programs, design, customer service and volunteer programs are central to this success. What staff know about and how they interact with young children and their parents, however, are rarely investigated. This report presents the experiences and views of 94 staff and 141 families at Melbourne Museum and Scienceworks during 2016. The findings show that the work of Museums Victoria to engage families with young children is very positive. There is potential to expand the professional development for staff across the sector and lead in this area, both nationally and internationally.

The research has produced a ***Framework for Enabling Family Engagement*** (p. 23) as a reference and stimulus for museum staff and leadership for interpreting and enabling family engagement, with additional professional development tools in the form of narrative enquiry methods (***Learning Through Narrative Inquiry*** p 24).

Much has been written about family learning and exhibition design for families but less is known about the interactions and relationships between families and the museum staff.

Why do families with children come to the Museum?

- staff and families share similar views
- staff give slightly more emphasis to enjoyment
- families give more emphasis to learning
- other reasons include:
  - spending time together
  - to see something special
  - being in a comfortable environment

What engages children & how do they learn?

- staff and families are similar in how they interpret children's engagement
- they both place importance on the time children spend at an exhibit/activity and their preparedness to ask questions
- families emphasise when children look attentive and interested
- staff emphasise children talking animatedly at exhibits' and their confident movement throughout the museum
- staff are reliant on more overt signals of engagement than families
- families' knowledge of their children enables them to interpret and contextualize subtle signals of child engagement.
- families and staff share common views on how children learn in museums
- they both stress hands-on interactions involving multiple senses and through interactions with parents and guardians
- families place greater value on learning through playful interactions than staff.

Interactions and engagement with Museum staff

All encounters serve important roles, from the short greeting to make families feel safe and welcome to the longer group presentation focused on learning about a particular exhibit. Encounters between staff and families are affected by an array of factors such as the purpose of the family visit and the age of the children. There are some differences between staff and family perceptions.

- families value self-directed visits, supported by the low-level presence of staff who engender a climate of safety without imposing and hovering
- both families and staff note the benefit that would result from more interactions between staff and families
- 26% of staff, compared with 9% of families, felt children learn through interactions with staff
- 73% of staff compared with 49% of parents saw a benefit in greater interactions with staff

Staff and families responded similarly to identifying what types of interactions with staff are important:

- visitor welcome
- visitor comfort
- helping families appreciate and understand exhibits
- giving directions

Families value opportunities for informal visitor feedback more than staff. With this family position coupled with child engagement being subtle and hard to read, staff could seek more feedback directly from families.

- There are two primary types of interaction between families and staff ***indirect*** and ***direct*** engagement.
- all staff-family encounters benefitted from 'indirect' engagement.
- families wanting to inquire more deeply into exhibits and activities benefitted from 'direct engagement' with staff that was learning-focused.
- identifying and responding to the diverse needs of families requires sensitivity and 'pedagogical tact' from practitioners.

Parents were explicit about,

- older children with developed language, social skills and attention spans are more inclined to knowledge-seeking inquiries
- younger children gravitating to hands-on experiences and playful family relationships.

Challenges for museum practitioners are:

- ***recognising types of engagement***
- ***adopting interactive strategies that match the differentiated age needs of families who come with multiple children***
- ***seeking more feedback directly from families***

Professional learning

Museum staff largely learn on the job and they felt the best way to learn is through more opportunities to interact with families. Staff are seeking ways to more clearly document and interrogate their practice-based knowledge. Responding to this issue led to the development of a *Professional Learning through Narrative Inquiry* tool to support professional learning for the staff. Guided by this framework, staff have demonstrated the capacity for a shift from reflective practitioners to researchers of their practice and that of others by "sharing stories we know".

Future Directions

This collaborative approach to the research has engaged Museum staff actively as researcher practitioners and they have made a critical contribution to ensuring the research is valid, relevant and useful. This investment and the positive responses from museum professionals in multiple fora indicates this research is both timely and resonant across the sector.

With such a positive response from presentations of this work in the museum/gallery community, further research is warranted to test these frameworks more widely. This could focus on the complex factors that impact on staff-family relations, particularly family diversity. Research dedicated to staff, family and children's interactions in the recently opened Pauline Gandel Children's Gallery would be very valuable. The deep interest and engagement of staff with narrative inquiry also warrants further investigation.

Museums continuously seek to know why families come and what they gain from their visits. Staff, through their everyday encounters, provide a significant resource in their knowledge about and responses to families. Ultimately, for staff to realise the potential of the museum experience for families, they need to build their capacities as researcher-professionals who able to read, relate to and engage families. The challenge for museums is to draw out and share this knowledge using innovative approaches to both research and professional learning.

2. INTRODUCTION

Museums are designed to engage families with young children and provide a welcoming, safe and stimulating environment. The staff involved with education, community programs, design, customer service, and volunteer programs are central to achieving this mission. They develop knowledge of family agendas, their interests and learning preferences through indirect and direct relationships. Each encounter, however, is different, and requires museum professionals to continually grapple with questions such as 'When should we step forward or stand back?'. That is, how do I balance direct and indirect encounters? Drawing on experience, they read and respond to the diverse needs of families, an ability that requires empathy and what is termed, 'pedagogical tact'[1]. What staff know, and how they interact with families is rarely interrogated.

This issue stimulated a research collaboration between Museums Victoria (MV) and The University of Melbourne (UoM) funded by a McCoy Seed Fund.[2] This partnership set out to foster innovation and scholarship, and to generate a community of research communicators[3] with a focus on the museum experience for families with young children (birth to six years). The project sought to generate a professional learning resource for museum staff guided by the following questions:

- *Why do families with children come to the Museum?*
- *What engages children and how do they learn in the Museum?*
- *How is child and family engagement enabled by Museum staff?*
- *How can Museum staff develop their knowledge of child and family engagement?*

This report presents the findings in relation to each of these questions which are contextualised by a background of research literature. It also outlines two conceptual frameworks. The first is focused on ***Enabling Family Engagement*** and prompts staff to reflect on how they relate to and interact with families.

The second highlights the value of ***Professional Learning through Narrative Inquiry***. This was an unplanned outcome of the research that emerged from the involvement of a core group of Museums Victoria staff who became deeply invested in the research design and analysis. These staff identified how their engagement in the research made them more aware of their 'tacit' knowledge, the internalised experience-formed understandings that were unconsciously shaping their practice.[4] Investigating this knowledge further, the narrative inquiry methodology was adopted, which guided staff to notice, write and share with others their observations and interpretations of family encounters. To stimulate ongoing professional learning amongst other museum staff, a guide to narrative inquiry and a collection of narratives is included in this report.

The findings and frameworks that emerged from the research have been shared with a diverse spectrum of museum professionals at several conferences, providing feedback that has had a significant impact on this report. This participatory approach underpins the ambition of this research which aimed to generate a relevant and useful knowledge resource for museum staff.

3. FROM THE LITERATURE

This research was undertaken during a significant period of change for Museums Victoria which included the opening of the Pauline Gandel Children's Gallery and planning to develop specific exhibition spaces for young children at Scienceworks. These developments are indicative of the changing face of museums across the globe that are grappling with the current and future demands of visitors, particularly families with pre-school aged children, who are a major group of visitors to museums.[5] Their experience is first and foremost a social one,[6] where learning occurs through conversation and modelling,[7] informed by family motivations, perceptions and knowledge.[8]

While visitor numbers (participation) are frequently recorded, it is also important to assess the quality and significance of visitors' experiences, that is, their *engagement*. Engagement is interpreted as a positive affective (relating to moods, feelings and attitudes) and cognitive state of self-motivated involvement, characterised by initiation, sustained dedication and absorption.[9] It is linked to both enjoyment

[1] Van Manen, 2015
[2] Funded by a McCoy Seed grant generated by MV and UoM to 'leverage the strengths of both partners'
[3] Goals of the McCoy Seed Fund Grant
[4] Van Manen, 2015
[5] Museum Victoria, 2015.
[6] Dierking, 2013.
[7] Ibid.
[8] Munley, 2012; Bernstein et al, 2005; Gaskin, 2008; Parmar, Harkness, & Super, 2004; González, Moll, & Amanti, 2005.
[9] Jeanneret & Brown, 2013.

and challenge[10] and the activation of positive approaches to learning.[11] Museums encourage an intrinsic motivation to learn and a desire for sustained engagement amongst young children.[12] Young children learn through 'attraction to the real thing', 'familiar connections and contexts', 'personal and social connections', and through 'story and imagination'.[13] They learn through play, inquiry and discovery,[14] and seek out opportunities to exercise choice and personalise the experience when in the museum.[15] Families, as a learning collective, draw upon museums as one of many tools to build family identity, itself a form of learning.[16] A successful family visit satisfies these identity-related goals, values[17] and social agendas.[18]

Museum staff and families

Enabling child and family learning is a key mission of museums.[19] Much has been written about family learning and exhibition design for families but less is known about the interactions and relationships between families and the museum staff.[20] These complex social encounters[21] are integral to family engagement, personalising the museum experience and making it memorable.[22] When deciding how and when to interact, staff need to assess family motivations and dynamics.[23] When interacting in short-term encounters with children who are generally unknown to them, museum staff have to listen, welcome and quickly establish relationships that engender trust, safety, rapport and a positive emotional connection.[24] Staff modelling guides families towards what they can do and what is acceptable,[25] and staff facilitation can impact positively on the affective, behavioural and cognitive experiences had by children and families.[26] Based on their in-situ readings of child and family engagement, and 'readiness to learn',[27] staff can introduce learning goals that deepen family investigations.[28] These interactions can extend engagement, increase satisfaction and time spent on exhibits, and support inquiry-based knowledge acquisition.[29]

Museum staff professional knowledge

Museums are seeking innovative methodologies to capture and interpret the personal, fleeting and often 'invisible' encounters had by families.[30] Staff members' direct experience with families can provide knowledge that complements other forms of visitor evaluation to generate a broader culture of understanding in museums.[31]

Research in museums warrants investigation on its own terms, including by practitioner researchers[32] who examine their practice to improve the museum experience for families.[33]

4. THE RESEARCH

To answer the key questions, and framed by a socio-constructivist position, the researchers immersed themselves in the museum environment to observe, listen, describe, interpret and generate exchanges that encouraged shared thinking and co-interpretation. As a 'seed fund' project, the research sought to map and compare a sample of family and staff views and experiences, and develop research tools and frameworks of specific value to museum-based research and professional learning. The primary aim of the research was to stimulate informed critical reflection and examination by museum staff and leadership.

The data were collected over 12 months and drawn from surveys, observations, interviews and focus groups reflecting the views and experiences of both families with young children coming to Museums Victoria, and the Museum staff (see Table 1).

[10] Csikszentmihalyi, 1997.
[11] Hyson, 2008; Piscitelli, Everett, Weier, 2003; Packer, 2006; Munley, 2012.
[12] Munley, 2012; Falk & Dierking, 1992; Csikszentmihalyi & Hermanson, K, 1999; Falk, Dierking, & Foutz, 2007; Jeffrey-Clay, 1998; Hein, 1998.
[13] Munley, 2012; Melber, 2008; Dierking, 2013; Bruner, 1996; Hudson & Nelson, 1983.
[14] Shaffer, 2015.
[15] Munley, 2012; Dierking, 2013; Griffin, 1998; Griffin, 2007; Hyson, 2008.
[16] Dunn, 2012.
[17] Falk & Dierking, 1992; Dim & Kuflick, 2012.
[18] Falk & Dierking, 2013.
[19] Munley, 2012.
[20] Munley, 2012; Anderson, Piscitelli, Weier, Everett, & Tayler, 2002; Puchner, Rapoport, & Gaskins, 2001; Shaffer, 2015; Pattison & Dierking, 2013.
[21] Shaffer, 2015.
[22] Pattison & Dierking, 2013; Dierking, 2013; Munley, 2012; Dockett, Main, & Kelly, 2011; Falk & Dierking, 2013; Paris, 1998; Rosenthal & Blankman-Hetrick, 2002; Piscitelli, Everett, Weier, & QUT Museums Collaborative, 2003; Piscitelli, McArdle, & Weier, 1999; Piscitelli, Weier, & Everett, 2003.
[23] Falk & Dierking, 2013; Litwak, 1993.
[24] Lim, Tang, & Tan, 2013; Tran, 2007; Tran, 2008.
[25] Falk & Dierking, 2013; Koran, Koran, Dierking, & Foster, 1988.
[26] Falk & Dierking, 1992.
[27] Jeanneret & Brown, 2013; Brown, Andersen & Weatherald, 2010; Brown & Chilianis, 2010; Fredricks, Blumenfeld, & Paris, 2004; Hyson, 2008.
[28] Piscitelli, Everett, Weier, & QUT Museums Collaborative, 2003; Munley, 2012; Dierking, 2013; Pattison & Dierking, 2013.
[29] Falk & Dierking, 2013.
[30] Kirk & Buckingham, 2013.
[31] Munley, 2012.
[32] Ibid.
[33] Carr et. al, 2012; Kemmis & McTaggart, 2000.

Tools	Who and Where	Number involved
Staff Survey (Paper/E-survey)	Museum staff (education, design, customer service, volunteers)	82
Family survey (Paper survey)	Parents/guardians	127
Observations	Parents/guardians: Melbourne Museum (MM) Community Day Parents/guardians: Scienceworks 'Little Kids Day' Pre-school Dinosaur Education Program (MM) Family self-directed visit (MM)	65 110 15 children, 1 teacher & 2 parents 1 parent & 2 children
Focus Groups	Parents/guardians (Museum members)	14
Interviews	Museum staff	12
Total number of participants		**431**

Table 1: Research tools and participants

The research began with a review of relevant literature that identified broad themes and issues (pp 6-7). These were discussed with a Research Advisory Group at the Museum that comprised of staff including a designer, an early childhood specialist and three program leaders. This process informed the development of the staff and family surveys and interview protocols based on the research literature. The Museum staff who participated in the survey included those working in customer service, education, exhibition development, and volunteers (Figure 1), with 48% having worked at MV for more than 5 years, 33% between 1-5 years, and 19% employed at MV for less than 1 year (Table 2).

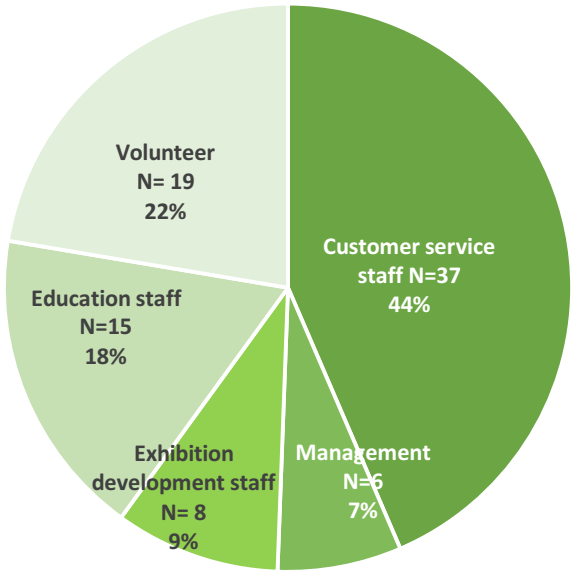

Figure 1: Breakdown of Museum staff positions (n=85)

Position		Length of time working in this position			Total
		< 1 year	1--5 yrs	> 5 yrs	
Customer service staff	n	8	17	12	37
	%	21.6%	45.9%	32.4%	100.0%
Management	n	1	1	4	6
	%	16.7%	16.7%	66.7%	100.0%
Exhibition development staff	n	2	1	5	8
	%	25.0%	12.5%	62.5%	100.0%
Education staff	n	2	6	7	15
	%	13.3%	40.0%	46.7%	100.0%
Volunteer	n	3	3	13	19
	%	15.8%	15.8%	68.4%	100.0%
Total	n	**16**	**28**	**41**	**85**
	%	18.8%	32.9%	48.2%	100.0%

Table 2: Length of employment in this position (n=85)

Discussions with staff guided the sampling of child and family museum experiences. These included multiple researcher observations of two programmed family days, one presented at Melbourne Museum during a school holiday period, and another during a 'Kids Day In' at Scienceworks. Each observation was guided by an established engagement observation tool (Appendix E). To extend the data sampling, one pre-school program was observed and a family visit to the museum was documented by a single researcher who shadowed a mother, Tricia, and her two children.

A hard copy of the family survey (Appendix C) was distributed during the two family days observed and most staff interviews were undertaken in-situ during these sessions. Staff surveys were gathered via an e-survey and by hard-copy (Appendix C) completed during staff meetings. To gain more detailed information, two parent/guardian focus groups were conducted, each involving eight participants recruited from a Museums Victoria data base of member families, all of whom lived in central Melbourne.

Throughout the research, recorded meetings with the Research Advisory Group were undertaken to discuss observations and identify issues and themes that warranted attention. This involved a process of 'progressive focusing'[34] and these meetings deepened a collaboration that was to stimulate an interest in narrative inquiry. The broad relevance of the research to others beyond Museums Victoria was obvious by the invitations to present this research at three museum and gallery professional conferences, which involved international delegates.[35] These fora provided very positive and helpful feedback from a diverse spectrum of museum professionals which has been significant in refining and validating this report.

[34] Stake, 2000.

[35] Victorian Museums and Galleries Conference, 2016. Melbourne City Experience Network, 2017. Visitor Research Forum 2017: Just Do It – The Changing Face of Visitor Research.

5. WHY DO FAMILIES WITH YOUNG CHILDREN COME TO THE MUSEUM?

Tricia, Bede, four years, and Esther, two years, were visiting the museum as a family for the first time since Esther was born. When living in Melbourne, Tricia used to visit more often with Bede, usually arriving towards the end of the day to coincide the visit with a picnic with friends in the adjacent Carlton Gardens. A children's theatre actor, and her partner a cartographer, they live two hours from Melbourne on a farm. Upon arrival in the expansive and resounding entrance, the distant roaring of the still-running Jurassic Park exhibition worried Esther who did not want to see the 'scary' dinosaurs, preferring to 'go to the silent bit' of the museum. In contrast Bede loved dinosaurs. After reassurances that she did not have to see the 'real' (animatronic) dinosaurs, Esther agreed to enter, pacified in the arms of her mother. Together they set off, backpack-laden proceeding quickly to buy tickets and enter the museum.

Families such as Tricia's visit museums for diverse reasons such as recreation, a child's interest in a particular exhibit, or simply to enjoy the large indoor space on a rainy day. Families come with particular motivations and interests which direct their journeys through the Museum.

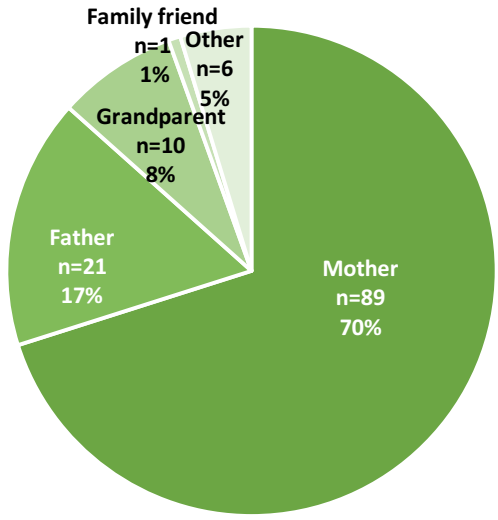

Figure 2: Relationship of adults to children

Primarily it is mothers who bring young pre-school children to the museum (70%) (Figure 2), visiting once to three times a year (73%) (Figure 3) and coming with two children (60%). When asked 'Why did your family come to the museum?', respondents placed similar importance on enjoyment, spending time together, learning, seeing something special, and spending time in a comfortable and pleasing environment (Figure 4).

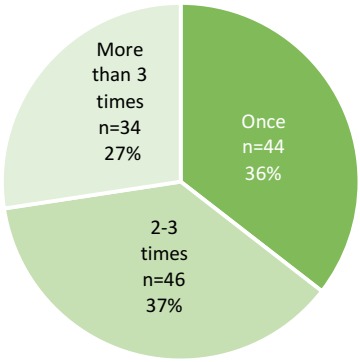

Figure 3: Frequency of visits per year

Families value 'self-explanatory' museum adventures, supported by a 'low level of interaction' from Museum staff, exemplified by the following parent quote:

I'm happy with the current low level of interaction because it gives more space for discovery of the exhibits on our own. Especially on a quiet day when there's no one around, we just wander around. Our last experience was walking through the Bunjilaka section with our child Emily and watching the image projections of different people talking about their history. It was very quiet and it was just unfolding before us. After that Emily quite naturally went on to look at other physical and tactile parts of the exhibition.

The parents interviewed considered the Museum to be a safe and welcoming environment for their family to fill the day in a place some saw as an extension of the home environment:

- *I've got a two and five-year-old. It's such a great open and enclosed large space that is particularly good when the weather is really hot, wet, or cold. At these times, we would go nuts if we stayed at home.*
- *The open space is good to run around in and friendly to kids.*
- *Diversity of having the outdoor and the indoors.*
- *It's a great place to fill the days, a standby place to go, whether by ourselves, or with friends, or the mothers group.*
- *We live in a small apartment so the Museum is like the extension of our living room.*
- *Taking my daughter's 3 year-old-son to the Museum, I feel it's our neighbourhood. It's his playground.*
- *When we moved from the USA with our three young children we found the Museum was a refuge and a great place that our kids could recognise.*
- *We don't come to the Museum for an educational thing, but this is a by-product of getting out and being active.*
- *We come to give the kids a different type of education in terms of play.*

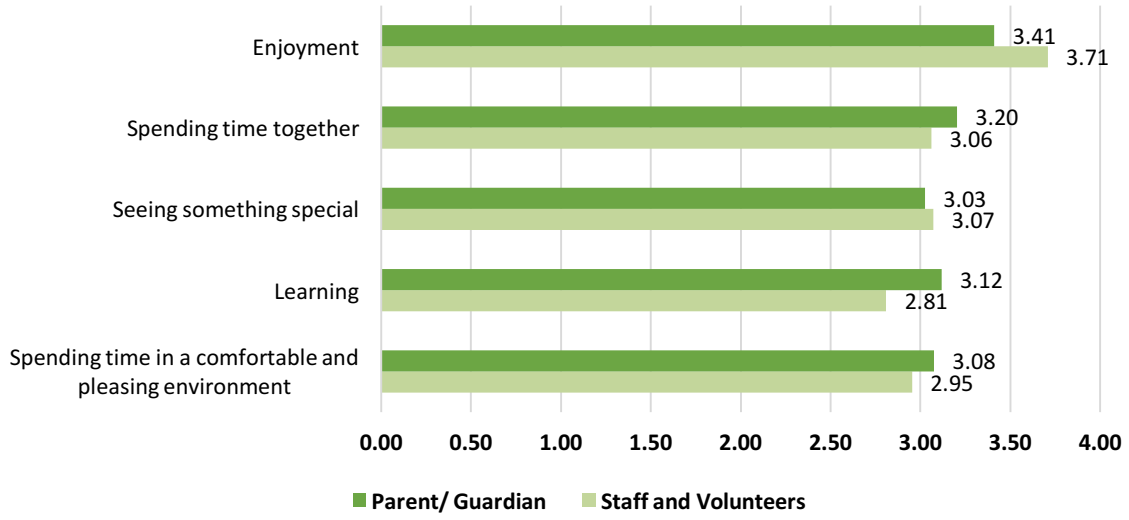

Figure 4: Comparison of rating averages for responses to 'Why do families with young children come to the Museum?'

When asked 'Why do families with young children come to the Museum?' staff concurred with families, citing enjoyment as the primary reason (Figure 4) and with similar importance given to spending time together, seeing something special and spending time in a comfortable and pleasing environment. Less emphasis was given to learning in the survey, although this was given more attention in staff comments, where the 'special' or 'different' learning experiences museums afforded were noted.

Twenty-three of the staff chose to add comments stating they believed that families come for a cultural and community-based experience and the opportunity to get out of the house. Visits are considered down time for parents and a relief from being at home alone motivated by the opportunity to socialise in a safe and low-cost venue. Staff indicated that families have a dual focus when coming to museums, which is primarily to have fun combined with exposing children to learning opportunities.

As one education programs officer observed, visits to the Museum fulfil a range of needs for families. Further, it is authoritative, and it is safe, which is echoed by the families:

… they think the Museum is authentic and it's an authority. So, they believe that by coming to the Museum they're providing their children with an opportunity to extend their work, to spend time with them on something that matches their own values, which may be about learning, about spending quality time looking, doing, feeling, reacting with the environment that the Museum provides. It's a safe environment.

6. WHAT ENGAGES YOUNG CHILDREN AND HOW DO THEY LEARN?

Engagement

Parents are sensitive to individual interests and concentration levels of their children. They monitor the flow and energy of their children's engagement, and are perceptive to verbal and non-verbal cues. When asked, 'What tells you that your children are having an enjoyable and interesting experience?' parents noted when children look attentive and interested (79%) and the amount of time spent at an activity (55%). Parents felt an experience was positive when children asked questions (45%) and talked animatedly (35%). Other significant signs of child engagement were the post-visit positive reflections by children and their desire to return (Figure 5).

When Museum staff were asked about indications of engagement (Figure 5), they emphasised the time spent by families at an exhibit (60%) and if children talk animatedly (58%). Other indicators were looking attentive and interested (53%), asking questions (49%) and displaying confident interaction with the environment (43%). Whilst the responses of parents and staff had much in common, staff emphasised behaviours they could readily interpret, such as time on task and animated talk and questioning. Less emphasis was given by staff compared with parents to gauging engagement through looking attentively, indicating that this is difficult for practitioners to judge given they are unfamiliar with the individual children. Families give less emphasis to animated talk as a signal of engagement, again possibly because, knowing their child, youthful exuberance may not necessarily be a sign of engagement.

Figure 5: Comparison between Staff and Volunteers (n=85) and Parents/Guardians (n=117) percentage of responses for ways of knowing that children and families are engaged in the Museum.

The staff did, however, indicate a sensitive awareness to child and family engagement, as illustrated in the following comment:

Their focus. They are following instructions, looking completely enthralled by the task. They're chatting to their parents, telling them what they're doing. They've got a sense of achievement with the task, and they come over at the end to show you and then ask you what's going to happen. When families come back to do it again.

Such views, gathered through both the surveys and interviews, confirm that staff are alert to signals of child and family engagement. There were a number of these signals noted:

- open and positive body language and facial expressions (happiness)
- energy
- returning to re-experience an activity
- inventiveness
- looking attentively, focus, concentration and effort
- responding and asking questions
- initiating communication – showing and telling - putting forth their own ideas
- eye gaze both at the practitioner and at the activity/materials
- copying what the practitioner has modelled – following instructions
- wanting to finish a task
- relaxed conversation with friends

While staff comments demonstrate a perceptive awareness of child and family engagement, they grappled to explain the relational practices deeply woven into their everyday work. Staff interpretation of engagement was highlighted as dependent on their experience with particular age groups, exemplified in the following comment:

It's difficult because I haven't really worked with the really little ones before. I can clearly see that they're dancing along and they're smiling but then you will see the kids who run from one thing to another and you go, 'How much are they getting out of it? Are they too overstimulated? Is today too busy?' But I don't know; I haven't had much experience with little ones. They might only look at the fossils for five minutes, but they know how to touch them, have a bit of sensory exploration and it's like, 'Next!' That's how some kids work, and that's fine.

This comment shows the complexity of 'reading' engagement and the capacity to do so with little knowledge of the families encountered. More direct feedback gathered from families would be useful and staff may need to be more active in this respect. This seeking feedback directly from families was identified in this research as a point for development (Figure 8, p 15).

When asked 'What captured the interest of your child/ren at the Museum?', parents nominated equivalent interest in hands-on and making experiences and particular exhibits, for example dinosaurs, animals and insects. When children were asked by their parents to 'tell what they most remembered coming to the Museum', 64 of the 99 parents who responded, reported their children naming the exhibits and 33, their children's interest in the hands-on activities. A small number of parents mentioned play, the food, café and shop. The children's comments captured by the parents indicate a stronger interest than parents in exhibits, though this response, which included 30 references to dinosaurs, may have been inflated given the major Jurassic Park exhibition was open at the time.

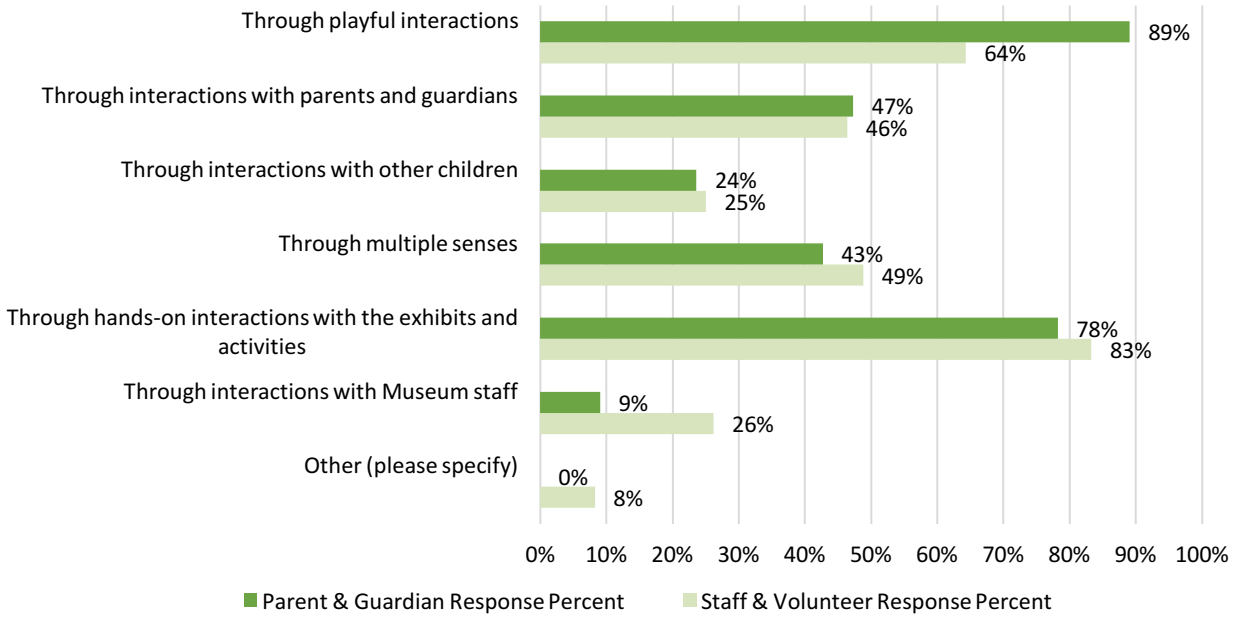

Figure 6: Comparison of percentage of responses about the primary ways children learn in museums between Parent/Guardians and Staff and Volunteers

Family-led learning based on children's playful interests and prior experiences was valued. This is illustrated below in Tricia's family's encounter with the blue-tongued lizard and ibis, and the engagement generated by the familiar, especially for two-year old Esther.

Moving to the animal gallery, both children began a game of naming the animals and plants that they could readily see towards the bottom of a large enclosed cabinet. Bede quickly identified a blue tongue lizard, like the one he had mentioned earlier that was eaten by the family dog. Tricia said to him, 'We like lizards, don't we? Because they eat the snake eggs', to which Bede replied, 'But chicken eggs too.' They both laughed in memory of a previous experience had on their farm. Esther had wandered towards a low display of birds by this stage and was pointing at each one saying, 'Bird, bird, bird, bird.' She became excited when she spotted an ibis, a bird they had seen previously on a holiday, and pulled Tricia by the hand to show it to her.

Learning

When asked 'What are the primary ways that children *learn* in museums?', parents placed importance on playful (89%) and hands-on encounters (78%), interactions with parents/guardians (47%), and multi-sensory explorations (43%). Less importance was given to interactions with other children (24%) and museum staff (9%) (Figure 6). When staff were asked a similar question, 'How do young children and families learn in the museum environment?' (Figure 6), the dominant view was through hands on interactions with exhibits and activities (89%), followed by playful interactions (64%) and interactions through multiple senses (49%). Interactions with parents/guardians were also considered crucial to learning (46%), with one education program officer noting the importance of 'getting the parents engaged and helping, rather than us doing it for the child … It empowers them.' Less emphasis was given to interactions with other children (25%) and museum staff (26%). It is interesting that the parents rated their interactions with museum staff lower than the Museums Victoria staff and volunteers and overall this variable rated quite low compared to other variables. This difference is reinforced when staff and parents were asked whether or not more interactions would be valuable, with 49% of families indicating yes, in comparison to 73% of staff (Figure 7, p.14).

These responses indicate that staff and parents largely concur on the importance of 'hands on interactions with exhibits and activities', though what is less clear is the need for staff-family interactions and how staff should interact. This complex issue is examined further in the following discussion and parent focus group analysis.

7. HOW IS CHILD AND FAMILY ENGAGEMENT ENABLED BY MUSEUM STAFF?

At the base of each cabinet was a touch screen with images of the corresponding displays. When each image was tapped, a box popped up with information about that animal. Bede was absorbed in making the boxes pop up but, as he couldn't yet read, Tricia had to interpret the information for him. Moving between this role and her need to engage Esther, who tired of the touch screens more quickly, Tricia had to actively engage with her children. She later said that Bede's experience of the museum is now 'just on the cusp' of being more about learning and that if she had been with him on his own she would have read a lot more of the exhibits' interpretive panels for him. Juggling the children's different interests, Tricia reflected, it may be helpful to have support from a Museum staff member, particularly if they were 'funny and charismatic or really knew their stuff'. She emphasised that for her it was the quality of the interactions with staff members that mattered, not how often they connected with her family.

Tricia's experience above shows there are times when parents, particularly those managing multiple children for extended museum visits, would value input from knowledgeable and animated museum staff. The challenge for museum staff is to read a situation to gauge how best to respond to a family's needs. This depends on the context, because 'some visitors are happy in their own space and others require more guidance. It is up to the skills and perception of the staff member to judge', as one staff member explained. Tricia's situation was resonant with other parents who pointed out that their children orientated differently to museums depending on their age range. For example,

Now that I have two children at different stages it's been more difficult. I might be feeding one and then the other wants me to play with him. In these cases, it's been helpful when one of the staff has seen that and come across and said to my older child 'Let's build these blocks' or something together.

A challenge for museum staff is to adopt interactive strategies that match the differentiated needs of families. For example, referring to a day when a range of activities were set up specifically for families during a holiday program one parent commented,

It was really interesting going from one activity. The volunteers and staff members were loving what they were doing and all wanted to interact with the kids, though some of the kids just didn't want that interaction and they weren't sure how to do some of the activities and weren't quite sure how to ask for the help or to do it. They [the staff] just weren't judging how they were going to cope with it [the activities]. It's great to have an activity where you can take three different kids of different ages and they will all get something out of it, but all still be able to do it.

From the Museum staff

When staff were asked 'Would it benefit young children, families and education groups to interact more with Museum staff?' 73% said yes while 22% were unsure and 5% said no (Figure.7). Of those who said yes, 67% went on to elaborate with comments indicating a clear argument for more staff interaction with visitors, to share their knowledge with families (34 responses) and enhance a positive family experience (19 responses). Comments indicated a positive family experience was associated with a safe, comfortable and welcoming environment, and an engaging social event that was memorable and personalised.

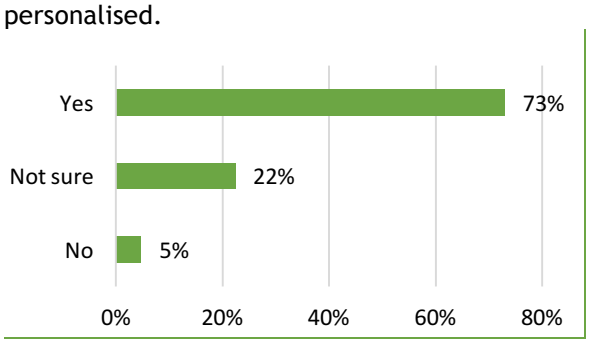

Figure 7: Staff and Volunteer responses (n=85) as to whether it would benefit children, families and education groups to interact more with Museum staff.

In relation to this question, comments also emphasised the importance of knowledge sharing with staff who, as informed 'experts', could prompt, explain and mediate connections with exhibits, promoting a 'greater understanding of what the Museum provides'. Some suggested that without this mediation, families are not equipped with sufficient knowledge to 'navigate information' and can appear 'lost and confused'. Several staff commented that the decision to interact or not was not a straightforward one. They noted that this interaction was more necessary for education programs than in cases involving young children with their parents, who, as a family unit, were capable of exploring the Museum independently.

When asked how much importance do you give to the following types of staff interactions?', the most common response was visitor comfort and safety, followed by visitor welcome, which was seen as the first step in initiating further interactions (Figure 8). Other tasks given similar weighting were helping families appreciate and understand exhibits, and giving directions. Staff and parent/guardian responses to this question were very similar, indicating the balance of roles adopted by staff matches family expectations. The one exception is that families gave more value to visitor feedback than did staff.

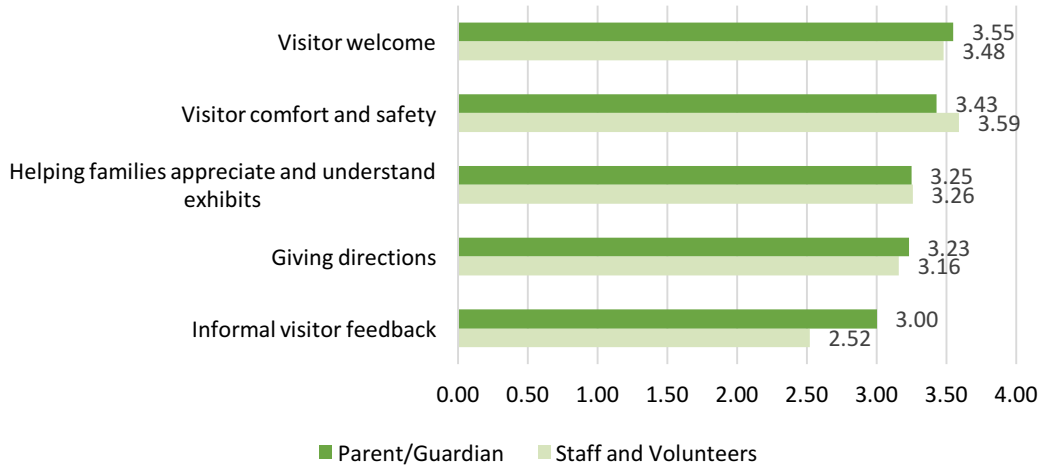

Figure 8: Comparison between Parent/Guardian and Staff & Volunteer weighted rating average of the importance of types of interactions with families

When asked, 'What factors impact on museum staff interactions with young children and their families?', practitioners (n=81) gave most significance to the nature of the exhibit/activity, closely followed by 'time pressure'. Also given importance was the age of the children, with some significance given to language differences'. Twelve staff commented on this item indicating that the number of visitors at any one time, staffing levels and staff confidence were also important factors. Parenting styles was another factor noted that impacts on practitioner interactions with children. As one staff member observed,

I think it's really important that people come from really different places. Different ideas, different attitudes, different needs. You can't react to everybody in the same way. It just doesn't work. Every engagement that I have is a new engagement with somebody, whether it's a child or whether it's an adult.

From the families

Whilst museums are designed for visitor-directed engagement, caring for and guiding young children's attentions can be demanding for parents. 49% of the families surveyed would value more interactions with Museum staff.

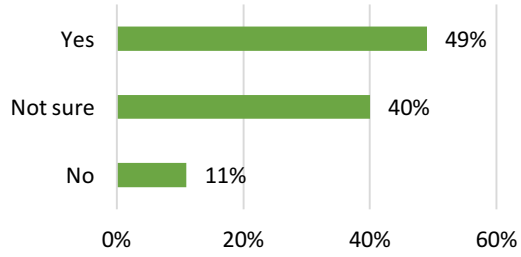

Figure 9: Parent/Guardian responses (n=124) to whether or not they would value more interactions with Museum staff

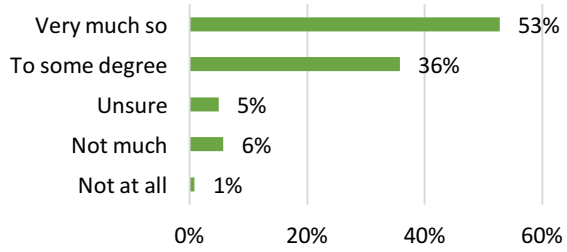

Figure 10: Parent/Guardian responses (n= 123) to 'did the museum staff and volunteers help make your family experience an enjoyable one today?'

This position is balanced by many parents who are not sure (40%) or don't see the value of more interactions with staff (11%). The lack of interaction with staff may link with only 9% of families associating their child's learning to interactions with Museum staff. It should be noted these surveys (Figure 9 & 10) were largely conducted when community programs were being offered at Scienceworks and Melbourne Museum, involving a number of staff facilitated interactive activities. Overall, the families responded very positively to contact with Museum staff and volunteers. When asked 'Did the Museum staff and volunteers help make your family experience and enjoyable one today?' 53% of families said 'very much so' and another 36% noted 'to some degree'. Only 1% said 'not at all'. Aligned with these responses, were comments that valued the role of Museum staff to engage children (15, n=67) by inviting, guiding, facilitating interest and helping children to 'ask their own questions'.

From the Parent Focus Groups

To explore the themes emerging from the surveys and literature review further, two focus groups were conducted involving eight

parents/guardians in each. These recorded discussions sought specific comments to add meaning and context to the survey analysis.

Directly and indirectly, and to varying degrees, staff support how families experience the Museum. This may occur through prompts, cues or nudges to invite children and families into interactions which may be characterised as reactive or proactive, or as a greeting, invitation, introduction, offer or exchange. Staff-family relationships are established and develop throughout encounters, enabling participant engagement and learning as they do so. Two primary types of interaction were noted as significant by families and staff, including ***indirect engagement*** (relational focussed) and ***direct engagement*** (learning focussed). All staff-family encounters appear to benefit from indirect engagement, interactions that invite and acknowledge families, making them feel welcome, safe and comfortable, and connected. At times families look for further guidance from staff. Wanting to inquire more deeply into exhibits and activities, these families benefit from direct engagement with staff through interactions that involve an active exchange that includes prompting questions and explanations that are responsive to family interests. All encounters serve important roles whether they are a short greeting to make families feel safe and welcome, or a longer group presentation focused on learning about a particular exhibit. Identifying and responding to the diverse needs of families requires sensitivity and tact from practitioners.

Indirect Engagement

(relational focus)

Families with very young children didn't necessarily want direct contact with the Museum staff. Their goal was to have an enjoyable social experience rather than an 'educational' one facilitated by others. One parent elaborated by saying, 'I actually like it that there isn't an imposing presence of somebody constantly telling you what to do or interrupting you, so I see it as a positive that I haven't had much contact with staff who have left us with our freedom.' Parents valued how the Museum was designed to invite and allow child-led inquiry. What they didn't want were 'imposing' and 'hovering' staff, particularly if they 'interrupted' children when 'in the zone' and 'focused'. While these observations might be interpreted as a negative response to the presence of Museum staff, this was not the case. The parents also reflected that while they had little contact with Museum staff, as one parent noted, 'It would be very strange and weird without them'. When probed, parents acknowledged their indirect awareness of staff, who were consistently 'friendly' and 'approachable'.

I hardly remember anything negative whereas usually at some point in a big museum you are expecting someone to be a bit cranky or having a bad day. Generally, the staff here seem really approachable, friendly and helpful.

Parents felt comforted by the subtle presence of staff, who were available when needed without being intrusive. Several parents were thankful for how quickly and sensitively Museum staff

acted when their children were lost, saying the staff were 'responsive' and 'calm and attentive', both with the child and the parent. The uniform was also important, as one parent noted in relating an incident of a lost child.

My child got lost for about 10 minutes. One of the other mothers said, 'I think he's over there' and then out he walked with a Museum staff member. She was holding his hand and he was upset but, you know, he's normally quite funny with strangers, so it was nice to see that he was holding an adult's hand and it helped she had a uniform on. He felt really reassured.

Parents felt comfortable and welcome in the Museum environment and appreciated it when staff provided friendly guidance rather than 'raising their eyebrows' with 'disapproving' glances of what was acceptable behaviour. Dressed in friendly uniforms, staff were seen more as 'assistance' rather than 'security', which also supported a 'relaxed' child-friendly environment.

Parents had come with the intention of having a social and playful experience with their young children and commented positively on the clear but friendly boundaries set by the Museum staff.

I never have felt like our kids are too noisy or running too fast. In some other galleries or museums, you just have to be so careful with what you can and can't do, and that's not very enjoyable as a parent. I wouldn't choose to spend two hours in a space like that on a tired afternoon.

The Museum is very hands-on but at times you're unsure what you can touch and there's always someone there to go, 'Yep you can do that', so that's good.

Parents valued that staff made personal connections with children.

I remember a positive interaction with a front of house staff member. My daughter came to the Museum wearing a traditional dress and the lady said to her 'Oh, you're wearing a Cheongsam' and said 'You know, that's beautiful.' I felt that there was a great sense of welcome and awareness and just embracing of children.

Direct Engagement

(learning focus)

Families value input that is directly responsive to their children's learning interests. For example, a parent reflected positively on an incidental encounter where the staff member,

… noticed that my son was looking at one of the dinosaurs and said 'Oh, do you know why he's got molars? You know, these are his teeth.' He got down and had quite an in-depth conversation with my son about various herbivores and carnivores and my son got a lot out of it.

In this case, the staff member had gauged the situation perceptively which resonates with the following parent experience.

I was trying to understand something about the history of indigenous people, and the answer wasn't in front of me and then a staff member just came up and slotted in and gave us the answer.

In addition to these types of experiences, several parents valued opportunities to connect with stationed staff such as those at the 'Touch Trolley'. In these encounters, which allowed for direct interaction with exhibits and informative conversations with museum staff, parents expected staff to be knowledgeable about the exhibits. Parents indicated an interest in further interactions with staff, identified by some as 'experts' and 'people who know'. Such interactions would help to explain, instruct, demonstrate and provide information on the Museum collections. As one parent commented, 'my child likes interacting with someone and getting help, especially if they've got a bit of expertise on the activity they're doing.'

Several parents commented that with only limited knowledge about specific exhibits, it was demanding to fully engage their children:

There is so much great educational information but I can't really help them (her children) access it.

Kids like learning but as a mum I don't always consciously think about all those things.

I expect staff to have content knowledge. Your child will ask you a question and you have no idea, and so if there is a staff member around you are more able to know something or how something works.

Knowledge alone may not be enough to engage young children who, also respond well to staff who are 'funny and charismatic' as Tricia, the parent mentioned earlier noted. This comment points to the hard-to-define qualities that enable a staff member to quickly make a connection with an unknown child.

Parents valued staff relating to children, getting down to their level and showing, explaining and encouraging. One parent gave importance to the voice adopted by the practitioner, explaining, 'The way they tell stories and speak pulls children in.' Parents felt a dialogue between the practitioner and child, one that identified the child's interests and responded to their comments, was important, which is captured in the following quotes.

It's really important that they know how to speak to children and get down at their level, be personable, friendly and non-intimidating.

He asked a lot of questions. He didn't just seek to present the information. First, he wanted to know if my son knew whether it was a bone or whether it was a skull, and he delved deeper into my son's knowledge and then built on it. It wasn't a lecture about dinosaur bones, it was quite an interactive exchange. Yeah, it was great.

Such exchanges involve tuning into what the child is 'gravitating towards' and playfully connecting with it, as is illustrated again in the following anecdote.

When we were in the rainforest gallery the satin bower bird was out and about and one of the staff was talking to my daughter how it likes to collect blue things and then she pulled out and put down a blue object on a table which the bird flew down and grabbed, which was great - playful and not too 'science-y.' It helped my daughter focus because when children are a bit younger they are not very good at looking.

Several parents found this 'an ideal situation' - when the staff member is not explicitly showing something to children, but instead 'role playing' to stimulate and 'support' the child to inquire for themselves.

Deciding whether or not to interact with families, and if so, how, is dependent on particular situations and the physical and social atmosphere in museums at any one time. These factors are captured by the following parent comment.

So it's about being sensitive to the fact that if there are lots of kids and they are negotiating themselves then you don't need that person [museum staff] there. They can step right back. But if it's quiet - like sometimes we will come in at 3.30 - and there are not many kids about, that's when my child will start interacting with the staff.

When parents were asked what further contact they would like with staff, they made comparisons with experiences offered in other public sites such as libraries and zoos. These included more regular and scheduled interactive sessions and floor talks, and the development of programs for return-user families. Families valued familiar staff and recommended rostering staff at regular times so children could enjoy meeting staff they knew from previous visits.

When asked about negative staff interactions, which parents said were rare, they commented on instances where the 'rules were applied inflexibly', such as when children were denied bringing balls or balloons into the Museum. What seemed to be the issue for parents was not so much flexibility with the rules, but how staff explained the rules to children, which one parent thought could be too 'authoritarian', which 'killed the mood' of the visit. Similarly, staff being too quick to pack up at the end of the day was seen to be insensitive and inflexible to those families still engaging with activities. Other instances of negative staff-child interactions noted by parents were explained with reference to experiences had in other museums and galleries, such as when it was not clear from the signage whether or not touching exhibits was prohibited.

The key qualities parents are looking for are in the extensive list below.

welcoming

warm and playful

come in slowly and quietly

a voice that pulls children in

charismatic

gentle and empathetic

social and friendly

knowledgeable

receptive to the particular child

calm

engaging

have a twinkle in their eyes

silly and funny

think on their feet and know how to respond to a situation like a mum would

It is a tall order for any museum staff member interacting with children to embody all of these qualities and to know what type of interaction to have in any particular situation. What is clear is that families know what works for their children and if practitioners can attune themselves to families the experience for all will be more engaging.

Staff Behaviours	
Engaging	**Disengaging**
• friendly & approachable • funny & charismatic • personable & non-intimidating • role play to stimulate & support children to inquire for themselves • stationed Touch Trolley with specific expertise • interactions that help to explain, instruct, demonstrate & provide information • relating to children - getting down to their level & 'showing', explaining' and encouraging • identifying children's interests & responding to their comments • tuning into what children gravitate towards	• rules applied inflexibly without explanation • being too authoritarian • being too quick to pack up when families were still involved in activities • lack of clarity about signage in relation to whether exhibits can be touched

Table 3: Engaging and disengaging staff behaviours

9. PROFESSIONAL LEARNING

The Museum staff who participated in the survey included volunteers and staff working in customer service, education and exhibition development (Figure 1), with 49% having worked at MV for more than 5 years, 32% between 1-5 years, and 19% employed at MV for less than 1 year (Table 2. See page 8).

Museum staff largely learn 'on the job' and through self-motivated personal learning. Coming from a range of backgrounds, staff bring diverse motivations, interests, knowledge and experience to their roles. When surveyed, 69 respondents indicated diverse professional and personal experience. When asked 'What experience informs your work at Museums Victoria?' the most common factor identified was experience (39), with personal study/learning noted by 17 respondents. Qualifications in teaching (23) and formal study (17) were also important.

When asked what would help staff to develop relationships with young children and families, the highest rating was given to 'more opportunities to interact with families', with professional development workshops and mentoring opportunities also considered important (Table 3).

Staff value more time to reflect on their practice and share their understandings with colleagues. As one practitioner explained, 'I watch Chris. He's an amazing presenter, but why is he an amazing presenter? It's probably something I need to know but it's hard to reflect on things without help.' The resonance of this issue with staff led a core group of staff to become engaged in a process of narrative inquiry.

	Not at all useful	Somewhat useful	Moderately useful	Very useful	Extremely useful	Rating Average	Response count
Written guidelines supported by a video resource	10 12%	26 31%	20 24%	18 21%	10 12%	2.90	84
Mentoring opportunities	2 2%	11 13%	14 17%	38 45%	19 23%	3.73	84
Time for professional reflection	2 2%	14 17%	28 34%	28 34%	11 13%	3.39	83
Professional development workshops	1 1%	9 11%	12 14%	37 44%	25 30%	3.90	84
More opportunities to interact with families	1 1%	7 9%	15 18%	28 33%	33 39%	4.01	84

Table 4: Staff and volunteer responses for usefulness of measures to help Museum staff develop relationships and interactions with young children and families.

A Framework for Enabling Family Engagement

Circulating around the amateur entomologists, I find it is good to check in every so often with the participants. A look of puzzlement may prompt me to go through the goals and processes of the activity, or I might notice one child doing a spectacular job of locating one type of egg. An opening line such as 'Wow! You have a lot of eggs there! I wonder what type they are?' might prompt referral to the ID sheets and a dawning awareness that there could be other kinds to find. In some cases, the prompt might be 'Hey, do you know what this is?', whilst holding up a crowned-stick insect egg, which looks like a snapped off piece of twig. This might be followed up with 'Can you guess why they look like that?'. I observe that several minutes after a slight prodding in this way the participants are finding more and more eggs from different species and noticing the differences in shape, size, colour, and survival strategy.

When relating to young children and their parents, museum practitioners involved with customer service, education and volunteering have to make in-the-moment assessments that guide their interactions. A perennial question is 'When to step forward and when to stand back'. Reading verbal and non-verbal cues, practitioners intuitively interpret the interests and needs of largely unknown children and families and decide on how best to interact, or not. This is not actually an intuition related to a mysterious source but a tacit knowledge borne of experience and is what some call pedagogical tact[36]. These interactions are influenced by the roles and perceptions of the staff, the age of the children and the family profile. For example, a programmed encounter led by an education staff member may emphasise specific learning goals connected to the curriculum and involve formal interactions with a group of children.

An incidental encounter with a customer service staff member at the entrance of the museum may emphasise warmly welcoming visitors and involve informal conversation. For example, 'Hello' followed by a comment is illustrated by one staff member as a way of initiating further interaction if the visitor chooses.

It's an intuitive thing I think. I usually try and engage just at a very simple level with everyone, if I can. 'Hello. Oh, you're going really well.' Just that, and then if somebody responds to that then I'm there to answer the questions, talk to them a bit more. I usually tell them who I am and then they can understand that it's okay; that if they've got more questions to keep talking with me.

Whilst every encounter staff have with visitors is unique, short or long, they share the same goal of ensuring families have a positive experience in the museum. The following framework provides a guide for staff reflection and in-situ interactions with families.

[36] Van Manen, 2015.

Figure 11: Enabling Family Engagement Framework (Brown & Jeanneret, 2017)

A Framework for Professional Learning through Narrative Inquiry

I can't help questioning myself as I take the unexpected lead on this group of morning visitors. Am I directing them too much? Am I making this a show and tell session more about me, and my own fledgling interest in these fascinating creatures? Am I being 'museum-y' enough, or am I just stepping into the old, familiar shoes of teacher and instructor? Is there necessarily a difference in these two forms of engagement? Who is this for - my enjoyment of science communication or the experience for the visitor?

This staff member is reflecting on her impromptu interaction with children as part of a community program run during the school holidays that focused on investigating insect eggs. This comment is indicative of the everyday reflective practice staff engage in, grappling with potentially contesting beliefs that have to be reconciled in practice. 'Is the experience adult led or child-led?' 'Is it museum-y?' 'What about my own work satisfaction?' 'Should I be enjoying myself as much as those I am interacting with?' 'When should I step forward or stand back?' Practitioners reflect regularly on these types of questions and, in doing so, generate, consolidate and test out their knowledge of what works best when relating to families. Such knowledge provides a powerful platform for professional learning though it is rarely shared and explored in any detail with others. Narrative inquiry is a way to do so.

Narrative inquiry is grounded in experience and reflective practice, and a belief that we cannot move beyond habitual ways of knowing and make progress without a serious commitment to examining, studying, reflecting on, and improving our own practice.[37] It is a methodology and a method, a way of knowing that involves the telling and reading, and re-reading of practitioner stories, independently and collectively. It emphasises revealing our experience-formed knowledge openly, with support from our colleagues. Through a process of noticing, reflective writing and shared reading, narrative inquiry clarifies, affirms and challenges our views as to how best to engage young children and their families.

Narrative is a primary way that we organise and make sense of knowledge that is situated and socially constructed. It is both a mode of reasoning and a mode of representation. People can 'apprehend' and 'tell' the world in story. Narrative practices give practitioners 'permission to own their work with a value-laded frame, and to take responsibility for, and justify their actions, decisions, and judgements within a professional context.' [38] Resonant with this position is the statement made by a Museums Victoria practitioner, who commented,

I think this form of reflective practice forms good habits. What does this look like to other eyes? How would someone else approach a similar situation? The reader (or self-reflector) has to ask themselves what they are looking for - what signs, behaviours and outcomes am I noticing and why do I think these ones are important? Ultimately I think it will foster a sense of collegiality among the group so we are all able to learn together in a self-aware manner.

Narrative inquiry prompts the practitioner to examine and articulate, to themselves and others, their interpretations, wonderings and uncertainties. It challenges the practitioner to narrate, to construct storied accounts (not just describe), framed by an awareness of the writer's beliefs and experience, and knowledge of the reader and the purpose of the reading.

In summary, narrative inquiry involves,

- Attentive noticing for oneself and for others.
- Making the ordinary strange. Making the tacit explicit by describing and interpreting through words and images experienced practice.
- Prompting open, non-judgemental and critical reflection.
- Engendering empathy, agency and individual and shared validation and understanding.

Narrative inquiry involves a negotiated process not a set procedure. The following guide, developed with museum practitioners, provides an outline of what to consider.

What is a narrative?

A narrative is a short, written account/story that describes and highlights key interactions had between a museum practitioner and children with or without their families. A narrative is generated from practitioner 'free writing' or open reflection that gives license to personal interpretations referenced to detailed descriptions. The narrative text tells a story about others or one self. Narratives can be in the form of conversations between the narrator and another and/or as observation reflections. Narratives can be based on transcribed audio recordings and/or prompting photographs (with consent).

[37] Carr et. al, 2012; Kemmis & McTaggart, 2000.
[38] Rath, 2002.

What stimulates a narrative? What do we notice in our everyday practice?

The motivation for creating a narrative may originate in a problem, a puzzle, an issue, or just wondering how, when and why we interact with families. The act of noticing and writing is intentional in that there is a clear focus to know more about how we interact with families and to enable their engagement in museums. Practitioners choose to write about what they have found interesting and believe will be interesting to others.

Who is the narrator?

Staff can write about themselves or, in collaboration, observe and write about the experiences of other practitioners, and this can include comments by those observed. The narrative should reveal the deliberations and positioning of the author, not just the staff member observed, which acknowledges that our values, interests and experiences frame what we notice.

An engaging narrative

An engaging narrative requires personal investment/significance, empathy, close observation and an intention/motivation to share particular questions and issues with others.

Narratives should include,

descriptive and contextualised anecdotal accounts of language, actions and interactions that are situated (where and when). Writing should introduce the participants and convey a sense of time and place, alluding to the emotional and social atmosphere, and the physical context. The aim is for the writing to 'show what it tells' sufficiently so the reader can experience what the writer experienced. The narrative should also introduce the narrator's position and relationship to the context and participants.

interpretive personal comments that reflect on the choices made by practitioners when interacting with children and families. Comments should acknowledge the complex factors and ambiguities that impact on how and why staff interact or not with families. The interpretation raises questions and notes uncertainties rather than provides answers, guided by questions such as 'What have I uncovered?' and 'What taken for granted assumptions have I examined?' The writer can postulate on positive changes and alternative scenarios.

a storied and conversational writing style that is focused, concise, dialogic, accessible and relevant. The narrative should 'hook' the reader, by setting the scene, introducing key characters and the context, and leading the reader through one or more short episodes, interspersed with periodic personal interpretations.

ethical, sensitive and **non-judgemental** writing that does not judge and, where possible, maintains the anonymity of those referred to.

Sharing our narratives with others

A key aim of narrative inquiry is that it is 'public, susceptible to critical review and evaluation, and accessible for exchange and use by other members of one's scholarly community.' [39] Narratives provide tangible references to lived experience that serve as catalysts for shared learning. This process involves a shared reading (amongst two or more practitioners) followed by a discussion (which can be facilitated) that interrogates the meanings inherent in the narrative. It involves practitioners making sense of the day-to-day in a supportive, collegial environment where reflection, careful listening and thoughtful, informed responses are constant, enabling those involved to look at their work in ways not otherwise possible.

When sharing narratives consider,

- independent reading of narratives before discussing as a group.
- discussion of reading framed by three to four focus questions or areas of interest. For example,
  - What stood out for you in the narrative? What questions/issues did it raise for you?
  - What particular anecdote/comment did you find most telling?
  - What ideas did the narrative raise for you in relation to how, when and why practitioners interact with children and families? What practices worked and what could be improved?
  - What themes/issues raised warrant further exploration by yourself in your practice.

One way of using narrative is through 'dialogic circles' as part of team meetings. See Appendix A: Dialogic Professional Learning for a staff member's reflection on this practice. Appendix B offers another resource for staff, with examples of narratives that should prompt individual and group reflection. These narratives are examples, but not templates, of how narrative writing can be focused and constructed.

[39] Schulman, 1998 (in Lyons, N,. & Kubler LaBoskey, 2002).

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APPENDIX A
DIALOGIC PROFESSIONAL LEARNING

Dr Liz Suda, Museum Victoria

The narrative inquiry approach is a useful method for telling stories about educational practice within the museum setting. It takes account of the three-dimensional aspect of learning in museums, [40] where the temporal, spatial, cognitive, visceral and relational intersect in the learning experience. The first narratives emerging from the research generated significant conversations amongst museum practitioners.

With this in mind it was decided to use one of the narratives at the Education and Community Programs team planning day. A narrative would provide a stimulus for reflecting on practice with a view to engaging and empowering staff in their 'situated practice' [41] . Dialogue is a central element of any community of practice but the form it takes is very much dependent on the context of the inquiry. In this case, the concept of Learning Circles was employed.

Learning Circles

Learning circles are a mechanism for organizing and honouring the collective wisdom of a group and have existed in many social forums. Learning circles enable a process whereby a group can reflect on a written or spoken text in order to extend their thinking and develop a shared understanding, with the view to effecting change in their practice. Study Circles have been used in a range of settings: the USA where they are used as part of a deliberative democracy process[42]; in Sweden[43] where they are an integral part of an informal adult learning process; and with Dialogic Literary Circles in Spain [44] where the circle provided the opportunity to discuss literature, develop literacy and foster emancipation for the dispossessed. Learning circles operate in many different ways, but at their core they require that all voices in the group are heard and all views are respected. The role of the facilitator is critical in this process and in the three approaches mentioned above, significant time is devoted to training facilitators. A hybrid version of these forms was employed in the following example of dialogical professional learning.

A circle formation was used to enable a sense of togetherness, communication and collaboration. There were 12 people, including myself as the facilitator. The purpose of the discussion around the chosen narrative – *Engaging with Dinosaurs* (Appendix B) - was twofold. First to gain feedback on the value of the text as a professional learning tool, and second to see if the team were interested in using such an approach to reflect on their practice as a form of professional learning. Four core questions shaped the conversation.

1. What were your general impressions of this narrative? What jumped out at you?
2. What did it tell you about our practice as presenters?
3. Why do you think the description of M was included in the narrative? (M was a special needs student in the group)
4. Are these narratives a useful form of professional learning and reflecting on our practice? Should we write our own?

The conversation was very animated but not as focused as a formally established dialogic circle, because sufficient time was not available to establish the ground rules and purpose of the dialogue. Nevertheless, all participants were positive about the potential of the narrative process. Many were keen to try their hand at writing their own narratives and using them as a focus for evaluating the programs that the team presents to school audiences.

Participants were invited to write a few sentences about their initial impressions of the narrative inquiry process as a way of analysing its potential as a tool for professional learning. One of the educators wrote:

> *I think this form of reflective practice forms good habits. Those being observed become accustomed to this - it isn't so much about being observed or critiqued but becomes a useful tool – what does this look like to other eyes? How would someone else approach a similar situation? The observer (or self-reflector) has to ask themselves what they are looking for - what signs, behaviours, outcomes am I noticing and why do I think these ones are important? Ultimately I think it will foster a sense of collegiality among the group that we are all able to learn together in a self-aware manner.*

[40] Hooper-Greenhill, E. (1999)
[41] Lave, J. & Wenger, E. (1991)
[42] https://www.everyday-democracy.org/
[43] Larsson, S. (2001)
[44] Flecha, R. (2000)

The interactive nature of program delivery in most Museum education programs allows for significant agency on the part of the presenter in responding to the needs of a specific group. Presenters are encouraged to draw out and build on what the students already know, which means that the 'presentation' changes according to the particular socio-cultural and intellectual make-up of the group. The overall structure of each presentation may be the same but the means to achieving the engagement of any given group requires significant skill on the part of the presenter. The above educator's comment suggests that a more rigorous approach to observing each other's practice might enable presenters to learn from each other, and together.

A number of people commented that writing such narratives required skill and some were less confident than others about their capacity to write as well as the model presented. This 'trial run' using dialogic circles to interrogate inquiry narratives with the team has provoked more questions than can be addressed in this brief reflection. There appears, however, to be a general consensus that the approach is worthy of further investigation. As another participant in the discussion, commented:

We have not engaged in qualitative evaluation of family programming or family interactions with the museum in the past, so the written narratives provide more holistic reflections and much deeper insights into the relationship between staff, the museum's exhibitions and spaces and our family visitors.

The generative nature of the research process has resulted in some unanticipated outcomes for the team. The very process of asking the questions, gathering data, interviewing staff and volunteers has generated discussion and reflection amongst staff both formally and informally. The narrative inquiry approach provides a model that could be applied more broadly in developing communities of practice in the Museum setting.

APPENDIX B
NARRATIVES

ENGAGING WITH DINOSAURS

Outside the Melbourne Museum, 17 children, four teachers and four parents are gripping an orange rope as they head towards the entrance. The teachers are doing the first of many head counts for the day, to ensure that no-one has left the rope and wandered away. They have already had a busy morning, travelling an hour by bus from their kindergarten centre in Wallan, a semi-rural suburb on the outskirts of Melbourne. After eating morning tea outside, they enter the busy foyer where they stop for the children to go to the toilet. This takes some time, so it is exactly the scheduled starting time of 11 am when the group arrives at the small education nook off the main dinosaur gallery where they are to attend a presentation. They stand for a moment at the threshold between the two spaces as other visitors – mainly school students and families - flow around them. This is the class's first visit to the museum, prompted by the children's recent interest in dinosaurs. The teacher, Lucia, is hoping for a hands-on experience that will be suitable for their age, preferred learning style and wide range of abilities. However, there is no time to brief Eliza, the presenter who welcomes the group with a broad smile. Releasing their guide rope, the children rush in, making a bee-line for the low colourful tables at the back of the space. Patting the ground, and with the assistance of a hand-held microphone that raises her voice above the considerable ambient noise, Eliza invites the children to sit in front of her, and the parents and teachers to sit wherever they think will 'work best for the kids'. The teachers sit on the floor behind the children but the parents choose to sit on the couches, which creates a distraction for some of the children until Eliza explicitly asks the parents to join the floor circle later in the session. One child (M) stands by his teachers at the back of the room and throughout the session he wanders around the room, crawls on the floor, and repeatedly approaches Eliza with questions and observations.

Eliza presented this same program to Grade 3 children a week ago and it soon becomes obvious that she is 'translating' from the prepared script that was developed for Grades 1-4 but which is also presented to foundation and kindergarten groups. She skips many of the prepared slides and just as some little spines begin to slump she asks *Who would like to be a fossil scientist with me?* Backs straighten and the children laugh as Eliza demonstrates how *not* to use a magnifying glass by knocking it against her microphone. As she counts out groups of four children for each table, one tells her excitedly, *I'm four*. *Yes, that's right, you are!* smiles Eliza.

A little oasis of quiet descends in the busy gallery as the children begin to examine and touch a range of small fossils at the tables. They talk quietly amongst themselves, to Eliza and to their parents and teachers. As Eliza moves around the tables she enthusiastically asks 'Has anyone found a fossil fish?', 'What does this look like?' and 'Can you feel the bumps?' Holding an ammonite up for her teacher to see, a child repeats one of Eliza's observations word for word; *This one's just like a snail*. The time flies and soon it is time to pack up, which is almost as much fun as investigating the fossils. M is given extra time to pack his box and when it is done he rushes to show Eliza. As it starts to slip from his hands, Eliza quickly swallows her horror with a bright, *Oops, two hands, that's it, you can do it!*

The next 15 minutes of the session sees the children pretending to be stomping dinosaurs and crawling lizards, counting dinosaurs on the display screen and passing a skull around a circle, trying to determine if it is from a plant or meat-eating dinosaur. They display impressive knowledge, which their teacher attributes to their previous investigations at the kindergarten. Over this period, the invisible membrane between the education space and the rest of the dinosaur gallery gradually becomes more permeable. The children turn their heads in response to various sounds such as a family who approach and prepare to join in until a museum staff member heads them off, explaining that the presentation is just for pre-booked groups. Soon after, Eliza shows the group an image of a Mamenchisaurus and points to the dinosaur skeletons in the adjoining gallery which are models of this species. The children all run over to the couches to get a closer look and two are so interested that they take a while to come back. While Eliza is helping to pass the skull around the circle ('like pass the parcel'), M insists on counting all its teeth. Eliza and the other children wait patiently until he is finished, but Lucia later notes that such moments would be made easier if two presenters could share the many tasks involved in these sessions.

By 11.30 am the topography of the group has evolved from the still and even landscape at the start of the session. Now the children are scattered beyond the initial 'audience' space; some are lying on their stomachs, some are spinning on their bottoms and one is curled up on the couch with her parent. Eliza quickly wraps up the presentation, telling the children to look out for a chicken-sized dinosaur, fossilised eggs and poo in the main gallery, which results in a few giggles and gasps. Everyone comes slowly to their feet, the teachers instruct the children to once again grab hold of the orange rope and when this is finally achieved, they set off for the nearby dinosaur gallery walk.

The group makes its way slowly around the walking platform surrounding the dinosaur skeletons. The interactive panels are at about head height for the children who are keen to touch them and often jostle each other to do so, despite having no idea what they signify. The teachers, who are busy conducting head counts and telling the children to spread out along the rope, do not offer much interpretation about the displays or follow up on Eliza's suggestion that they look for eggs, a small dinosaur or coprolite. Some pushing and shoving ensues, someone complains, 'I can't see!', and M begins to cry. The teachers make for the open space of the foyer and seat the children on the floor. As they pass the Touch Trolley, whose treasures remain out of sight above their heads, one child calls out proudly to Eliza that he found the chicken-sized dinosaur. Yet to come is lunch, another long bus trip home and all the other usual events in a busy pre-schooler's life, but three weeks later Lucia reports that the children are still asking the teachers, *What's this dinosaur called?*, *What does it eat?*, and *Does it swim?*, all 'different things that the presenter touched upon.'

A FAMILY DAY OUT AT THE MUSEUM

Coming to the Museum

Tricia and her children, Bede (4) and Esther (2), were visiting the museum for the first time since Esther was born. Tricia used to visit more often with Bede, usually arriving towards the end of the day to coincide the visit with a picnic with friends in the adjacent Carlton Gardens. The family - Tricia a children's theatre actor, and her partner, a cartographer - live two hours from Melbourne on a farm near Kyneton, so each visit involves a considerable investment of time, energy and organisation. Last month Bede and Esther attended the blockbuster exhibition Jurassic World with their grandparents. The visit gained mixed reactions. Whilst Bede enjoyed it and wanted to see more, Esther was intimidated by the loud animated dinosaur displays.

Encouraged by Tricia that there were other things to see at the museum, Esther agreed to return. Upon arrival in the expansive and resounding entrance, though, the distant roaring of the still running Jurassic World exhibition once again worried Esther, who did not want to see the 'scary' dinosaurs, instead preferring to 'go to the silent bit' of the museum. After reassurances that she did not have to see the 'real' dinosaurs, Esther agreed to enter, pacified in the arms of her mother. They quickly bought tickets on this quiet week day afternoon and set off together, backpack-laden, with Bede in tow and accompanied by Helen, a family friend.

An early encounter with the touch trolley

With no particular reason for the visit besides enjoying time together, the family entered the cavernous foyer and turned right, channelled by the high-vaulted, polished walk-way. Some distance away, the solitary figure of a museum volunteer was stationed at a 'Touch Trolley', strategically positioned at the entrance of the Indigenous gallery, Bunjilaka. With no other adults or children in sight, Tricia and the children gravitated to the small mobile display cabinet which included an array of Indigenous artefacts including a kangaroo skin, a shield, boomerangs, and various other tools and weapons. Waiting relaxed for encounters with families, Molly greeted the visitors with a friendly smile and invitation to 'touch'. As she later reflected, she saw her role was to, 'greet people with a smile, tell them that they can touch things and just explain it. Get them to feel the kangaroo maybe, something that's nice and soft, especially for little kids, who like touchy-feely things'.

Tricia squatted down to Esther's eye level which was just below that of the trolley. Mediating between Molly and her children, she asked questions and modelled interest. Initially hesitant, first Bede and later the younger Esther, comfortably touched the kangaroo skin and other artefacts. Molly offered them objects which she named and noted for their general utilitarian purposes. She asked questions such as, 'What do you think this is used for?' to which the children responded with answers such as, 'It's for cutting things', 'Digging' and 'It's a big pencil'. Given licence, Bede and Esther, now noticeably much more relaxed in the museum environment, manipulated boomerangs and digging sticks, waving them through the air playfully. Molly has worked largely with the Bunjilaka collection and she later noted that she encourages children to treat the collection items with respect and not 'damage' themselves by 'poking or throwing around' the implements, some of which were made specifically for 'fighting'. She doesn't want them to treat the objects as 'toys' but to 'touch and feel the real thing and understand what people used the items for.' Using simple language to explain, Molly did not discuss the cultural significance of the objects presented. Throughout this encounter Tricia modelled to the children how to handle the artefacts and prompted conversation about them. Molly reflected that throughout her fifteen years volunteering at the museum she has had to be responsive to both parents and children, something she does largely intuitively depending on her 'back and forth' communications with them. Tricia later said that she felt the exchange at the Touch Trolley was 'not particularly dynamic', although the children enjoyed the 'hands on interactions'. This view was supported by Bede's reflection the following day, when he said, 'I remembered the boomerang and the skeletons. I wish I could have touched the skeleton. I liked feeling the boomerang.'

After a brief and concentrated ten-minute stay at the Touch Trolley, Esther began to get restless. With no recommendations given by Molly as to what to see next in the Museum, the family hovered for a moment on the threshold of the adjacent entrance to the softly lit, but unpopulated Bunjilaka gallery entrance, uncertain of where to start.

Looking for direction

Bede was the first to make a move, as he was drawn to a topographical map with touch sensitive posts naming the Indigenous clans in Victoria. He asked, 'How do these work?' and once he realised that the Indigenous language

sounds were triggered by pressing the tops of the posts, he and Esther spontaneously began to create an ad hoc orchestration of sounds. Although Tricia tried to explain the meaning of the exhibit, the children were more interested in physical play and the mechanics of the posts. After expending some energy alongside her brother, Esther noticed some trees through a narrow high window and began to ask, 'Can we go out to the bushes?' After some family negotiation, Tricia proceeded out of the gallery hand-in-hand with her two children, attracted to the light and natural space of the nearby outdoor Milarri native garden. After a brief encounter with eels and rocks that were signed not for climbing, Bede indicated it was his turn to choose what to see next and he was keen to look for dinosaurs (skeletons not the Jurassic exhibition). The family's itinerary was strongly guided by Tricia's negotiation between her children's very different needs and interests, a job she found difficult and wearying at times. Returning inside, she approached Molly once more, who provided general directions to the dinosaur skeletons. Tricia also asked if there was a map available and Molly directed her to the front desk. Tricia said later that being in public spaces with children can be so tiring that she 'can't be bothered' seeking out and asking staff members for directions or suggestions. She would prefer to have staff members issue an invitation to her instead, to alleviate some of the responsibility for the success of the day.

As the family walked back to the front entrance of the museum they talked animatedly about the possibility of finding a map. In the Bunjilaka Gallery Tricia had observed to Bede that the topographic map of Victoria was like his own 3D map at home, to which he had responded, 'I know.' Tricia explained that the children's father is a cartographer, so the children are familiar with and interested in maps. In the foyer, the family approached a Customer Service Officer stationed at the exit. He said that there would be maps in the brochure cases behind him but there weren't any to be found. He left his post to ask at the front desk and returned, apologizing that he hadn't been able to find a map and explaining that it was his first day on the job. He suggested downloading one from the website and gave them a quick verbal description of the museum galleries. In response Bede asked, 'How will we know where to go?' To soften his disappointment, Tricia reminded him of the directions given by Molly earlier. As some form of consolation Esther asked if she could still take a general brochure with no map. She folded and wrapped it into the hem of her dress and carried it like a comfort toy throughout the museum, drawing it out whenever an exhibit failed to engage her.

Making connections with family life

Turning back to the museum, the family were drawn towards the Forest Gallery. When they were in the Milarri Garden Tricia had explained to Helen that Esther is a great nature lover who chooses to spend a lot of time outdoors, so this gallery was a good choice for her. At the entrance to the space, Bede pointed to a thick vertical wire cable and asked, 'Is that electric?' Tricia laughed and explained that this question reflects Bede's rural home environment, where he has been taught to check for electrified equipment such as fences. The Forest Gallery walk begins at an intriguing, dimly lit stone tunnel and the visitor is drawn forwards by the sound of a waterfall that can be glimpsed through a crack in a wall about half way along. Although Esther was a bit apprehensive at first, her curiosity was strong enough to overcome her doubts. Both children looked at the waterfall briefly before spending some time looking for frogs and lizards in the large glass vivariums built into the walls of the tunnel. The frogs were relatively easy to see, but Bede couldn't find a lizard. Helen asked him if he had lizards and frogs on his farm and he replied matter-of-factly that yes, they have frogs, but that the only lizard they have seen was a blue tongue lizard that was eaten by their dog. The family continued through the tunnel, stopping only briefly at the next vivariums which did not hold their attention for long.

Returning to the main museum passageway, which contained a large Pygmy Blue Whale skeleton, the family speculated about what kind of animal it was. Bede was pleased to see that his guess, that it was a whale, was correct. Tricia led the children to a low glass display of krill and explained to them that this is what the whale eats. She asked the children how many they would eat in a day and they had fun making up various amounts. Bede then noticed a skeleton and stuffed skin of an anaconda in a nearby display case. He asked if the snake and the whale were 'alive', or 'real' and said he wouldn't like to meet a real snake.

Engaging beyond screens

As they reached the dinosaur gallery, the family paused briefly to take in an environment which resounded with loud banging. The children mentioned the noise levels several times throughout the visit which were quite high despite the low numbers of visitors. In the dinosaur gallery, their eyes were drawn to the touch screen displays that line a walkway winding around the base of the central display of skeletons. The very large skeletons are best seen from a distance and the touchscreen displays are at head-height for small children, so Bede and

Esther's attention was directed primarily towards these rather than the bones. The first screen showed a detailed timescale of evolutionary periods that could be accessed by swiping the screen to the left or the right. Bede was attracted to the movement and sound that this action triggered, and although Tricia tried to pause it and engage him in conversation about the dinosaurs found in various eras, he was more interested in being able to control the image himself. He and Esther pushed their fingers across the screen unsuccessfully numerous times before Bede complained, 'Why can't we do it?' Tricia explained that his finger was wet, and he dried it on his shirt before trying unsuccessfully again. He then gave up on this screen and looked around saying, 'Are there any more of these things?' This pattern of behaviour continued as the family strolled down the walkway. Tricia later noted that she found the number and location of the touch screens 'quite distracting' from the exhibitions and wished that there had been other experiences on offer. Although she tried to engage the children in the three-dimensional exhibits, the children were more interested in activating the screens without taking much notice of the visual content. Esther was the first to tire of this situation and, pointing to the adjacent animal gallery, said, 'I want to get out of here and go over there.' Bede was reluctant to leave at first, and hung back as his mother and sister moved slowly towards the exit but then he suddenly gave a cry of 'Ugh! Newsy news-bum!' and ran to join them. Tricia laughed when she saw the footage on the screen that had affected him. She explained that Bede had been repelled by a 'talking head' expert, something he associates with the 'boring' television news programs that his parents watch. This moment turned out to be fortuitous for family harmony as it allowed them to move on to the next gallery in unison. When Bede returned to this same screen later in the visit, the film was at a different point, showing an exciting battle between two mega fauna species. He was very interested in this part of the film and had it been screening earlier Tricia may have struggled to manage the children's different interests.

The engaging parent

Moving to the animal gallery, both children began a game of naming the animals and plants that they could readily see towards the bottom of a large enclosed cabinet. Bede quickly identified a blue tongue lizard, like the one he had mentioned earlier that was eaten by the family dog. Tricia said to him, 'We like lizards, don't we? Because they eat the snake eggs', to which Bede replied, 'But chicken eggs too.' They both laughed in memory of a previous experience had on their farm. Esther had wandered towards a low display of birds by this stage and was pointing at each one saying, 'Bird, bird, bird, bird.' She became excited when she spotted an ibis, a bird they had seen previously on a holiday, and pulled Tricia by the hand to show it to her.

Looking up to the higher mounted displays, Bede pointed out a hyena, which he explained to Helen he knew about through the story of *The Lion King*. At the base of each cabinet was a touch screen with images of the corresponding displays. When each image was tapped, a box popped up with information about that animal. Bede was absorbed in making the boxes pop up, but as he couldn't yet read, Tricia had to interpret the information for him. Moving between this role and her need to engage Esther, who tired of the touch screens more quickly, Tricia had to actively engage with her children. She later said that Bede's experience of the museum is now 'just on the cusp' of being more about learning and that if she had been with him on his own, she would have read a lot more of the exhibits' interpretive panels for him. Juggling the children's different interests, Tricia reflected, it may be helpful to have support from a museum staff member, particularly if they were 'funny and charismatic or really knew their stuff'. She emphasised that for her it was the quality of the interactions with staff members that mattered, not how often they connected with her family.

Tricia explained the exhibits for the children as best she could, often relating them to their daily lives and to their picture books, such as *Edward the Emu* and *Wombat Stew*. At one point Tricia pointed to a fox and asked Esther, 'What do you think of foxes?' Esther promptly replied, 'They're good to ride on' Tricia was momentarily confused (and amused) until she remembered that Esther was referring to the book by Margaret Wild, *Fox*, in which a magpie rides on a fox's back.

The animal gallery featured a soundscape of animal noises and a gong-like sound. Bede pretended to leap in fright at one of these sounds and he and Tricia laughed at his antics. They wondered aloud what the sound was but did not find out. Bede continued to imitate the sound and Tricia later observed that his method of 'blowing off steam' was to engage in some silly behaviour for a moment.

In search of an 'invitational' space

Having explored the museum for nearly two hours, Tricia and her children were becoming tired. They wandered back through the dinosaur gallery. Bede ran ahead to look at the touch screens again and, seeing the mega fauna battle, did not want to leave. As Helen was there, Tricia and Esther were free to go into the adjoining

gallery to look at the butterflies and bugs. Esther enjoyed this gallery and made lots of exclamations of 'Wow', 'Oh! Massive' and 'Huge'. Bede eventually left the screens and went to find the others. Tricia's suggestion that they have a snack was met with enthusiasm, and they began to look for somewhere to sit. Esther pointed out several couches in the dimly lit bug gallery but Tricia said she didn't think they were eating spaces. As the family walked back through the dinosaur gallery they passed the education nook, which also has small tables and couches in it. Bede suggested that they eat there, but Tricia didn't think it was a suitable eating place either. Slightly exasperated, Bede asked why all these couches weren't places for eating? Although there are no signs forbidding eating in these spaces, the low light and lack of bins indicated to Tricia that these were places for temporary respite, not picnics. This was reflected in her later remark that at times the museum can feel cold and uncomfortable, an impression that could be alleviated by having more opportunities to interact with staff who could help to make it feel more like an 'invitational space'. This, she says, is largely about reassurance that they are welcome in a public space and recognition of the effort that it takes to be there. Tricia's previous interactions with staff at the museum, even in the Children's Gallery, which she believes 'does not go far enough', have been very limited or focused on ensuring the children don't touch the exhibits. She assumes this is because she used to arrive late in the day when staff were packing up. Ideally, if a museum does not provide a good or app audio, Tricia would like staff members to make the visit easy by greeting them and tailoring their suggestions to the family's situation, taking into account the age of the children, how long the family has for the visit and the family's interests. She cites the Seattle Children's Museum as an example of a public institution that interacts well with families, greeting the children, looking after families' bags, providing lots of rest stops and having a large staff presence.

Moving out to the expansive open passageway that exhibits the blue whale skeleton, the children were immediately drawn to a play-pen arrangement of couches which held blocks and stuffed toys referencing parts of the collection. The children took something to eat and played happily while Tricia enjoyed some mental and physical rest. She said these informal spaces are 'the best bit' of the visit because the children are led by their own play whereas in the 'educational spaces' of the galleries the children are looking to her 'for stimulation and answers.'

SCHOOL HOLIDAY EGG SORTING

Come in, come in!

It is 11am, and the start time for the school holiday activity taking place today. Some museum visitors have noticed the open door and taken the brave steps to be the first to enter. Although I am not staffed on this program, it seems like an excellent opportunity to get the ball rolling and I invite the visitors – family groups with children – to come in and take part in the activity. Knowing that a rostered member of staff would be in very shortly, I open the doors and officially kick off another busy day. (Isla, reflective practitioner journal)

For the families hovering uncertainly at the door to the activity room, Isla's warm and enthusiastic greeting of 'Next scientist up!' is all the encouragement they need to jump into the activity. They quickly seat themselves around a large table that is set with trays of leaf litter alongside some empty trays, tweezers and cups. To the uninitiated eye, it all looks a bit dull compared to the live exhibits of egg-laying animals placed around the walls, or the colourful egg-decorating activity in the museum foyer, but Isla quickly models what the task involves. 'Grab yourself a big scoop' she invites the children, as she fills an empty tray with a cupful of leaf litter. With evident relish, she then tells the children that hidden in the leaf litter are insect eggs – 'Yes, real eggs!' - that they can collect and identify using the implements and information cards provided. 'Is this an egg?' asks one child, holding up a tiny object in her tweezers. 'Sure is!' Isla confirms, and then helps her to match it to the picture. 'Ooh, that's a rare one', she says and the child returns to her egg sorting with vigour. There is a steady flow of people entering the room now and, seeing an established activity in progress, they find themselves a chair and copy the other visitors with little need for Isla's help. For a boy who does seem uncertain, Isla proposes a concrete, non-threatening task: 'How many of these ones can you collect?' she asks. Soon an atmosphere of focused industry is established, with many parents as engrossed in this authentic science activity as their children. Later, community programs officer Nico attributes the success of sorting and classifying insect eggs to the fact that it is 'achievable' and 'satisfying', and that it gives children the opportunity to 'relate to things in (their) environment'.

Suddenly there is a small surge of excitement at one end of the table as a child notices a stick insect hatchling in his tray. 'You're a better scientist than me. Hey, well done!' Isla tells him. Gently lifting the delicate creature out of the tray, and placing it in a nearby vivarium, Isla takes advantage of this spontaneous, exciting and, she acknowledges, for some people perhaps unnerving event, to offer some factual information about the nymph. Mindful of her place in the complex social interactions at play in this event Isla later wonders if she has struck the right tone. Throughout the twenty minutes she is there she shifts between the information-delivery mode of a 'teacher/instructor' and other relational modes including; inviting families to participate; prompting them to think about the science behind the activity; supervising and facilitating the practical aspects of the work; modelling the physical and attitudinal skills required; and responding to visitors' questions and requests for help. During this busy period, there is little opportunity for extended informal interactions but, by now firmly established as an expert, Isla is stopped to answer questions even as she leaves the room.

Building relationships

By around 12 pm the crowds have thinned out somewhat as families go in search of food and a place to rest. All the newly hatched nymphs have been found and caught, and the atmosphere has changed from the heady excitement of the previous hour to a calm sense of productivity, enhanced by a subtle background soundtrack of forest sounds. A small number of families, with children aged between two and ten, sit around the table for up to twenty minutes at a time, sorting through the eggs. Demonstrating another sort of active supervision, Nico sits with the children, quietly working on his own egg hunt. Modelling interest and involvement in the task, he shows the child next to him an egg that he has found and says, 'These are my favourites.' Absorbed in his own activity, the child does not reply, but smiles slightly. Nico does not push the exchange and they continue working alongside each other in companionable silence. After a few minutes Nico looks over at the child's haul and notices a different egg. Pointing to the corresponding picture on the information card, he says, 'I see you've found one of these. They're a bit more delicate than the others, which makes them hard to identify. Do you know what they eat?' The child looks at Nico, shakes his head, and a deeper conversation about insects gets underway. Nico has initiated this interaction with questions about the child's work, which is a technique he says he often uses to engage children 'where they are at'. This is demonstrated again soon after when he notices that a two-year-old has adapted the task to her own interests and is painstakingly stacking the paper cups with the tweezers. 'Oh, wow!' he says, admiringly, passing her a few more cups for her tower.

Seemingly casual, Nico's conversation starters are purposefully constructed as invitations to further interaction but he and Bethany, the senior public programs officer at Melbourne Museum, say that children also often instigate exchanges with them. Nico says, 'You'll find if children are doing an activity they will spontaneously start talking to you. It's wonderful.' This is no doubt aided by Nico's calm manner. As he says, 'I'm pretty easy-going and I suppose gentle with kids anyway. I don't think I'm too intimidating or scary.'

While many adult visitors are fully occupied with their children, either at the table or looking at the exhibits in the room, some are open to informal interactions with the staff. Minna is a volunteer who has asked to work in this activity room today because the museum is too busy for her to carry out her usual duties of leading museum tours. Although her limited knowledge of the science behind the activity restricts her ability to answer the children's specific questions about stick insects, she engages easily with families on other topics. When a very young child unselfconsciously asks her about a mole on her arm, she offers him a brief, matter-of-fact explanation. The initially embarrassed mother looks relieved and smiles gratefully at Minna.

Not all the visitors are looking for conversation, though. Some families use the activity as an opportunity for one or both parents to rest on the couches and beans bags situated at one end of the room. Scrolling on their phones, or keeping an eye on dozing babies in prams, they are given a moment's respite from social interactions by their children's engagement in the activity. Recognising this, none of the staff approach them. Other families end up in this area by default. During a particularly quiet period during the session, when there is only one volunteer and no staff members present, some families miss out on the welcome described earlier. Without a specific invitation to participate, they drift around the room, looking at the exhibits with noticeably less interest than the families who had sorted the eggs. The children in these groups dive-bomb the bean bags until their parents tell them to stop.

Who's the expert?

Noticing a couple looking at 'Lady Gaga', a giant stick insect, Minna approaches them and, casually 'inserting' herself into their conversation, tells them the few facts she does know about this exhibit. A similar exchange with another woman soon morphs into a friendly discussion about the insects found in their respective gardens, and then turns to gardening in general. The scientific information Minna offers seems to be relatively inconsequential to these conversations, but later both these groups confidently pass it onto the children they are with, without identifying the volunteer as the source. Nico says he loves helping to turn adult family members into 'pocketbook experts' like this. As he explains, 'It almost is better for them to tell the child that and to have them be the person educating them. It's good. It empowers them more.' He says it is also important to acknowledge that both children and parents bring a wealth of existing knowledge to their museum visit. Certainly, some parents are keen to demonstrate this. When Isla explains to one family that the stick insect eggs are 'a little treat for ants, like ice-cream', and that they eat the membranes and take the eggs underground where they are provided with good conditions to hatch, the parent calls this symbiosis. Isla nods but, noticing that the child does not seem to know what this means, goes on to interpret it in words she can understand.

Other families actively look to staff to extend their learning experience. On a visit to the museum during school term time, when there were no special children's activities programmed, a visitor remarked that her family would value interactions with staff members who were 'funny and charismatic or really know their stuff'. Having demonstrated knowledge and passion in the egg sorting activity, Isla is quickly established as one such approachable expert. She is called upon to acknowledge discoveries, identify species, and initiate newcomers into the activity. She gives one family detailed information about how to hatch insect eggs at home, including how to avoid accidental hatchings in bins, which provokes a combination of worried looks and surprised laughter. At one end of the table a girl seems to have stalled and her mother encourages her to continue sorting the eggs, but she says she is 'waiting for the lady' and does not return to the task until Isla is free to answer her question. Another boy suddenly freezes and glances guiltily in Isla's direction. She knows what has happened, though, and reassures him that although he has, as he suspects, popped an egg with his tweezers and therefore killed an insect, it is easily done.

At the egg-sorting table, children barely acknowledge generalised comments such as 'You're doing well', seeming to prefer recognition of specific achievements instead. A child shows Nico that an egg is in the process of hatching and Nico responds with genuine wonder, 'Yeah, I reckon it has. You can see the membrane!' The child smiles, pleased to have noticed something that the adult hadn't. The 'how' of this social interaction appears to be as important to engagement as the 'what' of the activity in which it takes place.

MANAGING, MODELLING AND MAKING: THE 'TAKE-HOME' EXPERIENCE

Upon entering the Little Kids Day In gallery space, most families gravitate to the left, possibly because that's where the prams can be parked, and begin a logical circuit of table and floor activities spread throughout the room. Other families, possibly return visitors to the regular monthly program, make a B-line for the activities that most attract them. One popular experience, located next to the entrance, involves making small Australian dinosaur forms from plasticine pressed into latex moulds. There are four staff/volunteers attending; three sit behind a long bench set out with materials and information sheets about dinosaurs, and one manages the queueing families. A volunteer greets them warmly, offering children prepared chunks of plasticine that she has rolled in her hands to make 'nice and warm' and soft enough for little hands to press into a mould. She comments playfully, 'Can you squish it in your hands? Squish, squish, squish.' This animated invitation, and the lure of creating 3-D dinosaurs, motivates the children to take up the activity, albeit shyly at times. The volunteer adapts her interactions in response to children throughout the session. For younger children, she squeezes the plasticine herself and instructs the parents to continue helping the child. She prompts those who can be challenged further to make their dinosaurs a 'little prettier'. Noticing an older child standing back and watching passively, she invites him to warm up the plasticine for his younger cousin and praises him for 'doing such a good job.'

Morris, an experienced museum educator, is sitting next to a volunteer. Stretching over and bending down to each child's eye level he begins pressing plasticine into the mould before inviting them to complete the task. Another invested adult helping at this table is Hannah, an experienced museum staff member and volunteer coordinator. Using comments such as 'Use your big muscles and push it down' and 'Let's see how we go', Hannah playfully encourages the children to co-create with her. Similar to the approach adopted by Morris, she gives directions while encouraging the children to complete the task themselves. She also engages them in informal conversation, weaving information on Australian dinosaurs throughout. The fact that the model forms are based on Victorian polar dinosaurs, is noted by Hannah, as 'a real eye-opener, because most of the children just want T Rex, but when you tell them it comes from Victoria they're like, 'Oh, wow!'' Hannah observes, though, that not all children can manage the mould making experience which makes it important to offer other more 'inclusive' experiences, such as the task of assembling a small cardboard diorama which includes a printed landscape that can be coloured in. Available on the adjacent table, this task complements the more challenging modelling experience. As Hannah notes later, 'If they couldn't do the dinosaur at least they could colour it in and make the diorama to go with it.'

In one instance, a parent shows Morris a picture that her child, Kim, had drawn at home of a dinosaur called Spikey and proceeds to ask several questions about the information included in the dinosaur 'work sheet'. This information was produced by Morris with the intention of providing 'focus points' for interactions between museum staff and families. It prompts learning through questions such as, 'Why does a dinosaur have sharp teeth?' and 'Was the dinosaur a herbivore or carnivore?' In her interaction with Morris, Kim asks if she can make a T-Rex model and he explains that they are only making dinosaurs from Victoria. The child doesn't seem too disappointed and happily continues to create a dinosaur model, which she proceeds to play with inside a diorama before continuing to make a T-Rex mask at a nearby table.

ENGAGING WITH THE FEDERATION HANDBELLS

The Federation Handbells, a collection of historically significant bells, were positioned just inside the exit and entrance to the exhibition room. First commissioned by Arts Victoria for the 2001 Centenary of Federation, the bells are now a public resource loaned to schools and community groups. Heard throughout the day, particularly when the recorded music was paused, the bells provided a distinct sensory experience and were facilitated by Mika, the Federation Handbells Programs Officer. With a background in performance and music, Mika had 'fallen in love with the bells', which she had worked with for over five years. She believed the bells helped to 'deepen' and 'enrich' the musical experiences had by children and adults. The collection of twenty brass bells was slotted into a custom-made box frame, and each could be removed to be played separately. As families came to investigate, Mika offered children mallets, saying, 'Would you like to play these bells?' an offer most children happily accepted.

She modelled how to hold the mallet at the right end and how to strike the bells, and prompted children to experiment playfully. For example, she pretended to 'stir' muffin mixture inside the bells, as a way of making sounds. This open-ended approach to using the bells attracted diverse visitors, from babies to adults. Explaining further she stated,

> *Some children methodically hit every single bell, then they explore latches on the end of the boxes. Others will run up and down the bells to play notes. Some will stand and listen for ages and ages before they even hit a bell. So, there's lots of ways of them indicating to me that they are engaged. One little girl, in her own world, spent 10 minutes just sitting on the floor, with others playing around here, rolling the mallet back and forth with her mother and she was absolutely engaged in this experience.*

For Mika, the fact that the handbells 'worked on lots of levels' required her to react to each child differently, through 'genuine and unique' communications, which was something she loved. Some children remained at the bells for lengthy periods, which gave parents and Mika time to step back and observe or talk informally about the history of the bells. Reflecting on the day, Mika noted that whilst she didn't have time to observe her colleagues interacting with families she thought it was 'wonderful that everyone was so focused on the primary goal of giving people a rich experience.'

APPENDIX C

SURVEYS

STAFF AND VOLUNTEER SURVEY

1. What is your current position at Melbourne Museum?

- ○ Customer service staff
- ○ Management
- ○ Exhibition development staff
- ○ Education staff
- ○ Volunteer

2. How long have you been working in this position?

- ○ Less than 1 year
- ○ 1-5 years
- ○ More than 5 years

3. What experience (e.g. teaching, personal study) informs your work at Museums Victoria?

……

……

4. Why do families with young children (birth to 5 years) come to the museum?

	Not at all important	Somewhat important	Moderately important	Very important	Extremely important
a. Enjoyment	○	○	○	○	○
b. Spending time together	○	○	○	○	○
c. Seeing something special	○	○	○	○	○
d. Learning	○	○	○	○	○
e. Spending time in a comfortable and pleasing environment	○	○	○	○	○
f. Other:……	○	○	○	○	○

5. What are the primary ways that young children and families learn in the museum environment?
Tick only three below

a. ○ Through playful interactions
b. ○ Through family interactions
c. ○ Through social interactions
d. ○ Through multiple senses
e. ○ Through hands on interactions with the exhibits and activities
f. ○ Through interactions with Museum staff
g. ○ Other:

6. What tells you most clearly that families are having an enjoyable experience?
Tick only three below.

a. ○ They look attentive and interested
b. ○ They talk animatedly to each other about the exhibits
c. ○ They stay at the exhibits or are involved with activities for a long time
d. ○ They are keen to try new activities
e. ○ They ask questions
f. ○ They interact confidently with the environment
g. ○ Other:
……

7. In your role, how much time/emphasis do you give to:

	None	Some	A moderate amount	A lot
a. Welcoming visitors (including education groups)	○	○	○	○
b. Making visitors feel comfortable and safe	○	○	○	○

c.	Prompting interactions with exhibits and activities	○	○	○	○
d.	Responding to visitor interest in exhibits and activities	○	○	○	○
e.	Extending visitor knowledge about exhibits	○	○	○	○
f.	Giving directions	○	○	○	○
g.	Gathering informal visitor feedback	○	○	○	○
h.	Other (please comment) …….	○	○	○	○

8. Would it benefit young children, families and education groups to interact more with museum staff?

No	Not sure	Yes
○	○	○

If yes, explain in what way:

……

9. How much do the factors listed below influence interactions between young children, families and museum staff?

		Not at all	Somewhat	A lot
a.	Time pressure	○	○	○
b.	Age of children	○	○	○
c.	The nature of the exhibit/activity at which staff are located in the museum	○	○	○
d.	Language differences	○	○	○
e.	Other (please explain): ……	○	○	○

10. How useful would these initiatives be for assisting museum staff to develop further their interactions with young children and families in the museum?

		Not at all useful	Somewhat useful	Moderately useful	Very useful	Extremely useful
a.	Written guidelines supported by a video resource	○	○	○	○	○
b.	Mentoring opportunities	○	○	○	○	○
c.	Time for professional reflection	○	○	○	○	○
d.	Professional development workshops	○	○	○	○	○
e.	More opportunities to interact with families	○	○	○	○	○
f.	Other (please explain):……..	○	○	○	○	○

PARENT/GUARDIAN SURVEY

The following questionnaire has been developed to inform the continuing improvement of Museum Victoria. Thank you for your support.

1. Please note the number, age and gender of children you have brought to the museum today.

Age:	Age:	Age:	Age:	Age:
Gender:	Gender:	Gender:	Gender:	Gender:

2. What is your relationship to the child/children with you today?

○ Father ○ Mother ○ Grandparent ○ Family friend ○ Other

3. How many times have you visited Melbourne Museum and/or Scienceworks in the last year?

○ Once ○ 2-3 times ○ More than 3 times

4. Why did your family come to the museum today?

	Not at all important	Somewhat important	Moderately important	Very important	Extremely important
a. Enjoyment	○	○	○	○	○
b. Spending time together	○	○	○	○	○
c. Seeing something special	○	○	○	○	○
d. Learning	○	○	○	○	○
e. Spending time in a comfortable and pleasing environment	○	○	○	○	○

f. Other (please comment):
……

5. What are the primary ways that young children (birth to 5 years) learn in the museum?
Tick only three below.

a. ○ Through playful interactions
b. ○ Through interactions with parent/guardians
c. ○ Through interactions with other children
d. ○ Through multiple senses
e. ○ Through hands on interactions with the exhibits
f. ○ Through interactions with Museum staff
g. ○ Other (please comment):
……

6. What tells you your children are having an enjoyable and interesting experience?
Tick only three below.

a. ○ They look attentive and interested.
b. ○ They talk animatedly to each other about the exhibits.
c. ○ They stay at the exhibits or are involved with activities for a long time.
d. ○ They are keen to try new activities.
e. ○ They ask questions.
f. ○ Through confident movement throughout the museum

Are there others ways families show their enjoyment not listed here?.....

7. What captured the interest of your child/ren at the Museum today?.....

The following questions refer to any interactions, including with front-of-house staff, you had with museum staff and volunteers throughout the museum today.

8. Did the museum staff and volunteers help make your family experience an enjoyable one today?

Not at all	Not much	Unsure	To some degree	Very much so
○	○	○	○	○

Please comment: ……

9. How did Museum staff support your child and family experience at the Museum?

	Not at all	Not much	To some degree	Very much so
a. Welcoming you	○	○	○	○
b. Making you feel comfortable and safe	○	○	○	○
c. Helping children and families appreciate and understand exhibits	○	○	○	○
d. Giving directions	○	○	○	○
e. Informal conversation	○	○	○	○
f. Other (please explain):	○	○	○	○

10. Would you and your family value more interactions with Museum staff?

No	Not sure	Yes
○	○	○

If yes, explain in what way:

……

……

11. Please ask your child/ren to tell you what they most remembered about coming to the Museum today.

APPENDIX D

Engagement Observation Checklist

TYPES OF ENGAGEMENT	EVIDENT WHEN
Taking In	Participants display sustained attentiveness, concentration and receptivity to verbal and non-verbal presentations and demonstrations
Putting In	Participants exhibit a willingness and confidence to contribute, verbally and non-verbally, their ideas and initiate and lead their own activities
Taking On	Participants transfer enthusiastically and confidently, and become concentrated on a new task.
On Task	Participants actively and willingly participate in set tasks for significant periods of time, showing concentration and precision.
Time Out	Participants display short period of non-disruptive non-participation followed by a willing readiness to re-engage.

(Jeanneret & Brown,2013).