



Young Children's Perspectives of Museum Settings and Experiences

BARBARA PISCITELLI AND DAVID ANDERSON¹

Overview

Research into the museum experiences of young children is extremely limited and hence there is currently limited understanding and appreciation of children's perspectives of such settings. This is quite surprising given that children constitute a significant part of museum visitorship by virtue of their inclusion as part of the family visitor demographic, yet accounts of their experiences are largely ignored. This article reports on children's perspectives and past experiences of museums.² Seventy-seven children, from Brisbane, Australia, were surveyed individually using a combination of methods including semi-structured interviews, guided questionnaire, and a free-choice drawing activity. Analysis and interpretation of the children's responses indicated that they had extensive experience of museums and very positive perspectives about the settings they had visited. The children's responses, categorised by the types of museum experiences they encountered, lead us to conclude that their salient recollections centre on experiences which appeared to be non-interactive in nature, and directed towards large-scale exhibits in a natural and social history museum. Furthermore, the data suggest that the children's positive perspectives of museums were correlated with encounters with exhibits with which they could make ready connections with their pre-existing knowledge and understandings. Thus, there is evidence that exhibitions which provide readily accessible links with children's past experiences result in more positive affect than exhibitions which are hands-on, engaging and/or multi-sensory in nature.

Introduction

It can be argued that in the period leading up to the 1980s museum and visitor research studies were in their infancy (Feher, 1990). Since that time, the field has seen considerable growth and development, although it may be considered as having been in a formative stage of development throughout the past two decades. Researchers and investigators have grappled with numerous aspects of visitor learning and behaviour over these past decades. Studies of the late 1980s and 1990s focused on the affective and social aspects of visitors' experiences in museums and similar institutions (Raphling & Serrell, 1993; Rennie & McClafferty, 1996; Rennie, 1994; Roberts, 1992). Of particular interest to researchers of this period were the behaviours of families and family groups in museum settings (Dierking, 1987; Diamond, 1986; McManus, 1987). Across this period

other studies focused on the psychological dimensions of novelty and learning in the highly stimulating physical and social environments of museums (Anderson & Lucas, 1997; Kubota & Olstad, 1991; Orion & Hofstein, 1994). Other studies have examined visitors' experiences from a cognitive perspective (Beiers & McRobbie, 1992; Feher, 1990; Feher & Rice 1985, 1988; Rice & Feher, 1987). In the 1990s, further investigations demonstrated that school students enjoy visits to museums tremendously and that increased interest and enjoyment of science-based activities constitute extremely valuable learning outcomes which persist and change over time (Anderson, 1999; Anderson, Lucas, Ginns, & Dierking, 2000; Anderson & Lucas, 2001; Rennie, 1994; Ayres & Melear, 1998; Ramey-Gassert, Walberg, & Walberg, 1994; Wolins, Jensen, & Ulzheimer, 1992).

With a few notable exceptions there is an absence in the literature of studies which examine very young children's perspectives and museum experiences (Andrews & Asia, 1979; McClafferty, 2000; McClafferty & Rennie, 1997; Kindler & Darras, 1997; Piscitelli, McArdle, & Weier, 1999; Wolins *et al.*, 1992). This absence of examination is quite surprising on two accounts. Firstly, young children constitute a significant part of museum visitorship by virtue of their inclusion as part of the family visitor demographic, yet accounts of their experiences are largely ignored. Secondly, despite the interest and potpourri of studies in the 1980s and 1990s of family and family groups in museum, the *voices* of children in expressing and articulating their experiences are astonishingly absent.

Andrews and Asia (1979) investigated 14- to 19-year-olds' attitudes about museums. Their study provided some insights about adolescents' memories of childhood experiences in museums. Here, many of the 520 participants in the study reported that their childhood memories of museums were associated with feelings of boredom, being rushed through exhibit spaces, little opportunity for self-discovery, and staff who were patronising of them. Kindler and Darras (1997) investigated 120 four- and five-year-old children's perspectives of museums and their museum experiences in terms of their verbal descriptions of the physical nature of the setting. In this study, children frequently used exemplars or contextual-based artefacts to describe their concepts of museum settings. Children frequently cited large exhibits or large components of the museum as part of their description of the settings, such as "dinosaurs," "large rooms," and "long corridors." Kindler and Darras suggest that positive experiences of museums in the childhood years hold the potential for visitors developing a life-long interest in museum visitation. Wolins *et al.* (1992) focused on the recall of school field trip visits to a number of museum settings by 20 eight- to nine-year-old children over a two-year period. The research was designed to determine how well children would remember a novel episode (an event which occurred on the field trip) or a reasonably familiar event (going on a field trip) over time. Their findings indicated that a combination of variables affected recall of novel episodes. However, there were three common variables in the children's experiences which seemed to correlate highly with recall. First, those children who recalled the most had experienced a high degree of personal involvement (both positive and negative), that is, peer teaching. Second, while on the museum visit, students were provided links with the curriculum; specifically, the teacher enriched the unit with many varied classroom activities rel-

evant to their museum experiences. Finally, children experienced multiple or repeat visits to the same institution.

The studies of McClafferty (2000) and Piscitelli *et al.* (1999) have focused on children's learning emergent from their museum experiences. McClafferty investigated young children's understanding and interaction with a hands-on model quarry—a cooperative exhibit of four elements (conveyor, elevator, auger and sorter) which were used to move balls around the exhibit. Here, McClafferty claimed, the children's activities and levels of understanding varied for each element, though higher levels were achieved with elements which were easily observable. The children's activities began with observation, and then vacillated between manipulation, operation and control of an element. Piscitelli *et al.* (1999) studied four- to seven-year-old children's learning in a variety of museum settings, and concluded that, while there was evidence of learning demonstrated through their behaviours, "there was a great deal of difficulty in making any detailed analysis of how deeply children learned" in these settings (p. 77). Evidence for the difficulties of making such detailed analysis is supported by Hatch (1990) who describes several difficulties in the reliability of children's self-reports collected through face-to-face interviews. Hatch summarised these as the child-adult problem, the right-answer problem, the pre-operational thought problem, and the self-as-social object problem. Hatch asserted that, because the adult in a child-adult interview context is culturally dominant, this works against the establishment of harmonious researcher-informant relations resulting in decreased reliability of the data collected (p. 251). Furthermore, he also pointed out that young children have difficulty understanding or explaining the points of view of others and in thinking of themselves in the same ways that they understand other persons or objects external to themselves (p. 259).

Our review of the literature pertaining to young children's museum experiences leads us to several key conclusions.

- Firstly, there is a remarkable lack of investigation concerning the museum experiences of very young children and, hence, there is currently limited understanding and appreciation of children's perspectives of such settings.
- Secondly, collecting data from young children relating to their learning and museum experiences is often difficult because of their limited ability to communicate, difficulty in self-reflecting on their past experiences, and reliability issues associated with data collection by unfamiliar adult investigators. Thus, future research investigating children's views of museum experiences must employ innovative methods to overcome such difficulties.
- Thirdly, the *voices* and *visions* of children in directly expressing their perspectives and opinions of their museums experiences are rarely reported in any research studies of children's museum experiences. In our view, this represents an omission in accurately reporting faithful descriptions of children's experiences. Researchers' interpretations of such experiences are not, in our view, satisfactory substitutions for children's own voices and visions.
- Finally, positive experiences of museums appear to be an important factor in future visitation to such settings. It would, therefore, seem important that researchers begin to study systematically children's views of their museum experiences so as to inform the museum and education communities about the experiential aspects which children find most rewarding and engaging.

Given these conclusions, the Queensland University of Technology Museums Collaborative (www.ed.qut.edu.au/ec/museums/col.html) devised a study which aimed to use innovative procedures and technologies to examine and assess young children's understanding of museum exhibits and environments. Ultimately, this study seeks to explain some of the ways in which young children become enculturated into the world of museums, how and what they learn, and the values they (and their families and schools) ascribe to their museum-based experiences. This article reports on a pilot of one component of a study in which the prime objective was to ascertain young children's perspectives of museum exhibits and environments, including their past experiences, personal values concerning museum experience, and past visiting habits.

Methods

The pilot study, part of the larger investigation of young children's interactive and informal learning in museums, employed an interpretive approach which sought to probe four- to six-year-old children's recall about their past museum experiences. The broad theoretical framework in which this study was situated lies within the human and social constructivist domains (Ausubel, Novak, & Hanesian, 1978; Driver, 1983; Gergen, 1995; Lave, 1988; Lave & Wenger, 1991; Mintzes & Wandersee, 1998; Mintzes, Wandersee, & Novak, 1997). These views of learning maintain that it is through the individual's exposure to successive experiences, which are interpreted in the light of their own prior knowledge and understanding, that subsequent changes in knowledge and understanding are produced. Thus, an individual's knowledge and understanding is in a continual state of change as new experiences are encountered and interpreted by the learner. Furthermore, it is regarded that the social context is a highly salient mediator of individuals' knowledge and understanding. An instrument called the Child Focused Survey (CFS) was designed and developed by the QUT Museums Collaborative specifically for the purpose of identifying young children's perspectives of museum exhibits and environments, including their: past experiences, personal values concerning museum experience, and past visiting habits. The CFS protocol comprised three sections—a free-choice drawing activity in which children were asked to draw about any aspect of museums that they wished; a semi-structured interview in which researchers probed children's recollections of their past museum experiences; and finally, a series of 4-point Likert-type items statements which probed children's perspectives of the nature and character of museums settings.

The survey was administered to a total of four classes (pre-school and lower elementary) in two different schools in a major Australian metropolitan city, comprising a total of 77 children (43 males, 34 females). The schools were situated in a contemporary, middle-class socio-economic environment and the children were predominantly Caucasian in ethnic background. In each class, the researchers were introduced by the teachers to the children as "people who were interested in finding out about the sort of things you remember and liked about your visits to places like the history museums, the science centre, and the art gallery." Following the brief introduction, one of the research team led a brief discussion with the class about their recollections of museums. This was considered an important preliminary phase, prior to implementing the CFS pro-

toloc individually with each child, since it provided context and allowed the children to retrieve and recall more easily their past experiences. Following the discussion, all children were given paper and colored drawing pencils and asked to draw anything they remembered or liked about their past visits to the history museum, the science centre and/or the art gallery. At the conclusion of the free-choice drawing activity, children were interviewed individually by a member of the research team (see Figure 1). The conversation with each child centred on their drawing and the reasons why they remembered and/or liked the represented aspect of their museum experiences. The dialogue with the child focused on the types of museums they had visited; how often they had visited museums, with whom they visited; aspects of their experiences they enjoyed most; and perceptual dimensions of the character of museums including the dimension of *learning* and *affect*. Children selected responses to several questions from 4-point Likert scales designed to measure interests, learning styles and self-perception. The dimension of *learning* includes such things as the degree to which children perceived museums to be places of learning, places for getting ideas, places of self-discovery, and places where they could help others to discover things. The dimension of *affect* included items such as the degree to which children perceived museums to be boring or exciting places, happy places, having happy staff, liberty to look at what they wished, and the pace of their museum visits. The CFS made use of graphics and images to enable children to identify more easily the dimensions of their own museum experience(s).

The children in this study lived and went to school in close proximity (<20 kilometres) to a natural and social history museum, an interactive science and technology centre, and an art gallery. Hence, the vast majority of these children's



1. Researcher using the Child Focus Survey (CFS), talking with one of the studies participants about her perspectives of museums. (Photo by Felicity McArdle—2000).

past museum experience was developed from visits to these settings. The natural and social history museum was typical of many such museums of its kind and contained dioramas of native flora and fauna, artefacts of indigenous and post-European Australian social history, and large scale models of dinosaurs and dinosaur skeletons. The vast majority of these exhibits could be classified as static, non-interactive, displays. The interactive science and technology centre galleries portrayed a diversity of science topics: light, sound, mechanics, electricity and magnetism, and an interactive play gallery for children called *Science Spot*. Most exhibits were 'stand-alone,' 'hands-on,' 'phenomenon-based,' with few readily accessible contextual links to real-world applications of the scientific principles which they attempted to demonstrate. The art gallery contained numerous collections of art portrayed in traditional fashion with few links or connections to a visitor's everyday life experiences. The gallery provided two interactive exhibits for children each year and focused on introducing them to the discipline, traditions and pleasure of art.

Data Analysis and Outcomes

Children's responses arising from the interviews, Likert-type items and the main contents of their drawings were categorized into groups. The groups were formed around common responses and common attributes of their drawings and cross-tabulated by the variable of the types of museums they had previously visited. Statistically significant differences were determined by Pearson Chi-squared tests for non-parametric data. The following points summarise some of the main findings of the pilot study.

Past Visitation to Museums

These children's past visitation experiences appeared extensive, with many of them already having had multiple visits to museum settings. Almost all the children claimed to have visited a natural and social history museum (75%). However, less than half claimed to have previously visited an interactive science and technology centre (38%) or an art gallery (43%). Only nine out of the sample of the 77 children (12%) had not previously visited a museum of any kind. Children in this study reported that they visited museums primarily with their parents and family members (parents—75%, brother/sister—69%), while few of these children claimed to visit museums with extended family members (grandparents, uncles, or aunts) (11%) or with teachers (9%). Roughly one-sixth of the children claimed to have previously visited museums with their classmates (14%).

Children's Perspectives of Museums

These children's perspectives of museums were determined through the analysis of the Likert-type scales data and analysis of their conversation during their semi-structured interviews. They generally perceived museums and their past museum experiences very positively in that they regarded the museums as places which were exciting, happy and provided opportunities to learn, and gain many ideas (75%). Roughly half of the children in the sample believed that

visits to museums were conducted at an “easy pace”, while a quarter thought that their museum experiences were “sometimes rushed” or “too rushed”. Most of the children perceived that museums were places which were accessible to “everybody” (75%), while very few of the children believed that museums were places where they could see “everyday objects” or “everyday objects shown in interesting ways” (<7%).

Content of the Children’s Free-choice Drawings and Spontaneous Recollections

Large objects and exhibits featured prominently in almost all of the children’s recollections of museum experiences and free-choice drawings of museums. Most of the children’s drawings contained images of dinosaurs (52%), while one-fifth (21%) drew specific exhibits, such as the “the big plasma ball [at the science centre]”, “the plastic poo [in the exhibit on forensics]”, and large scale views of specific galleries, such as depicted in Figure 2f. A quarter drew pictures of miscellaneous animals, such as “the big whales”, “the stuffed animals and people [in the large-scale dioramas]”, and “the big spider” (27%). Most of the images the children generated were derived from experiences and encounters they had at the natural and social history museum (70%). These recollections expressed in the children’s free-choice drawings were also affirmed in the data which emerged from the semi-structured interviews. Analysis of these data sets indicated that the features the children remembered most about their past museums experiences included dinosaurs (61%), various animals (stuffed and situated in diorama settings and/or large scale model of animals) (27%), exhibits relating to transportation (full-scale aircraft, WWI tanks, and historic automobiles) (13%). Again, the majority of these recollections centred on experiences and encounters the children in the sample had at the natural and social history museum. Figure 2 illustrates the children’s recall of large exhibits through a comparison of a sample of their own drawings and actual scenes from the Natural and Social History Museum.

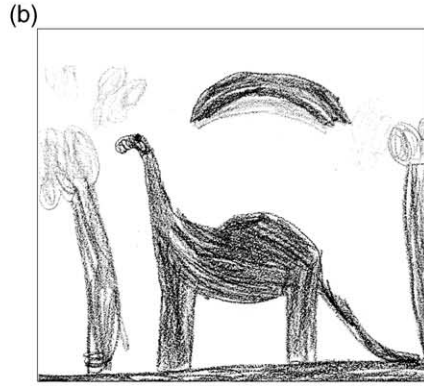
An examination of figures 2a, b, and c demonstrate the powerful and detailed recall of Tahlia’s (aged 6 years) and Tessa’s (aged 6 years) experiences in the museum’s dinosaur garden. Tahlia’s visual recall of the Tyrannosaurs Rex is remarkable in the accuracy of its depiction for size, scale and relationships, whilst Tessa’s detailed recall of the museum’s dinosaurs is also remarkable by virtue of length of time (three years) which had passed since her visit to the museum:

The dinosaur in the garden is made of plastic. I saw it at the museum in Brisbane, inside the building a long time ago. I was three [years old] then. It scared me!
Tessa, aged 6 years.

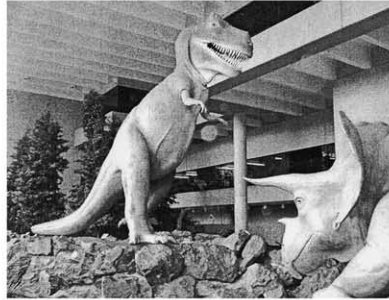
Figures 2d and 2e and the excerpt from the interview (below), further illustrate the vivid recall of Montana’s experience of the whales hanging from the ceiling of the Queensland Museum.

M: These are the whales hanging from the museum ceiling. They are very big. There is the daddy whale [pointing to the largest whale on her drawing] and that the mummy and baby whale.

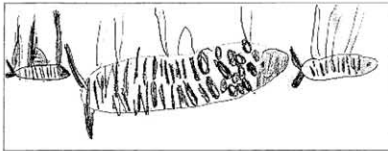
I: Why is that one the daddy whale? [Interviewer points to the large whale in Montana’s drawing]



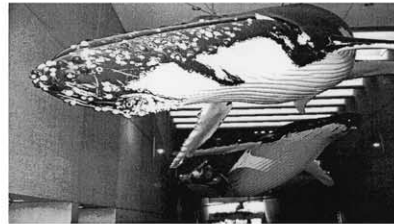
(c)



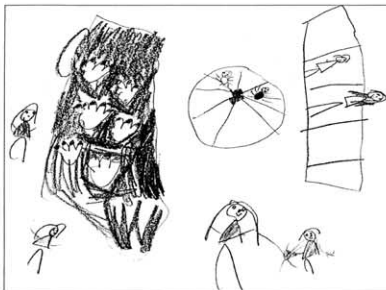
(d)



(e)



(f)



(g)



2. Scenes from the natural and social history museum and the children's free-choice drawings of their recollections of the setting: (a) Drawing of a dinosaur in the Queensland Museum's Dinosaurs Garden. (Tahlia, aged 6); (b) Drawing of a dinosaur in the Queensland Museum's Dinosaurs Garden. (Tessa, aged 6); (c) Large-scale dinosaurs in the Queensland Museum's Dinosaurs Garden. (Photo by David Anderson—2000); (d) Drawing of whales suspended from the ceiling of the Queensland Museum. (Montana, aged 5); (e) Large-scale whales hanging from the interior ceiling of the Queensland Museum. (Photo by David Anderson—2000); (f) Drawing of the giant Red Back Spider and Dinosaurs footprints in the Queensland Museum. (Kelly, aged 5); (g) Giant sized red-back spider suspended in web in the Queensland Museum. (Photo by David Anderson—2000).

M: Because he's the biggest!

Finally, figures 2f and 2g and five-year-old Kelly's discussion with the interviewer illustrate the accuracy of her recall concerning the spatial arrangement of the Queensland Museum's interior complete with viewing gallery, giant spider, and giant dinosaurs footprints:

I went to a different museum. I forget the name of it. They had lots of dinosaurs and a big spider. This [my drawing] is the front door and you can see the gallery. There are stairs that go up to that level and you can look down [on the gallery] from this [points to mezzanine level glass barrier in her drawing]. Kelly, aged 5 years.

Differences on the CFS by Variable of the Children's Visitation to Various Museum Settings

In this section we report on the sample of children (n=68) with some past museum experience. In general, it appeared that these children held a more positive disposition toward their experiences in the natural and social history museum settings compared with other museum settings. The children's perspectives of their past museum experiences, determined from the Likert-type scale dimensions, were cross-tabulated with the museum settings they had previously visited. Pearson Chi-squared tests for non-parametric data indicated that there were several differences in the perspectives of the children who had visited the natural and social history museum compared with their experiences of the art gallery and/or the interactive science centre. Firstly, on the dimension of *learning* in museums, the children who had previously visited the natural and social history museum were highly likely to perceive these settings as places for gaining "lots and lots of ideas" ($p < .001$). In addition, these children were also highly likely to regard the natural and social museum setting as a place where they could learn "lots and lots" ($p < .001$). Second, the dimensions of *affect* in museums were higher for the children who had visited the natural and social history museum than for those who had not. These children perceived museums to be both "exciting" and "happy" places ($p < .001$). Cross-tabulation of items on the dimension of *learning* and *affect* showed no statistically significant differences when compared with those children who had visited the science centre and/or the art gallery.

Discussion

This study is significant because it presents insights into the perspectives children hold about museums and the memories that are salient to them. We see several interesting issues emerging from this study which may be both supported and extrapolated from other studies and theoretical stances.

- First, from our interviews with children in the pilot study, it was abundantly evident that their experiences of museums to date were overwhelmingly positive. This assertion was further affirmed and supported by our analysis of the Likert-type scale data about children's perceptual dimension of *learning* and *affect*. Here, the data established that children perceived museums as settings that were exciting, happy, and provided opportunities to learn and gain many

ideas. In addition, most children perceived that museums were places where they could see special things not normally seen in everyday life.

- Second, from our conversations with the children and our analysis of the subject matter and meanings of their free-choice drawing, it was evident that children's spontaneous recollections of museum experiences were predominantly drawn from their memories of the natural and social history museum. Furthermore, the common thread connecting young children's experiential recall centred on exhibits, objects, and displays which were large in size. Most prominent among their recollections were the dinosaurs located in the museum's dinosaurs garden, full-scale transportation vehicles, giant sized whales hanging from the museum's ceiling, and large-scale dioramas. This finding is similar to Cone and Kendall's (1978) study of family behaviour in a science museum and Kindler and Darras's (1997) cross-cultural study of children's understandings of museum settings. Cone *et al.*'s (1978) research concluded that large-scale diorama exhibits had strong attracting and holding power for family groups during their museum visits. In addition, these types of large-scale exhibits were later the most remembered exhibits of their museum experiences. Kindler *et al.*'s (1997) research demonstrated that children held strong associations between museums and recollections of large-scale or big physical attributes associated with the building and/or exhibits they contained.
- Third, children's visual recall and verbal descriptions of their previous museum experiences were remarkable for their accuracy in depicting actual exhibits and architectural features of museum settings. Self-generated drawings on set topics are seen to be a reliable method for provoking children to translate their thoughts to pictures (Arnheim, 1969; Goodnow, 1980; Smith, 1983). Sometimes graphic representations provide children with an opportunity to go beyond what they could explain or reveal through completion or selection tasks such as those used in Likert-type scales, and as such are a valuable strategy for exposing children's concepts, attitudes and values (Golomb, 1992). None of the children who participated in the pilot study had recently visited museum settings with either their families or schools, and some children discussed drawings based on recollection of visits made three years prior to the time of the data collection. Their memory of the museum and its exhibits showed astonishing accuracy for spatial relations, scale, shape and size. The children's drawings provided a focal point to recollections about the museum and its objects; children's accompanying stories about their pictures revealed their feelings, interests and knowledge about their prior encounters with museums. These early accounts of the impact of the museum on the young child show that some exhibits have real staying power as iconic experiences.
- Fourth, children's salient recollections of their visits to museum settings centred on experiences which appeared to be non-interactive in nature, and directed towards the large-scale exhibits in the natural and social history museum. Analysis of children's perception of museum settings demonstrated statistically significant differences ($p < .001$) in children's positive perspectives of the natural and social history museum compared with those who had visited either the art gallery and/or the interactive science and technology centre. On the surface, this finding seems counter-intuitive, since much of

the literature on visitors' experiences suggests that exhibits which are hands-on, interactive, and multi-sensory in character enhance visitors enjoyment and increase the memorability of museums-based experiences (Anderson & Lucas, 1997; Duterroil, 1975; Falk & Dierking, 1992; Field, 1975; Peart, 1984; Wright, 1980).

- In examining the nature and character of the local museums, we suggest that neither the art gallery nor the interactive science and technology centre exhibitions provided context or links which connect with children's everyday life experience. However, the exhibits and displays of the natural and social history museum, intentionally or otherwise, had many links to children's past experiences. Given our previously stated human and social constructivist stance, we believe that exhibits and museum experiences which provide context and links with children's own past experiences and prior knowledge rate more positively in a range of perceptual dimensions than those which are largely decontextualized in nature. For example, many of the children reported that they had toys, models, and images of tanks, airplanes and dinosaurs in their home environment. Experience of these artefacts provides a rich base of pre-existing knowledge and understanding which heightens the experiences of various large-scale transportation vehicles and dinosaurs on display at the museum setting. Similarly, children's prior experience of seeing pictures of animals portrayed in the natural and social history museum in books or on TV enriches the experiences and increases the memorability of diorama-type exhibits containing life-sized animals. We regard these findings as being entirely consistent with traditional and contemporary views of constructivism (Anderson, 1999; Ausubel *et al.*, 1978; Mintzes & Wandersee, 1998; Mintzes *et al.*, 1997). However, our review of the literature demonstrates that these outcomes have not been previously demonstrated with a museum audience of this age group. Further evidence for our assertions is provided by Vallance (1995) who describes the difficulties which visitors have in connecting and making meaning of their experiences in art museums. Vallance concludes that the portrayal of objects in the absence of context impoverishes the art gallery experience and advocates a need for these types of museums to provide connections with visitors' prior knowledge to make the overall visit more rewarding.

There are several outcomes from this study which will be of interest to visitor studies researchers, museum educators, and teacher practitioners. Based upon our earlier discussion and the foundation of contemporary constructivist theory, it is clear that museums will serve their young audiences better by providing readily accessible contexts and links to understand the collections and exhibits. For museum educators, managers and administrators, the challenge is to gain awareness of the prior experiences, knowledge, understandings, and interests which young visitors bring with them to their museum visits. We would argue that it is not sufficient for museums to provide contextual links and connections embedded within the messages of exhibitions, but rather these links must be easily recognisable by a young visitor. The forging of connections between exhibits and young visitors will ensure that detailed messages can be communicated, remembered and utilised.

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Footnotes

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2. In this paper, we use the term 'museum' to include facilities such as history museums, art museums, and science centres.

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