

**THE INTERRELATIONSHIPS BETWEEN ADULT MUSEUM
VISITORS' LEARNING IDENTITIES AND THEIR MUSEUM
EXPERIENCES**

CHAPTER 2: LEARNING LITERATURE REVIEW

CHAPTER 7: CONCLUSIONS

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June, 2007

Abstract

Many museums around the world are reviewing the ways they are thinking about visitors and learning. Current theories of learning focus on the meaning individuals make based on their experiences—alone, within a social context and as part of a community. A critical aspect in better understanding the process of learning for individuals is to find out how people view themselves as learners across the rich array of available formal and informal learning experiences. Research has shown that when asked why they visit museums people often say “to learn” but there has been little exploration into what this means. What do museum visitors think learning is? How do visitors view themselves as learners within the context of a museum visit and does this change during and after their visit?

The research question investigated in this study was *What are the interrelationships between adult visitors' views of learning and their learning experiences at a museum?* A key focus of the study was on how adults describe learning, the place of learning in their lives and where museums are situated. Other areas examined included the relationship between learning, education and entertainment, as well as the roles visitors play during a museum visit. The framework of *learning identity* was used to characterise how individuals describes themselves as learners within a sociocultural context, including their future views of learning and the roles learning plays in their lives.

The study was undertaken in two parts—**Stage One** investigated individuals' personal philosophies and views about learning, and **Stage Two** explored how a museum exhibition experience provided insights into visitors' learning identities.

It was found that participants in the study describe learning in very rich and detailed ways, yet there were also a number of common ideas that emerged. It is proposed that museum learning can be framed under six interrelated categories—person, purpose, process, people, place and product—called the *6P model of museum learning*. The literature review showed that visitors learn a great deal from museums across a diverse range of content areas and at many different levels. However, the method used in this study also revealed that visitors could learn more about the concept of learning as well as their own learning processes—likes, dislikes, preferred strategies—if they are encouraged to think about themselves as a learner before they engage with an exhibition.

Chapter 2. Learning and Identity: Literature Review

This chapter focusses on literature that addresses learning and identity, both as general concepts and their application within a museum context. First, general theories of learning are outlined, with a particular emphasis on those that have influenced museological theory and practice. Then, literature that has investigated what learning means in the general population, and specifically in museums, is examined. Third, literature describing identity that shaped Stage Two of the study is presented, followed by how the concept of identity has been applied in a museum context. From the literature reviewed in this chapter a gap was identified in studying what museum visitors think learning is and the role museums play in shaping an individual's learning identity—the focus of the present study.

Learning and identity are fundamental parts of being human and are inextricably linked. The philosopher Rene Descartes' thoughts about the nature of human existence were grounded in the processes of thinking and learning:

I can doubt everything except one thing, and that is the very fact that I doubt. But when I doubt I think; and when I think I must exist ... I think, therefore I am (quoted in Hergenhahn, 1982, p.37).

Learning is essential to our humanity, something that separates us from other species: 'Learning is as crucial and fundamental as being alive' (Claxton, 1999, p.6). Learning is an individual and social process that humans are constantly engaged in, both consciously and unconsciously. As management theorist Peter Senge (1992) said:

Real learning gets to the heart of what it means to be human. Through learning we re-create ourselves. Through learning we become able to do something we were never able to do. Through learning we re-perceive the world and our relationship to it. Through learning we extend our capacity to create, to be part of the general process of life. There is within each of us a deep hunger for this type of learning (p.14).

Learning is a rich, complex, active and lifelong process of ‘... change in an individual’s knowledge, skills, attitudes, beliefs, feelings, and concepts’ (Hein & Alexander, 1998, p.10), which is undertaken both alone and as part of a community within a sociocultural context, where

... learning is not something that happens, or is just inside the head, but instead is shaped by the context, culture and tools in the learning situation (Hansman, 2001, p.45).

A person’s identity is how they see themselves in relation to their world and their role within it. Identity is fluid, shaped by the social context and membership of a community and changes across a person’s life cycle (Kidd, 2002; Vander Zanden & Pace, 1984; Wenger, 1998). It includes a range of factors such as age, gender, cultural background, socioeconomic status as well as general life experiences (Fienberg & Leinhardt, 2002). Identity is an integral part of a person’s personality and how others perceive them (Paris, Byrnes & Paris, 2001). Identity not only influences who a person is now, but also how they behave and conceive of themselves in the future. Identity assists individuals to ‘... cope with new situations in terms of ... past experiences [while providing] tools to plan for the future’ (Sfard & Prusak, 2005, p.16). Sfard and Prusak argue that learning plays a key role in shaping identities, given

... these times of incessant change, when the pervasive fluidity of social memberships and of identities themselves is a constant source of fear and insecurity (p.19).

2.1 Early learning theories and classifications

Theories about learning have been proposed since the times of the philosophers Confucius (551-479 BC), Plato (428-348/7 BC) and Aristotle (385/4-322 BC). Aristotle used empirical observations about biological and physical phenomena to suggest that all knowledge was based on sensory experiences that had been processed by the mind (Bowen & Hobson, 1987; Hergenhahn, 1982). Aristotle had a profound influence on the further development of both educational and psychological theory, probably being the first to associate learning with pleasure through his ideas about the inextricable links between happiness, virtue and

contemplation, and the ‘... idea of liberal education as a leisure time activity and as an end in itself’ (Bowen & Hobson, 1987, p.87).

Confucius framed learning as an essential quality of how life is led based on a person’s moral obligations to others:

To love benevolence without loving learning is liable to lead to foolishness. To love cleverness without loving learning is liable to lead to deviation from the right path. To love trustworthiness in word without loving learning is liable to lead to harmful behaviour. To love forthrightness without loving learning is liable to lead to insubordination. To love unbending strength without loving learning is liable to lead to indiscipline (Confucius, undated, p.144-145).

Reviewing the learning theory literature was a complex task. Part of the difficulty was that learning theory is embedded within a number of overlapping and interrelated fields, such as educational theory, psychological theory and educational psychology. Each of those areas have developed a whole body of theoretical discourse and research relevant to learning. Sometimes the terms “education theory” and “learning theory” have been used interchangeably (Bowen & Hobson, 1987; Woolfolk, 1998). Similarly, some views about learning and education are located within a social and political context, where education is seen as a political process, a force for change and equality, and a fundamental human right (Bruner, 1986; Dewey, 1916, 1938; Freire, 1970). Malone (1990) observed the close link between learning theory and the development of psychology. Given these complexities however, several ways that learning theories have been classified and organised were identified.

One historic review of learning theory was undertaken by Malone (1990), who described seven “foundational” theories of learning:

1. Pavlov’s theory of classical conditioning.
2. Thorndike’s examination of the laws of effect through studying cats in maze boxes.
3. Behaviourism as illustrated by Watson’s work.

4. Guthrie's "simple" theory of learning that in a given situation humans will do what they did in the previous one, and that learning does not necessarily mean improvement.
5. Hull's emphasis on biology, stimuli and response, and testing assumptions through experimentation.
6. Tolman's cognitive theory focussing on the capacity of humans to form representations of their environment.
7. Skinner's comprehensive ideas focussing on the relationships between stimulus-response and consequences.

Malone noted that new theories did not necessarily supersede older theories because elements were often expanded and integrated into new applications that could not have been imagined by the original proponent. Some examples he cited included:

- Studying attitude formation through understanding Pavlov's theory of classical conditioning.
- How John Watson applied his theory of behaviourism in his post-academic advertising career.
- The development of information processing and computer programming systems that used ideas first proposed by Hull.
- Treating drug addiction through applying elements of Skinner's theory of behavioural consequences and stimulus-response behaviour.

Another way of examining learning theory was the proposition that historical approaches to theorising and researching learning were contained within four paradigms: functionalist, associationistic, cognitive and neurophysiological (Hergenhahn, 1982; Hergenhahn & Olson, 1997). These authors noted that these categories were only indicative, as theories of learning have elements that cross-over into other paradigms, with each emphasising certain aspects of learning and de-emphasising others. They also further divided theories into two types according to whether they were predominantly *behaviouristic*, relying on some external influence on the learner, or *individual*, with the learning generated from within the person (Table 2.1).

Table 2.1. A classification of learning theories

Behaviouristic: external	Individual: internal
Functionalist: reflects the influence of Darwinism in stressing the relationship between learning and the environment. Includes theorists such as Thorndike, Skinner and Hull. Believe that learning should be studied empirically. Watson argued that behaviour was the only thing we could actually see (as opposed to the internal workings of the mind that we can't see).	Cognitive: stresses the cognitive nature of learning. Includes theorists such as Piaget and Bandura, as well as the field of gestalt psychology which focussed on a holistic approach to understanding the individual. Emotions, attitudes, perceptions and intellects are key to reaching understanding.
Associationistic: studied learning using laws of association first proposed by Aristotle, and taken up by philosophers such as Locke, Berkeley and Hume. Believed that ideas came from sensory experiences and build from simple to complex and that nothing existed unless we associate it with something we know from experience. Includes theorists such as Pavlov and Guthrie.	Neurophysiological: attempts to isolate learning, perception, thinking and intelligence through looking at the processes that happen in the brain and the nervous system. Pioneered by Hebb's laboratory work that included the study of sensory deprivation, fear, arousal and memory.

(Source: adapted from Hergenhahn, 1982; Hergenhahn & Olson, 1997)

Hergenhahn (1982) concluded that learning needed to be viewed in many ways because

... in order to obtain the most accurate picture of the learning process, one must be willing to view it from a number of different angles (p.49).

Dewey (1938) stated that true learning has '... longitudinal and lateral dimensions. It is both historical and social. It is orderly and dynamic' (p.11). More recent learning theories have focussed on the conjunction between the individual learner and the sociocultural context of the learning, with an emphasis on the individual as an agent of change (Fosnot, 2005; Rennie & Johnston, 2004). Those theories that have been particularly applied in museums are reviewed and discussed in the next sections.

2.2 Theories informing museum education and learning

The practice of education in museums has a long history (Hein, 1998; Hooper-Greenhill, 1994; Roberts, 1997). Whichever theory was foregrounded by scholars and practitioners was largely dependent on both their epistemological position; their background and training; and their beliefs about how knowledge was created. As Hein argued (1998) whether knowledge was acquired independently of the learner or constructed in the mind by the learner was an important component of how learning was viewed and what epistemological path was followed. This section outlines the major theories that have impacted on the practice of museum education and learning and how each has been applied in museums. As noted previously it was difficult to classify theories neatly into distinct groups. For the purposes of the literature reviewed in this section five categories have been used to organise the relevant theories—behavioural; cognitive; social; constructivist and sociocultural—with their relevance to museums also outlined. Finally, as museums are located within the leisure sector (Lynch, Burton, Scott, Wilson & Smith, 2000; Merriman, 1989; Prentice, Davies & Beeho, 1997) the idea of enjoyment in learning is discussed.

2.2.1 Behavioural theories

Theories that are behaviourally-based were first proposed by Pavlov, and then further developed by psychologists such as Skinner and Watson (Hergenhahn & Olson, 1997; Hilgard, Atkinson & Atkinson, 1979). The behaviourist paradigm suggests that learning is the result of a change in behaviour in response to some external stimulus. The change could be brought about either through “classical conditioning” when two stimuli go together, demonstrated through the experiments conducted by Pavlov. The other way is through “operant conditioning”, when an organism learns that a response leads to a particular consequence, shown in work of Skinner (Hilgard et al., 1979).

Hein (1998) stated that museums with stimulus-response approaches to education would have exhibitions based on **didactic** (or expository) education, illustrated by modes of transmission that incrementally add to knowledge through

traditional lectures and text. Didactic learning is based on a teacher-student model where the teacher imparts information which the student absorbs in a logical, rational sequence. It mainly involves teaching facts to an “empty vessel” that may not be relevant or interesting. Hein identified that museum exhibitions based on a didactic model are sequential and ordered; have a clear beginning and end; with ideas arranged from simple to complex; and texts that describe what is to be learned.

Another aspect of behaviourist approaches to learning is **discovery learning** (also called “hands-on” learning). Discovery learning represented a shift in thinking from imparting information, to focussing on the needs of the learner, with the emphasis moving from teaching to learning. Discovery learning became widely embraced in informal learning and museum contexts with children’s museums, in particular, utilising discovery learning as a framework for structuring their exhibitions and programs (Falk & Dierking, 2000; Zervos, 2003). Museum exhibitions based on a discovery learning model have a wide range of active learning modes that allow for exploration, asking questions and encouragement for visitors to find out for themselves (Hein, 1998).

However, some problems with discovery learning have been identified. Although discovery learning encouraged an active process of engagement it still focussed on ‘... specific educational outcomes ... the learners will learn those things *we* wish them to learn’ (Hein, 1998, p.31, emphasis added). The difficulty with the discovery approach to learning is the concern that learners may not attend to key aspects of the situation or materials presented or may “discover” things that were not intended or relevant, resulting in misinterpretations of the message (Borun, Massey & Lutter, 1993; Hein, 1998).

2.2.2 Cognitive theories

Cognitive theories view learning as a process that happens inside a person's head, and are developmental, occurring across all stages of an individual's life. Cognitive theories most relevant to museums are Piaget's stages of development, Gardner's multiple intelligences and Bruner's work on narratives.

Jean Piaget (1896-1980) was a Swiss developmental psychologist and a significant figure in influencing not only thinking about development, cognition and learning (Flavell, 1977; Piaget, 1952, 1963), but also the methods used to gather and report data (Hein, 1998). Piaget proposed that thinking processes constantly change as humans grow and mature from birth to death, and the ways humans interact with the environment, both learning from it and shaping it. **Piaget's stages of development**—sensorimotor, preoperational, concrete operational, and formal operational—formed the basis for many approaches to education, teaching and learning. Although Piaget was a pioneering figure in the study of children's cognition, his theories were criticised in three areas (Woolfolk, 1998). First, it was felt that not all children develop in the same way and pass through the stages sequentially. Second, there is a belief that Piaget underestimated the cognitive abilities of children, especially very young children. The third criticism is that he didn't adequately account for the effects of social and cultural groups on development and learning. Yet, as Hein (1998) explained, one of Piaget's lasting legacies was in the naturalistic methods he employed, including the detailed reporting of raw data that gave children a voice within the research process.

Howard Gardner (1993) proposed seven different intelligences in his theory of **multiple intelligences**:

1. *Linguistic intelligence* where a learner is sensitive to the spoken language and exhibits skills in learning languages and uses language as a tool of persuasion.
2. *Logical-mathematical intelligence* which is the logical and analytical aspects of learning, with a focus on problem solving and scientific thinking.
3. *Musical intelligence* where a learner has good listening abilities and responds well to sound, pitch, tone and rhythm.
4. *Bodily-kinesthetic intelligence* where active learning takes place through physical, hands-on activity, and is also related to mental activity.
5. *Spatial intelligence* covers the visual aspects of learning, where a learner has good visual recall and is able to recognise patterns.
6. *Interpersonal intelligence* means that a person is able to work well with others and often exhibits a good understanding of the motivations and intentions of others.
7. *Intrapersonal intelligence* is where a learner has good self-awareness and is self-motivated, able to regulate and control their life.

Gardner (1999) later added an extra intelligence, *naturalistic intelligence*, focussing on a preference for outdoor activities and the rhythms and patterns in nature.

Gardner argued that these were not learning styles, but ways to understand and assist learners in activities where they may be experiencing difficulties or that provide new challenges. Gardner revisited the intelligences after twenty years to see if they were still applicable (2003). He concluded that while there could be arguments made for new intelligences, such as emotional, spiritual and sexual, he felt that these were already addressed through investigating the relationship between the eight intelligences and better understanding how they worked together. Gardner also welcomed the fact that new ways to conduct biological research, for example genetics and electrophysiological technologies, could mean that evidence might be found in future that could confirm or revise his theory.

Roberts (1997), in discussing Gardner's work, speculated that different views of the world (such as those that may be presented in a museum exhibition) would be derived from the intelligences that the visitor was best equipped to deal with. She also recognised that his theory was a '... way of talking about the mental processes that are used to represent the world' (p.141). Zervos (2003) used the frame of multiple intelligences when researching the role that computer technology played in assisting young children's learning in art museums, focussing on art theory and visual literacy.

The potential of **narrative** approaches to learning have been explored more recently by museums. It is recognised that humans are natural storytellers—since ancient times humans have been using stories that represent an event or series of events as ways to learn (Abbott, 2002). Bruner (1986) suggested that humans employed two modes of thought—paradigmatic (or logico-scientific) and narrative. He described imaginative narrative as leading to

... good stories, gripping drama, believable (though not necessarily "true") historical accounts. It deals in human or human-like intention and action and the vicissitudes and consequences that mark their course. It strives to put its timeless miracles into the particulars of experience, and to locate the experience in time and place (Bruner, 1986, p.13).

Museums are ideal places where stories can be told that encourage visitors to make their own meanings. Bedford (2001) noted that:

Stories are the most fundamental way we learn. They have a beginning, a middle, and an end. They teach without preaching, encouraging both personal reflection and public discussion. Stories inspire wonder and awe; they allow a listener to imagine another time and place, to find the universal in the particular, and to feel empathy for others. They preserve individual and collective memory and speak to both the adult and the child (p.33).

Ideas about narratives have been developed and applied to museums by a range of writers and researchers. Allen (2004b) researched the use of narrative tools as ways for visitors to make meanings about science. Allen defined narrative in a museum context as taking the personal perspective; involving a series of events; containing emotional content and authentic in origin, with someone telling the

story. Allen (2004a) also drew attention to the problem that the museum sector still does not clearly understand how the power of narrative could be used to enhance visitor learning, specifically about scientific principles. McLean (2003) described the ways visitor experiences could be constructed in different types of learning environments, using the analogy of “the campfire, the cave and the well”.

Bedford (2001; 2004) and Rounds (2002) considered that narrative was a powerful way that cultural and social history museums, in particular, engaged visitors, with Bedford even proposing that storytelling was the “real work” of museums. Bedford argued that stories aided humans in defining their values and beliefs and allowed the listener to project their own thoughts, feelings and memories onto the story and ‘... make connections between museum artifacts and images and visitors’ lives and memories’ (Bedford, 2001, p.30). Roberts (1997) used the framework of narrative to explain the shifts in museum education theory over time, and suggested a narrative approach to educational practices as a way to enhance the ways visitors engaged with museums.

2.2.3 Social theories

Social learning has been widely discussed in the general learning literature (Dewey, 1938; Hansman, 2001; Lave & Wenger, 1991; Vygotsky, 1978; Wenger, 1998; Woolfolk, 1998). Confucius (undated) recognised the social nature of learning:

If one learns from others but does not think, one will be bewildered. If, on the other hand, one thinks but does not learn from others, one will be in peril (p.65).

Dewey (1938) also talked about learning from both an individual and social perspective, concluding that learning was a lifelong experience that involved growth through personal judgment and the capacity to act intelligently in new situations. Learning is the interplay and interaction of objective (external) and internal factors, as well as a transition between the individual and the environment at the time. Dewey argued that the social situation was the key to learning, a shared common experience requiring an impulse and a desire through

interaction with the environment. He saw the “directing” of learning not as an exercise of power, but as a shared group event, given that learners are part of a community held together by common goals.

Rogoff (1999) referred to the conjunction between an individual and the social as the context of learning:

... the physical and conceptual structure as well as the purpose of the activity and the social milieu in which it is embedded. One must attend to the content and the context of intellectual activity in order to understand thought processes ... In order to function, people must be able to generalise some aspects of knowledge and skills to new situations (p.2-3).

Hooper-Greenhill (2000) describes how individuals are part of an “interpretive community”, where meaning making is both personal and mediated through a range of interpretive communities with a shared common language and frame of reference. Visitors make their own personal meaning based on prior knowledge and experiences, and use their preferred approaches to learning within the context of an interpretive community. The resulting social interaction tests ideas and meanings, with others in the group acting as a frame of reference. “Communities of learners” (Matusov & Rogoff, 1995) is another term used to describe a participatory approach to adult learning, recognising that all participants share interests and expertise as equal partners in their learning.

Wenger (1998) identifies a number of principles of learning based within a social perspective. He concludes that learning (p.226-228):

- is inherent in human nature
- is first and foremost the ability to negotiate new meanings
- is fundamentally experiential and fundamentally social
- transforms identity
- builds personal histories in relation to histories of communities
- requires an individual to deal with boundaries
- is a matter of social energy and power
- includes engagement, imagination, and alignment
- involves an interplay between the local and the global.

Social learning theories have been applied to museums as they are ideal places where group learning can be encouraged and enhanced (Falk & Dierking, 1992, 2000; Fasoli, 2001; Griffin, 1998; Hooper-Greenhill, 2000; Leinhardt, Crowley & Knutson, 2002; Matusov & Rogoff, 1995; McManus, 1987, 1988, 1994; Paris, 2002; Sachatello-Sawyer et al., 2002). People also tend to visit museums in groups (Falk, 1998; Falk & Dierking, 2000; Hood, 1995; Kelly, 2001; Landman, Fishburn, Kelly & Tonkin, 2005). The advantages of group visits are in the different levels of expertise that exist among members which allow for a broader range of meanings to be made and shared (Falk & Dierking, 2000; Fienberg & Leinhardt, 2002). Gunther (1994) stressed that social interaction is an important factor for adult participation in cultural events, with young adults and parents of young children in particular, valuing activities that promote social interaction and are entertaining. Packer and Ballantyne (2005) explored the social dimensions of learning by comparing solitary visitors with those in groups. They found that while the nature of learning differed during the visit, both sets of visitors had shared and discussed their experiences with others after their visit.

Of particular relevance to this study is **family group** learning. The role of the family is recognised as important in learning, and especially so in museum learning (Anderson, Piscitelli, Weier, Everett & Tayler, 2002; Ash, 2004; Baillie, 1996; Borun, 2002; Borun, Chambers & Cleghorn, 1996; Borun, Chambers, Dritsas & Johnson, 1997; Borun & Dritsas, 1997; Dierking, 2002; Ellenbogen, Luke & Dierking, 2004; Falk & Dierking, 2000; Griffin, 1998; Mitchell, 1999; Morrissey, 2002; Moussouri, 1997; Paris, 2002; Puchner, Rapoport & Gaskins, 2001). Over time a family's behaviour has been developed and refined and, coupled with the rich experiences provided by museums, combine to ensure that families are successful learning units. Families are used to learning together and have developed a range of personal learning behaviours and practices enhanced by their culture of sharing knowledge and experiences (Borun, 2002; Borun et al., 1996; Ellenbogen, 2002; Falk, 1991; Kelly, Savage, Griffin & Tonkin, 2004; McManus, 1994; Moussouri, 1997; Stanton, 1999).

Falk and Dierking (2000) acknowledged the key role **accompanying adults** played in facilitating family learning:

Parents can be effective facilitators for their children's learning when exhibitions are designed with collaborative learning in mind and when adults feel comfortable with the content and experiences provided in the museum (p.95).

One key finding from research into learning in children's museums showed that

... children stayed longer at exhibits and learned more when they were accompanied by an adult who was actively involved in the activities (Puchner et al., 2001, p.255).

Stanton (1999) found that mothers and fathers took on different roles within a visit, with mothers more concerned with the logistics of the visit, and fathers seeing museums as "family business". Work on literacy and adult learning suggested that an orientation to lifelong learning and readiness to learn in later life was strongly linked to the family (Rubenson, 2000).

Lave and Wenger (1991) proposed a view of learning that located the process of learning as a co-participation in a **community of practice** rather than just in the heads of individuals. They argued that learning involved the whole person, including their relation to both specific activities and to social communities. Lave and Wenger's work made a significant contribution to the discussion of the social dimensions of learning advocated by Vygotsky (Daniels, 1996; Vygotsky, 1978). Their underlying premise was to look beyond learning as a cognitive process to a focus on the social context for learning, concentrating on what kinds of social engagement provided the best conditions for learning. Lave and Wenger suggested that learning requires involvement in a practice, not just as an observer but as a participant who also has a responsibility for the outcome: 'Learning is a process that takes place in a participation framework, not in an individual mind' (1991, p.15). They saw learners as active and contributing members of communities, becoming learners through involvement with, participation in and, finally, full acceptance into a community.

Hansman (2001) described communities of practice as

... self-organised and selected groups of people who share a common sense of purpose and a desire to learn and know what each other knows (p.48).

Communities of practice also ‘... share expertise and passion about a topic and interact on an ongoing basis to further their learning’ (Wenger & Snyder, 2000, p.3). Relationships over time and across contexts are important, as is the relation to many other communities of practice that co-exist and overlap (Lave & Wenger, 1991).

Communities of practice can be small, such as friends visiting a museum together where learning is ‘... always socioculturally “situated” within a larger culture and within the social setting of an event’ (Falk & Dierking, 2000, p.47). On the other hand, a community of practice could also involve a broader involvement and engagement with multiple groups. Matusov and Rogoff (1995) proposed that museum learning was active participation in a community of learners, where all participants were recognised and treated as learners who shared interests and expertise. The museum’s responsibility was to guide the process, but not control it:

... both the visitors and museum staff are seen as active in structuring the inquiry, with museum staff assuming responsibility for guiding the process and visitors learning to participate in the management of their own learning (1995, p.98).

Fasoli (2001) used communities of practice to describe the ways that young children engaged with art galleries and to demonstrate how and what they were learning. The learning that resulted was seen as ‘... a social accomplishment – context embedded and continuously negotiated’ (p.76). Fasoli particularly found that it was the aspects “outside” of a specific exhibition or program that children remembered and used in their post-visit constructions of their learning, which included their interactions with museum staff and actual features of the building.

2.2.4 Constructivism

Constructivism is a theory of learning that focusses on the learner and the meanings they make based on their prior experience, knowledge and interests. Fensham et al. (1994) noted that the underlying principle of constructivism is that

... people construct their own meanings for experiences and for anything told [to] them. The constructed meaning depends on the person's existing knowledge, and since it is inevitable that people have had different experiences and have heard or read different things, all have different (though often similar) meanings for any concept (Fensham et al., 1994, p.5).

Fosnot (2005) suggested that constructivism was not a theory about how to teach, but a different way to think about how learning takes place through the relationships between teachers and learners:

... a constructivist view of learning suggests an approach to teaching that gives learners the opportunity for concrete, contextually meaningful experience through which they can search for patterns; raise questions; and model, interpret, and defend their strategies and ideas (Fosnot, 2005, p.ix).

A constructivist approach sees knowledge as being constructed in the mind of the learner with new information being integrated into an individual's existing cognitive schemata, and validated not by conforming to '... some external standard of truth, but whether they "make sense" within the structured reality of the learner' (Hein, 1998, p.34).

The learner as an active agent in control of their learning is an important feature of constructivist thought through '... building understanding and making sense of information' (Woolfolk, 1998, p.346). Harlen (1996) also mentions the active role of learners in

... constructing ideas or concepts already formed from previous experience rather than absorbing them passively from teachers or other sources. In constructing meaning, a learner uses the ideas or concepts already formed from previous experience and attempts to make sense of new experience in terms of these existing conceptions (p.6).

It is also recognised that all cognition is situated within the context of the learning activity—what is learned is inseparable from how it is learned and how it is used (Fensham et al., 1994).

Constructivism as a theory has been discussed extensively in the context of science learning (Carr et al., 1994; Driver, Asoko, Leach, Mortimer & Scott, 1994; Harlen, 1996; Osborne & Freyberg, 1985), which makes it very relevant to museums, as many are concerned with visitor learning about nature, the environment and scientific constructs. Osborne and Freyberg (1985) developed the following set of principles for learning science based on constructivism:

- Understand different points of view (*clarify and analyse*).
- Understand how these views relate to everyday life (*relevance*).
- Clarify ideas that are relevant to the topic (*consolidation*).
- “Test” ideas against other viewpoints (*modification*).
- Consider these new ideas across a range of contexts/situations (*application*).

Harlen (1996) applied constructivism to developing childrens’ scientific thinking through clarifying meanings; raising questions; developing hypotheses; predicting; gathering evidence (by planning, observing and interpreting); communicating and reflecting. Harlen also identified other important elements of constructivist approaches to learning science as curiosity; respect for evidence; flexibility; critical reflection and sensitivity.

Woolfolk (1998) summarised the main features of constructivist theory as displaying

... complex, challenging learning environments and authentic tasks; social negotiation and shared responsibility as a part of learning; multiple representations of content; [and an] understanding that knowledge is constructed’ (p.346).

Fensham et al. (1994) pointed out that ‘Construction does not mean “anything goes”; some meanings are better than others’ (p.6).

A good summary of the learning principles that emerged from constructivist thought were outlined by Hein (1991):

- learning is an active process of constructing meaning from sensory input
- people learn about the process of learning, as well as the content, as they learn
- learning happens in the mind
- language and learning are inextricably linked
- learning is a social activity in conjunction with others
- learning is contextual, in that we learn in relation to what we already know, to our beliefs and our prejudices
- previous knowledge is a pre-requisite to learning
- learning occurs over long periods of time, through repeated exposure and thought
- motivation is essential for learning.

Constructivism had a major influence on the ways that museums thought about learning during the 1990's. Hein (1999) explained that constructivist exhibitions enhanced learning through enabling visitors to both validate and also re-think their own interpretations of a subject by allowing them to consider other interpretations, perspectives and ideas about a topic. Museum learning experiences provided under a constructivist framework would encourage learners to use both their hands and their minds to experiment with the world and reach their own conclusions, through choosing what they want to attend to (Hein, 1998).

Many aspects of constructivism have been discussed in the museum literature, with particular attention given to prior knowledge, interest, choice and meaning making. Dewey (1916) recognised the role of **prior knowledge** and experience in learning, where learners must interpret new ideas within the context of their current interests and understandings. Paris (1997a) acknowledged the significance of prior knowledge where

... people learn best when they actively manipulate the information to be learned and when that information builds on previous knowledge (p.22).

Roschelle (1995) noted that it was impossible to learn without some form of prior knowledge as that underpinned the construction of meaning. Hein (1999) identified the challenge for museums was in finding ways to make their exhibitions both relevant to people's everyday experiences, while assisting them to apply these experiences outside of the museum. Cole (1995) also maintained that experience was inextricably linked to the past, present and future and reiterated, as did Hein, the important role of the learners' prior experiences and how these related to their museum experiences. Doering and Pekarik (1996) proposed that visitors' came to museums with rich and deep prior experiences, or storylines, that they drew on to make sense of what they were interacting with, which they termed their "entrance narrative".

Interest has been identified as a key motivator in learning (Csikszentmihalyi & Hermanson, 1995; Pressick-Kilborn & Walker, 2002; Roschelle, 1995). Moussouri (1997) found that visitors' interests and motivations were often stronger after their visit than before. Csikszentmihalyi and Hermanson (1995) discussed applying their research into motivation for learning to museum settings. They suggested that if a museum visitor was both interested and engaged in an exhibition they would be ready to experience an intrinsically rewarding, optimal experience, which they called "flow".

Studies in museums have continually demonstrated that if people are not interested either in the content or the look of an exhibition they will just walk past without engaging with it (Allen, 2002; Beer, 1987; Bitgood & Patterson, 1993; Falk, 1991; Hein & Alexander, 1998; Kropf, 1992; Moussouri, 1997; Screven, 1995; Serrell, 1998).

Closely related to interest is the notion of **choice**. Key factors that support an individual's learning are being able to choose both what they want to do and how they access information (Dewey, 1916, 1938; Vygotsky, 1978; Wenger, 1998), especially in informal settings such as museums (Borun & Dritsas, 1997; Falk & Dierking, 2000; Griffin, 1998; Hein, 1998; Paris, 1997a; Schauble, Beane, Coates, Martin & Sterling, 1996). Dewey (1916) recognised that education was

not about “being told” or “telling others”, but an active construction by the learner. Park (1994) found that 89% of those surveyed in the United Kingdom agreed with the statement “People get more out of learning that they have chosen to do than they get from learning they are made to do”. Griffin (1998) demonstrated that school children visiting a museum were well-able to be self-directed learners, and consistently declared their satisfaction with museum visits that provided them with choices.

In various studies of visitor behaviour in exhibitions, choice formed a key part of how visitors used exhibitions in terms of following their *own* paths, not those set by the museum, with visitors actively choosing which sections they did and did not attend to (Allen, 2004a; Beer, 1987; Falk, 1991; Falk, Koran, Dierking & Dreblow, 1985; Hein, 1998; McManus, 1987; Screven, 1990, 1995; Serrell, 1998). Choice is an important way that families, in particular, learn through screening information, interpreting meaning, and sharing their discoveries about interesting aspects of their visit (Borun et al., 1996; Borun & Dritsas, 1997; Ellenbogen, 2002; Kelly et al., 2004; McManus, 1994; Schauble et al., 1996).

A central tenet of constructivism particularly relevant to museums is **meaning making**. Jeffrey-Clay (1997) pointed out the relationship between prior knowledge and meaning making:

Constructivist theory holds that prior knowledge is of primary importance. Rather than learners being empty vessels into which information can be poured, they come ... with a wealth of knowledge already organised. It is upon this knowledge structure that learners hang new information, creating new links to their pre-existing knowledge. To learn meaningfully, a person must integrate new knowledge into his or her conceptual structure (p.3).

Hein (1991) stated that learning is the construction of meaning and argued that meaning making is an essential part of constructivism. Falk and Dierking (2000) suggested that meaning making is an innate mammalian response that constructs order out of chaos through finding patterns in nature. Meaning making has been described as making sense of complexities by building understanding through an individual’s own experiences (Rice & Yenawine, 2002), in a constant and

iterative progression of remembering and forgetting (Silverman, 1995). Meaning making is achieved through

... the stories we tell ourselves ... In that sense, the individual viewers or learners are the ones who are best equipped to make their own meanings (Rice & Yenawine, 2002, p.292).

Meaning making can also be shared through a

... process of negotiation between two parties in which information (and meaning) is created rather than transmitted ... influenced by the social and cultural norms, attitudes and values that surround the communicators (Silverman, 1995, p.161).

As well as a social process, meaning making also occurs through engagement with cultural tools and materials exchanged and modified in conjunction with others (Stevens & Martell, 2003).

Although constructivism is supported by many museum practitioners, there are still some debates about its usefulness as an approach to developing museum exhibitions and public programs (Bitgood, 1997; Hein, 1997; Miles, 1997). However, as Hein (1999) noted, constructivism is as much an epistemological approach to thinking about learning as it is a way to approach museum education. Silverman (1995) suggested that the challenge for museums in providing constructivist learning experiences is that:

... the more personal and subjective ways in which visitors make meaning (such as through life experiences, opinions, imagination, memories, and fantasies) are at best ignored and more often invalidated in museums, where they tend to be regarded as naïve and inappropriate (p.165).

2.2.5 Sociocultural theory

Sociocultural theory is becoming increasingly prominent in current museum learning literature as a framework for research (Ellenbogen, 2003a, 2003b; Leinhardt, Crowley et al., 2002; Schauble, Leinhardt & Martin, 1997). Sociocultural theory is based on the idea that human activities take place in cultural contexts through social interactions that are mediated by language and other symbol systems and shaped by an individuals' historical development (Ash, 2003; Matusov & Rogoff, 1995; Sedzielarz, 2003). It also understands, accounts for and makes explicit the '... unplanned intersection of people, culture,

tools and context' (Hansman, 2001, p.44), emphasising the importance of culture, environment and history in every learning context and event (Schauble et al., 1997). Sociocultural theory came from the work of Vygotsky (1978), who proposed that learning is a socially-mediated process where learners, both adults and children, are jointly responsible for their learning. Many of Vygotsky's ideas have been applied to museums (Anderson, 2003; Ash, 2003; Matusov & Rogoff, 1995; Roberts, 1997).

Falk and Dierking (2000) suggested that '... who we are, what we are, and how we behave are products of the sociocultural context in which we are immersed' (p.38). They concluded that learning was essentially an individual construct: 'The sociocultural context defines both who we perceive ourselves to be and how we perceive the world we inhabit' (p.39), as well as a social experience where

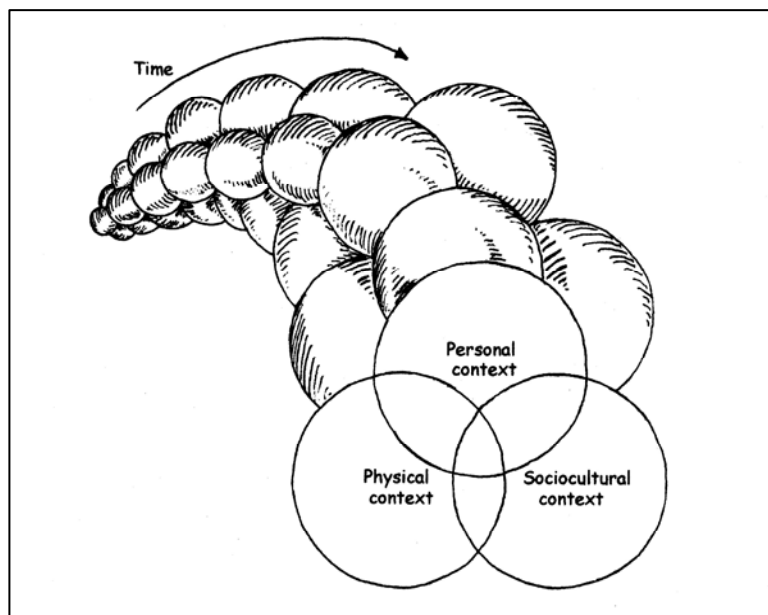
... meaningful learning results when a person is able to actively construct and find personal meaning within a situation. Virtually all such learning is either directly or indirectly socially mediated (p.41).

They further argued that

... all learning is situated within a series of contexts ... an organic, integrated experience ... a product of millions of years of evolution, an adaptation that permits an ongoing dialogue between the whole individual and the physical and sociocultural world he or she inhabits (p.10).

Falk and Dierking proposed the **contextual model of museum learning** to account for factors already identified in their earlier work (1992), but with a more holistic view that recognised the long-term nature of learning (Figure 2.1).

Figure 2.1 The contextual model of learning

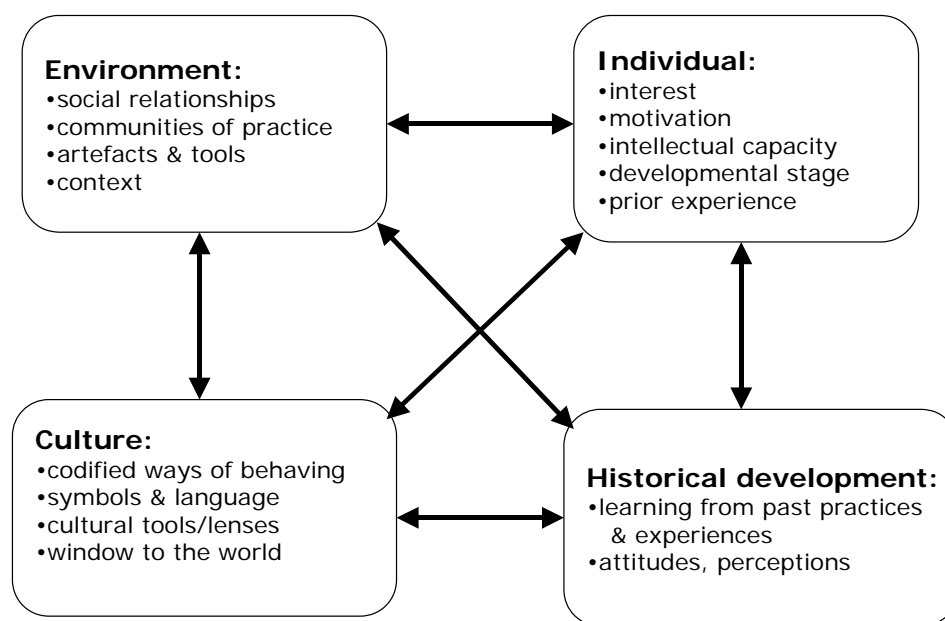


(Source: Falk & Dierking, 2000, p.12)

In the contextual model the *physical context* consists of the tools and settings of the museum, including architecture, design, objects and subsequent reinforcing events and experiences outside the museum. The *personal context* includes motivations and expectations, prior knowledge, experience and beliefs, interests, choice and control; as well as how these are perceived, filtered and ultimately incorporated into memory and learning. Finally, the *sociocultural context* accounts for within-group mediation, facilitated mediation by others and cultural mediation (Dierking, 2002; Falk & Dierking, 2000). Knowledge is constructed through social mediation across members of a group, both as an individual process and through participation in a community of practice.

Four elements that underpin sociocultural theory as applied to museums have been identified from the literature: individual, culture, environment and historical development (Ellenbogen, 2003a, 2003b; Falk & Dierking, 2000; Leinhardt, Crowley et al., 2002; Matusov & Rogoff, 1995; Paris, 1997b, 1998, 2002; Schauble et al., 1997). Figure 2.2 illustrates these ideas, demonstrating how they are interlinked.

Figure 2.2. Sociocultural theory



Several aspects of sociocultural theory relate to the **individual**, including interests, motivation, intellectual capacity and development. Initial approaches to museum learning were often focussed on the learner as an individual (Hein & Alexander, 1998; Screven, 1990). Although knowledge, learning and meaning making is essentially an individualised process, the social context and tools provided at the time are key factors in both what is learned and why it is learned, based on a person's interests and motivation. The important role of individuals, their intellectual capacity and level of development need to be acknowledged, coupled with the recognition that individuals also function within a sociocultural framework (Wenger, 1998).

Culture refers to a person's adaptive way of life which is formed through customary ways of behaving; sets of codes and signals; use of artefacts and tools; participation in formal and informal institutions and within a set of social relations. These, in turn, are codified through language (Falk & Dierking, 2000; Ogbu, 1995). A set of underlying assumptions make customary behaviours meaningful within a particular culture:

Culture is the framework or "window" through which members of the population see the world around them, interpret events in that world, behave according to acceptable standard, and react to perceived reality (Ogbu, 1995, p.80).

As children develop they learn the appropriate behaviours and social norms of their culture that make customary behaviours meaningful within that culture. Falk (2004) points out that culture also plays a strong role in shaping an individual's identity.

In sociocultural theory **environment** encompasses the physical context, including the artefacts and tools that are provided, as well as social relations within a group and communities of practice (Lave & Wenger, 1991; Matusov & Rogoff, 1995). As discussed in Section 2.2.3, in a museum context a community of practice is comprised of the interplay between the mediation provided by the museum environment, in terms of objects, interpretive tools and texts, and individuals and their participation in a community such as a family, a school or a group of friends. These ongoing social interactions with artefacts and tools are where meaning is made and learning happens:

... collective learning results in practices that reflect both the pursuit of enterprises and attendant social relations. These practices are thus the property of a kind of community created over time by the sustained pursuit of shared enterprise (Wenger, 1998, p.45).

The **historical development** dimension in sociocultural theory accounts for cultural practices, as previously discussed (Ogbu, 1995), as well as lived histories and experiences within multiple communities of practice. The role of prior knowledge and interests (Roschelle, 1995) that shape attitudes, values and learning are also accounted for in historical development. Perceptions and expectations of museums, as well as previous experiences with them, are key

historical factors impacting on the individual. Research has continually found that the characteristic with the most impact on adult museum visits is whether they were taken to museums as children and the types of experiences they engaged in (Ellenbogen, 2002; Ellenbogen et al., 2004; Falk & Dierking, 1997; McManus, 1993).

Leinhardt et al. (2003) proposed a sociocultural definition of museum learning:

... learning as meaning construction, a socially mediated phenomenon that was a consequence of dialogue among the curatorial premise, the supporting tools of signage and other symbol systems, and the visitors themselves ... learning as a conversational elaboration [where] the language becomes enriched by specific details of objects and themes from the museum and reflects the affective and personal connections to the museum in a way that goes beyond simple statements of like or dislike or identification (Leinhardt et al., 2003, p.25).

It has been recognised that museums are sites where a sociocultural framework could be applied to learning since most people visit in some type of social group and come with specific prior interests and knowledge (Leinhardt, Crowley et al., 2002; Paris, 2002; Schauble et al., 1997). Museums are mainly free-choice, providing a wide range of tools which visitors use to make their own meaning, both as an individual and part of a community (Falk & Dierking, 2000; Hein, 1998). Paris (1997a) outlined the way that sociocultural views of learning could be integrated into a theory of museum learning. He stated that to facilitate meaningful learning museums need to create environments that encourage exploration and enable meaning to be constructed through choice, challenge, control and collaboration, leading to self-discovery, pride in achievements and learning, where visitors ‘... may “learn” more about themselves and their experiences through reflection’ (Paris, 1997a, p.23).

Sociocultural theory has been suggested as an appropriate theoretical framework for museum learning research as it accounts for meanings made within a social context, rather than facts learned (Ellenbogen et al., 2004; Falk, 2004; Jeffery-Clay, 1998; Leinhardt, Crowley et al., 2002; Paris, 1997b; Rennie & Johnston, 2004; Schauble et al., 1997). In discussing museum learning Matusov & Rogoff (1995) stated that

Museums, as educational institutions, provide opportunities for people to bridge different sociocultural practices and, through this process, to bridge different institutions and communities (p.101).

They further suggested that museum learning needed to be assessed

... by analysing individuals' changing roles ... [and] how they coordinate with others in shared endeavours, with attention to the dynamic nature of the activity itself and its meaning in the community (p.102).

The range of learning theories described in this section have played a key role in informing the practice of museum education over many years. However, learning as an enjoyable process and a meaningful leisure time activity has not been widely addressed in the literature. Bennett (1995) discussed the early roles of museums in influencing “the masses” both as a leisure and an educational activity. More recently museums have been seen as integral components of the leisure sector (Burton & Scott, 2003; Lynch et al., 2000; Packer, 2003). Leisure and enjoyment are two areas investigated in this thesis, as described in the next section.

2.3 Enjoyment, leisure and learning

Museums have been intimately linked with the leisure sector, especially in studies related to marketing of museums (Burton & Scott, 2003; Crang, 1996; Harkin, 1995; Lynch et al., 2000; Masberg & Silverman, 1996; Packer & Ballantyne, 2002; Prentice, Witt & Hamer, 1998; Ryan & Glendon, 1998; Scott & Burton, 2000; Tian, Crompton & Witt, 1996; Witcomb, 2003). As discussed in Chapter 1 it was reported that strong motivations to visit museums are for leisure and entertainment (Moore, 1997; Packer, 2004; Packer & Ballantyne, 2002). For example, a survey of 413 Australian Museum visitors found that 71% of adults visited museums generally for entertainment purposes (Kelly, 2001).

Research into motivations and expectations from visits to educational leisure settings reinforced the importance of learning as both a key motivator and a measure of satisfaction with a visit, especially for museums (Packer, 2004; Packer & Ballantyne, 2002). In comparing what visitors felt about learning at a museum compared with an aquarium and art gallery, Packer (2003) found that learning at the aquarium was perceived as fun; at the art gallery learning was emotionally engaging; and at the museum learning was educational. Packer's work raised questions about the distinction between learning, education and enjoyment:

... the museum was seen as more educational than entertaining, the aquarium was seen as more entertaining than educational, and the art gallery was seen as equally educational and entertaining (Packer, 2003, p.194).

Enjoyment coupled with a sense of achieving outcomes in interesting ways can significantly enhance learning (Anderson et al., 2002; Fasoli, 2001; Griffin, 1996, 1998, 2004; Groundwater-Smith & Kelly, 2003; Hein & Alexander, 1998; Kelly et al., 2004; Packer & Ballantyne, 2002; Roberts, 1997). Morgan and Beaty (1997) reported that students found learning easier if they could relate what they were learning to something already familiar to them and if the learning was enjoyable. Work undertaken in the formal education sector found that teachers who balanced scholarship *and* fun and made efforts to make schoolwork

interesting and enjoyable were better able to engage students in school learning (Martin, 2003).

However, fun and enjoyment is one component of learning that has not been examined in the museology literature in a great deal of detail (Dierking & Griffin, 2001; Roberts, 1997; Sachatello-Sawyer et al., 2002). Griffin (1998) found that school children visiting the Australian Museum felt that having fun just looking around and enjoying themselves didn't necessarily count as learning to them. Griffin suggested that this could be due to the tension that can exist between the perception of playing and learning among the adults accompanying the students.

A study with parents and museum staff (Schauble et al., 2002) found that museum staff described playing as the "children's agenda" and learning as the "museum's agenda". On the other hand, parents perceived these two components as a "trade-off". Does this suggest that a perceived lack of "purposeful activity" meant that learning was not happening? However, Griffin (1998) concluded that enjoyment was critical in engaging school students, both at the time of the visit and for developing future visiting habits and positive perceptions of museums:

If students' experiences of museums can be made enjoyable and valuable, there are enormous impacts on childrens' and subsequently adults' views of museums as enjoyable and rewarding places to visit (p.308).

A later study reported by Griffin (2004) found that 'Visitors interviewed in the museum were more likely to consider photos of people having fun as learning' (p.S64).

2.4 Studying the concept of “learning”

There is a large body of literature about how people learn, where they learn, and what they learn, yet less work has been published on what “learning” actually means as defined by the learner. A range of studies were found in the phenomenographical literature as well as two with the general population. To date, there has been little research that looks at learning from the learners’ perspective in a museum context, with three studies sourced—one focussing on museum visitors and two with staff.

2.4.1 Conceptions of learning: phenomenography

A substantial amount of research into understanding learning has been undertaken within the discipline of phenomenography (Bowden, 1994; Marton, Hounsell & Entwistle, 1997; Marton & Saljo, 1997; Prosser, 1994). Phenomenography is a technique of analysis used by a group of Swedish, United Kingdom and Australian scholars who argue that in order to understand learning the starting point must be the learner’s experience and the context of learning, rather than the content or outcome of their learning:

If we want to understand more about learning, then it is the subject pole of experience—the learner—that we must focus on. [This involves] putting the person’s experience of a phenomenon into a context of, and in relation with, her experience of other phenomena (Marton & Booth, 1996, p.538).

Marton and Svensson (1979) mentioned three key aspects of studying conceptions of learning: how the person related themselves to the situation; how the learner made meaning from content; and how the learner thought about their learning as a conscious act. They argued that too often researchers focussed on the observable behaviours of students (such as note-taking and underlining) to draw conclusions rather than trying to unravel the underlying reflections of students about their learning. Saljo (1979) suggested that learning should be defined by the individual who is engaged in learning and, as peoples’ experiences are not the same, to categorise these experiences in different ways.

van Rossum, Deijkers and Hamer (1985) proposed that learning was a progression through a set of five conceptions:

1. the acquisition of knowledge or increasing knowledge
2. memorising
3. applying specific facts or procedures
4. abstracting meaning
5. interpreting and understanding reality.

In later work, Eklund-Myrskog (1998) added a sixth conception to this list—learning as personal change.

In their synthesis of the phenomenographic research literature Marton et al. (1993) identified the following six hierarchically-arranged conceptions of learning that were consistently found:

1. Learning as increasing one's knowledge, where learning is the consumption of ready made facts and information.
2. Learning as memorising and reproducing, where learning is entirely devoted to regurgitating facts and information for a specific purpose, such as passing an examination.
3. Learning as applying, where the learner applies what is learned as the need arises, such as driving a car.
4. Learning as understanding, where the individual develops some meaning from their learning.
5. Learning as seeing something in a different way and gaining new perspectives.
6. Learning as “changing as a person”—through developing insights and points of view the learner sees both the world and themselves differently, being an agent of change and responsible for their own learning.

Tynjala (1997) researched students' conceptions of learning through examining 62 essays submitted by university students that described what they thought learning was. From Tynjala's phenomenographic analysis the following seven themes emerged:

- Learning is an externally determined event/process.
- Learning is a developmental process.
- Learning is student activity.
- Learning is strategies/styles/approaches.
- Learning is information processing.
- Learning is an interactive process.
- Learning is a creative process.

Entwistle (1997) described learning as a combination of memory, intelligence, cognition and personal development shaped by the interaction of the environment with an individual's personality and genes. He stated that learning was the construction of meaning, tested and modified, with new information being '... interpreted in terms of prior knowledge and concepts which contain shared, but also unique, shades of meaning' (p.10). Entwistle argued that for effective learning to take place individuals required not only self-confidence in their ability to learn, but also experiences that were personally rewarding and meaningful.

The phenomenographic approaches to studying learning described above are a potentially useful way of understanding how people see themselves as learners and for charting developmental changes in a learner. However, what is not clear from this body of work was the influence of age, life experience and education on conceptions, given that much of the work was undertaken with university students. What factors in the social, interpersonal and cultural contexts shape how individuals think of themselves as learners? Another problem is that seeing learning as a hierarchy that reaches some end point of understanding and change does not account for different views of learning as an iterative, ongoing process of making meaning.

2.4.2 Researching understandings of learning: general population

Two investigations into views of learning of the general population were sourced: one with young children (Pramling, 1996), and the other a study of adults in the United Kingdom (Park, 1994; Taylor & Spencer, 1994).

Pramling (1996) researched **children's ideas about learning** with a focus on those aged from three to eight. She argued that in order to better understand and improve children's learning we first need to figure out how they view learning. In her initial study she found that '... children's awareness of what they learned was described in terms of learning to do, to know and to understand' (p.571). Pramling discovered that this awareness was a function of age—for the youngest children learning was equated with doing, whereas the eight-year-olds demonstrated some understanding that they needed experience in order to learn.

In the next stage of her research, Pramling encouraged five and six-year-olds to study the phenomena of weather. They were then asked to reflect on their learning through making predictions. The underlying idea was that by using a concrete example children would develop a deeper understanding of the variety of ways that people thought. Pramling found this to be the case: as the children started to think differently about learning, their descriptions of learning changed from learning meaning to "do something" to learning meaning to "know something". Pramling also noted that childrens' learning increased when the teacher focussed on the what, when *and* why of what they were doing, rather than on only imparting content.

The study of adults in the United Kingdom was commissioned by the Employment Department, Sheffield. The aim of the **Sheffield study** was to find out the extent of knowledge about the education and training opportunities available to adults beyond formal schooling. A focus was on investigating learning in order to identify perceived barriers to post-school education and learning. Attitudes to four concepts were examined: education, training, studying and learning. An initial qualitative study using nine focus groups was undertaken to broadly examine attitudes, knowledge and perceptions (Taylor & Spencer,

1994) followed by a detailed quantitative survey of 1,405 residents across a range of locations in the United Kingdom (Park, 1994).

The qualitative component found that respondents thought of education as a formal process usually associated with school, something ‘... imposed and prescriptive’ (Taylor & Spencer, 1994, p.3), left behind when they finished school. Of the four concepts learning was the most difficult for participants to define. Respondents were able to give concrete examples of learning rather than easily discuss what the word meant. It wasn’t until they were asked to contrast learning with the other constructs, including education, that they were able to begin to describe it. Learning was generally seen as a positive process, being ‘... voluntary, broad, open ended ... seen as an implicit part of “normal” life’ (p.5, emphasis in original). One respondent in their study put it succinctly as ‘Learning is you doing it and education is somebody doing it to you’ (p.5). The results showed that learning was viewed as ongoing, everyday and lifelong, broadening horizons and taking an active interest in the world in many diverse ways, such as talking to friends, reading books and watching television. It was described as a subliminal process rather than a conscious activity that was sought out by the individual. A clear relationship was found between a person’s early learning or educational experiences and their attitudes to later, post-school learning. Participants felt that positive reinforcement and encouragement early in their lives resulted in a continued desire for learning, particularly when that came from parents, teachers and peers.

The quantitative stage of the Sheffield study was designed to assess what people thought about vocational learning (Park, 1994). A sample of 1,405 adults aged between 16 and 54 years were surveyed by telephone. The questions included a series of statements about attitudes to learning, such as consequences of learning, systems for learning, relevance of learning and responsibility for learning. It was generally found that respondents valued learning and understood that it was a life-long activity. Overall, the findings echoed the qualitative study—people generally recognised the benefits of learning and the role it played in their lives,

and saw education as formal, imposed, prescriptive and negative. One major conclusion from the Sheffield study was that

Most respondents felt that learning that has been chosen by the individual is associated with higher levels of fulfillment than learning imposed upon him or her (Park, 1994, p.34).

2.4.3 Researching views of learning in museums

Three studies undertaken into the meanings attributed to the word learning in the museum sector were sourced—one with visitors (Combs, 1999) and two with museum staff (Environmetrics, 1998; Rowe, 1998).

Research conducted by the **Winterthur Museum, Garden and Library**, Delaware, United States, looked at motivations for visiting and where learning, education and entertainment fitted (Combs, 1999). The objectives of the study were to see if learning was the main motivation for visiting Winterthur and the relationships between learning, recreation and entertainment. Sixteen focus groups were conducted with a total of 97 visitors to Winterthur. Results were analysed using grounded theory (Strauss & Corbin, 1998) to generate a set of terms that best described the reasons why people visited Winterthur.

Six primary motivations for visits emerged—recreation; learning; beauty; history; social and amusement—with the main reasons being recreation (30%) and learning (29%). These two concepts were closely related in the minds of those sampled, with the recognition that learning was both recreational and enjoyable. Combs also discovered that learning and recreation were defined very differently from education and entertainment, particularly in relation to perceived choice. Choice was seen as the way that recreation and learning were linked:

When visitors felt like they had made the conscious choice to learn without the pressure of producing quantifiable results to an outside agency, then learning became a leisure pursuit (p.193).

Compared to these views Combs reported that

Focus group members often felt that *education* implied strenuous exercise in an environment beyond their control ... *Education* connoted the absence of choice

... [and] implied a much more passive experience than what visitors hoped to encounter (p.193, emphasis in original).

Participants in the Winterthur study wanted active learning experiences that were worthwhile putting their energy into, with the opportunity to see new and unusual objects and to learn through active discovery. Interestingly, another finding that emerged from Combs' work was negative views about "entertainment" and "amusement", with participants associating entertainment with passivity and not being personally enriching. Combs reported that visitors to Winterthur did *not* want "educational experiences", as they associated these with receiving information inactively and being told what information, knowledge or skills that they should be acquiring. Combs suggested that

Entertainment and education appear to have a uniquely symbiotic relationship in museums; in order to captivate and educate visitors one must fulfill their leisure needs and entertain them (p.188).

Combs concluded that learning and recreation were two of the main reasons for museum visiting and were defined separately from education and entertainment, which were seen as passive processes. Learning was a '... personal, social discovery experience for the group viewing [an] exhibition' (p.195), as well as '... the act of acquiring knowledge with little effort or conscious intention ... *Self growth ... Enriching*' (p.190, emphasis in original).

Two studies of museum staff perceptions of learning were found. The **St Louis Science Centre**, Missouri, United States, used a series of staff interviews to map the similarities and differences in meanings held about a range of concepts, including learning (Rowe, 1998). Twenty-three staff were interviewed in-depth about a range of terms—learning, formal and informal, science, research and museums—which had been sourced from a literature review coupled with the aims of the Centre identified from the strategic plan and mission statement. The idea behind the study was to develop programs and partnerships that would improve the experiences of visitors to the Centre. Findings of most relevance to this thesis are summarised in Table 2.2 (over the page).

Table 2.2. Key findings: St Louis Science Centre study

Term	Description
Formal	Structured, systematic, regimented settings, definite right and wrong answers, teacher/expert has power and choice over what is acquired. Also organised and systematic.
Informal	Self-led, self-paced, self-motivated, connects to “real” experience, learner/visitor has power and choice to direct interactions, people are empowered.
Museum	Collections and research-based, hands-off, presenting “static” artefacts rather than ideas or activities.
Learning	Reflective, relevant, physical, social, choice, something that is applied in the future, enjoyable, experiential and “owned” by the learner.

(Source: Adapted from Rowe, 1998, p.11-13, 16-17)

Overall, learning was viewed as a positive process, something lifelong, with the learner having choice and ownership important features. Learning was also seen as natural and enjoyable. From the results Rowe suggested that

... [staff] who talked about learning as a natural process also tended to hold that the most important thing the [Centre] could do to promote learning is to spark interest and engagement and that visitors will naturally “use exhibits and programs the way they decide at the time” to learn at their appropriate developmental or educational level (1998, p.17).

Research was commissioned by the **Australian Museum**, Sydney, to see what perceptions staff held about learning in order to move them towards a learning focus when developing programs for the public (Environmetrics, 1998). Four focus groups were conducted to uncover views of learning and how those ideas had underpinned the public programs that staff had worked on. The wide-ranging discussions revealed a variety of individuals’ ideas about learning and the role that the Museum should play in visitor learning. Learning was seen as an active process of construction by the learner, with a shared recognition that the museum learning environment was not conducive to rote learning. The role of emotions in learning was identified as particularly relevant for museums in providing rich and memorable learning experiences. There was a general view that learning was about change, from acquiring new facts or knowledge, and gaining “wisdom” through applying new understandings.

It was also concluded that, although there seemed to be a broad agreement of what learning was, the language used by staff to express these concepts varied according to their professional backgrounds:

To some extent, it appeared that staff had shared understandings, but did not always have the shared language that would facilitate communication [about learning] (p.5).

Both of the studies with museum staff found that the differences in opinions identified related to people's *professional backgrounds*, with their epistemological views on learning and education being heavily influenced by their training and experience. Another finding was that although there seemed to be a broad agreement of what learning was, the *language* used by staff to express these concepts varied according to their professional backgrounds and work areas. These ideas are closely linked to their identity, which influenced how people saw themselves in a professional sense based on their experiences. Identity issues are explored in the next section of this chapter.

2.5 Exploring identity

Identity is a concept that has received increasing attention across a range of research disciplines (du Guy, Evans & Redman, 2000; Levinson, 1990; Maslow, 1999; Sfard & Prusak, 2005). Identity can be a political term related to issues of power and conflict (Hall, 1996), also addressing questions about participation, inclusion and exclusion (Wenger, 1998). There is a large literature dealing with identity generally, and the politics of identity specifically, across diverse fields such as sociology (Kidd, 2002), educational psychology and personality theory (Atchley, 1989; Pervin, 1984; Shaffer, 1979; Vander Zanden & Pace, 1984) and cultural studies (du Guy et al., 2000; Hall & du Guy, 1996). Identity has also been recognised as a tool that can be used in educational research as a framework for analysis (Gee, 2001).

As identity is a very complex notion, with a number of debates surrounding the use of the term across a range of contexts, the literature reviewed in this chapter focusses on descriptions of identity that informed Stage Two of the study which examined visitors' learning identities in relation to a Museum exhibition.

An influential figure who wrote about the concept of identity in adult development and personality theory was Erik Erikson (1902-1994). Erikson proposed a theory of identity formation in childhood and adolescence that, while based on the Freudian view of development, extended Freud's ideas through recognising the role identity played across a person's adult life (Erikson, 1963). Erikson suggested that humans advanced through eight stages during their lives, with progression through levels contingent on solving some crisis. Erikson identified identity as a critical issue faced by adolescents in particular. He introduced the terms "identity crisis" and "role confusion" to explain the nexus between childhood and adulthood that needed to be resolved by a person in order to define their role and purpose in life and, ultimately, their identity as an adult (Erikson, 1963). Shaffer (1979) noted that Erikson had addressed the idea of shared identities, where individuals become intimate with others, experiencing mutual trust and an ability to care about others. Pervin (1984) suggested that Erikson made a major contribution to personality theory in three ways: by emphasising the psychosocial aspects of personality; through extending stages of development to encompass individuals entire life cycles; and in recognising that both the past and the future have a major impact on how people constructed their identities at different times in their lives.

Educational psychologists Vander Zanden and Pace (1984) applied Erikson's ideas in defining identity as

... an individual's sense of placement within the world—the meaning one attaches to oneself as reflected in the answers one provides to the questions, “Who am I” and, “Who am I to be?” (p.74).

Atchley (1989) also drew on the work of Erikson when he suggested that identity was

... a set of characteristics that differentiates self from others and that persists over time. Identity can also be a goal through which people try to arrive at a conception of themselves as loving, competent, and good (p.115).

A useful set of terms describing identity in adult development were articulated by Levinson (1990). The *self* was how a person perceived themselves; *personality* how a person appeared to others; and *life structure* the pattern of a person's life that resulted from the interaction of self, personality and external world. Levinson suggested that these were unstable and ever-changing, as both the person and the world were constantly in transition. Identity was also strongly related to the concept of the self in combination with membership of various social and cultural groups (Paris et al., 2001), as well as the cultural tools that people interacted with, such as schools, museums, films, literature or other forms of cultural engagement. Paris et al. (2001) also argued that people constantly formed, re-formed and shaped their identity in order to understand themselves ‘... partly in relation to their own histories and anticipated futures’ (2001, p.257).

Kidd (2002) stated that identity was the way sociologists framed how individuals thought of themselves and their world. He defined identity as ‘... the characteristics of thinking, reflecting and self-perception that are held by people in society’ (p.24). Kidd identified three forms of identity:

- *Individual identity* – the unique sense of personhood held by each person in their own right.
- *Social identity* – a collective sense of belonging to a group, identifying themselves as having something in common with other group members.
- *Cultural identity* – a sense of belonging to a distinct ethnic, cultural or subcultural group.

Sfard and Prusak (2005) proposed that individuals had multiple identities defined by the narratives, or stories people told themselves. They outlined three narrative-defined identities—*first-person* identity as told by the person themselves; *second-person* identity as told to another person; and *third-person* identity told by a third party to a third party. Sfard and Prusak identified two subsets of identity and narrative:

... *actual identity*, consisting of stories about the actual state of affairs, and *designated identity*, consisting of narratives presenting a state of affairs which, for one reason or another, is *expected* to be the case, if not now then in the future (2005, p.18, emphasis in original).

Gee (2001) described a person's "core identity" as a combination of their many different experiences and self-perceptions: 'Being recognised as a certain "kind of person", in a given context, is what I mean ... by identity' (p.99).

Wenger (1998) proposed that the relationship between identity and practice was critical in informing the ways that individuals operated within a community. He recognised that identity was the bridge connecting individuals with society:

Building an identity consists of negotiating the meanings of our experience of membership in social communities ... it is the social, the cultural, the historical with a human face (p.145).

Wenger identified the following characterisations of identity as:

negotiated experience, defining who we are through our participation in a community

community membership, defining who we are through the familiar and unfamiliar

a *learning trajectory*, defining who we are by our past experiences and future paths

nexus of multimembership, how we reconcile and integrate different aspects of our identity

a *relation between the social and global*, local ways of belonging that link to the bigger picture (adapted from Wenger, 1998, p.149).

2.5.1 Identity described in a museum context

Falk (2004) noted that research has consistently found that learning from museums was

... affected by within group social mediation, by social mediation and facilitation from individuals outside the visitor's social group, and by the cultural values and beliefs visitors hold relative to culture and identity (p.S84).

Identity has been discussed and researched in recent museum literature (Falk, 2006; Hooper-Greenhill, 2004b; Leinhardt, Crowley et al., 2002; Leinhardt & Knutson, 2004; Rounds, 2006; Spock, 2006). Researchers have speculated that the museum experience influences identity. It has been recognised that museums can play a crucial role in shaping both individual and national identities through their collections, research and public programs (Gurian, 1999; Rounds, 2006; Weil, 1997). As the focus in this thesis is on visitors as learners, rather than the broader issue of the ways museums shape nationhood and cultures and tell narratives about the wider world humans occupy, the literature described in this section relates to individuals' identities and their museum experiences.

A broad and inclusive definition of identity was presented by Fienberg and Leinhardt (2002):

One common conception of identity is that it is comprised of a set of demographic characteristics such as age, gender, socioeconomic status, race, and ethnicity, characteristics that influence people's attitudes and behaviour and sometimes influence how they are treated by others in the society. Another conception of identity is that it includes the kinds of knowledge and patterns of experience people have that are relevant to a particular activity. This second view treats identity as part of a social context, where the prominence of any given feature varies depending on which aspects of the social context are most salient at any given time (p.168).

A visit to a museum can influence both a person's identity and their sense of self (Falk, 2006; Hooper-Greenhill, 2000; 2003; Leinhardt & Gregg, 2002; Leinhardt, Tittle & Knutson, 2002; Rounds, 2006). The interplay between the backgrounds that visitors bring and their reactions to objects and experiences can lead to subtle changes in views of themselves, their identity and meaning making, both individually and collectively (Hein, 1998; Leinhardt & Knutson, 2004;

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Silverman, 1995; Stainton, 2002). Ivanova (2003) recognised that a two-way process of exchange occurred between a visitor's identity and the sense of identity that was present within the content of the museum. She noted that museums both preserved history and memory as well as constructed them. She felt that it was important, then, that '... museums in general ... understand how they influence the development of identity, explicitly or implicitly' (p.22).

Museums also have objects which can strongly resonate with a person's experiences, contributing to both forming and affirming a visitor's identity (Gurian, 1999; Ivanova, 2003; Leinhardt, Crowley et al., 2002; Paris, 2002), as Hooper-Greenhill (2000) noted:

Objects are used to construct identities, on both a personal and a national level.
Objects can become invested with deeply held feelings and can symbolise powerful convictions through which life is led (p.109).

Identity can be shaped by visitors' interactions with museum objects: '... visitors recall meaningful objects during museum visits that elicit feelings relevant to their own personal identities' (Paris & Mercer, 2002, p.418). In researching visitor's responses to objects, other manifestations of identity examined by Paris and Mercer were '... gender, ethnicity, historical generation, self and family' (p.418). Hooper-Greenhill (2000) recognised that museums play a key role, not only in maintaining and transforming culture on a broad scale, but also through '... the recognition of the significance of objects in relation [to] the construction of the self' (p.150).

Leinhardt and Knutson (2004) in reporting the work of the Museum Learning Collaborative, suggested that identity could be considered in three ways. The first was through demographic factors such as age, gender and ethnicity; the second being the changing roles people play in relation to others in the group and the activity being undertaken. The third was viewing identity through the '... collective past of visitors' (p.50), including their prior knowledge and experiences, motivations and agendas. They proposed that identity was defined by the individual: 'I am who I think I am, and we are who we think we are' (p.51).

In relation to a museum visit they suggested that identity is participatory and changing in response to the visit itself. Leinhardt and Knutson concluded that:

Identity was measured less by the demographics and more by the details of how the groups were enacting a particular visit, specifically by their level of interest, motivation and curiosity, and by their appreciative and experiential knowledge (p.75).

In exploring long-term memory and visits to World Expos Anderson (2003) suggested that *sociocultural identity* was a critical factor that contributed to people's memories. In this context Anderson defined sociocultural identity as

... the inherent set of interests, attitudes, beliefs, social roles, stage of life and behaviours that collectively define the participants at the time of their Expo experiences (p.406).

He found that the social dimension of a person's sociocultural identity elicited the strongest memories of their experiences, more so than specific exhibitions and displays. However, he noted that, not only what a person remembered, but how they reflected on their experiences through the "frame" of their identity and their role in the visit, were important. Anderson concluded that 'Memories were overwhelmingly dominated and mediated by the socio-cultural identity of the individual at the time of the visit' (Anderson, 2003, p.409).

Worts (1996) also reflected on the social nature of identity in art museums, suggesting that there were two kinds of identity—*personal identity* that made an individual unique, and *collective identity* in belonging to family, friends and community, both culturally and globally. He advocated that identity was experienced by '... reaffirming the sense of self, [and] evolving a new or varied sense of self' (p.128). Worts suggested that identity was a complex notion, both conscious and unconscious, and was the way that people made meaning when visiting a museum:

Cognitions, emotion, imagination, intuition and physical interactions all contribute to the experience of an individuals' sense of identity – either by affirming an existing sense of self, or by providing an impetus for an evolving sense of self. This identity is generally reflected in one's knowledge, beliefs, taste and skills (p.128-129).

Leinhardt, Tittle and Knutson (2002) found that participants in their study ... deliberately blurred the lines between the exhibit and themselves, developing a personal meaning for the object, or exhibit, or drawing an interpretation out into their own lives (p.130),

and concluded that

Visitors shape and reshape their own personal activity of museum going and each museum visit—be it a novel experience, or checking in with an old friend—adds to the identity of who that visitor is (p.131).

Hooper-Greenhill (2004b) identified a range of learning outcomes that could be expected from students visiting museums which related to identity, including ‘... the development of a more complex view of self, family, neighbourhood, or personal world’ (p.164). She recognised that attitudes towards the self and others could also be changed as a result of a museum visit. In reporting on her work with school students and teachers, Hooper-Greenhill (2004a) concluded that children exhibited more positive *learning identities* after visiting a museum, particularly when they engaged in active learning experiences, were able to handle objects and were provided with opportunities to talk to experts.

Leinhardt and Gregg’s research (2002) about trainee teachers’ engagement with a social history exhibition found that their views about civil rights were formed based on an understanding of both who they were (their *individual identity*) and the tools they had acquired as part of their professional training (their *professional identity*). Leinhardt and Gregg noted that

How the content is understood and appropriated by visitors is a consequence of their own sense of identity, prior knowledge, and exploratory engagements, as well as their uses of the devices and tools built into the museum environment (p.142).

Significant changes to a person’s identity can occur as visitors move from a dispassionate stance to a position of critical thinking about a subject, particularly those that deal with difficult or emotive issues such as racism, social justice, human rights and the environment (Adelman, Falk & James, 2000; Kelly & Gordon, 2002; Leinhardt & Gregg, 2002; Swanagan, 2000).

Rounds (2006) proposed that visitors use museums for “identity work”, defined as

... the processes through which we construct, maintain, and adapt our sense of personal identity, and persuade other people to believe in that identity (p.133).

Rounds suggested that identity is created and sustained through reflexive actions and wondered how this would be demonstrated through a museum visit, particularly given the dominance of “browsing behaviour” among visitors (Rounds, 2004). He also noted that when studying identity the focus should be not on what a person’s identity *is*, but what they are *doing about it* in terms of how their identity unfolds and changes over time. In thinking about the role of museums Rounds advocated that they offer ‘... opportunities both to confirm our existing identity, and to safely explore alternatives’ (Rounds, 2006, p.138), particularly as museums display order that enables visitors to understand relationships between objects and their place in the world.

Falk (2006) observed that

... an individual’s motivations relative to learning are closely aligned with that individual’s sense of self and identity ... learning expresses identity (p.154).

He proposed that identity is not fixed, that people have multiple identities, expressed at different times and situated within the realities of the world. Falk emphasised the importance of motivations as a way to describe a visitor’s “entering identity”, under the categories of explorers, facilitators, professional/hobbyists, experience seekers and spiritual pilgrims.

However, both Rounds and Falk make broad claims based on an initial set of somewhat restricted data. Rounds draws on secondary sources, admitting that he is undertaking an ‘... exploratory reinterpretation of existing studies of how visitors behave in museums’ (2006, p.138). Although Falk sampled over three thousand individuals, his work was confined to science centres, zoos and aquariums. Falk did acknowledge these constraints, and wondered whether his conclusions would apply to other types of museums.

In critiquing these two papers in the context of what identity might mean for museum education practice Spock (2006) noted that:

In order to captivate, the museum experience has to resonate with something deeply felt in the personal identity of the museum-goer (p.179).

How then could visitors' identities be studied within the context of a museum exhibition?

2.6 Understanding museum learning and identity

The literature sourced for this chapter shows that identity is how a person sees themselves in relation to their world and their role in it, as well as to others. Identity is fluid and shaped by the social context and membership of a community. Identity changes across a person's life cycle. It includes a range of factors such as age, gender, cultural background, socioeconomic status as well as general life experiences. Identity not only influences who a person is now, but also how a person behaves and conceives themselves in the future. As suggested by Sfard and Prusak (2005) learning plays a critical role in influencing a person's identity.

The literature revealed that learning is a creative process of change in a person's identity—from not knowing to knowing, or being able to do something that hasn't been done before. In a broader sense learning could also lead to some major change within an individual's identity—in their perceptions, attitudes, behaviour, or the way they see themselves, others, and their world.

Although learning is complex with many interrelated factors, the essential elements found consistently across the literature reviewed in this chapter are that learning is:

- both unique to an individual and a shared process that all humans engage in consciously and unconsciously
- dependent on context, and across many different contexts
- lifelong and lifewide, across all facets of a person's life
- a process that is both immediate and happens over time
- reflective, leading to self-awareness and change

- an activity that is chosen by individuals based on their own interests and preferences
- shaped by a person's prior knowledge and experiences
- meaning making through making new connections
- creative and innovative
- enjoyable
- facilitated by a wide range of tools: a dynamic between a person and something.

Motivation and purpose are key components of learning, with the social dimensions of learning being critical. Learning is an essential part of being human and is linked to our identity and sense of self—we all have an intrinsic desire to learn.

Several areas emerged from the literature review that warranted further investigation—how museum visitors describe learning; where learning fits in their lives; how they see themselves as a learner within the context of a museum visit; and how a museum visit influences their learning identity. Another area of contention identified from the literature was a potential conflict between the words “learning” and “education” and whether perceptions of one influence the other. Studies reviewed found that education can be viewed as passive; formal; being told to do something; imposed, not chosen; associated negatively with school and teachers and hard work; as well as structured and systematic. As suggested by Prince (1990) if visitors associate museums with education could this influence their views of museums and how they engage with them?

These issues were investigated in two stages of this study, outlined in the following chapters.

Chapter 7. Conclusion

This study examined adult museum visitors' learning identities through the following research question: What are the interrelationships between adult museum visitors' views of learning and their learning experiences at a museum?

A key focus was on how adults describe learning, the place of learning in their lives and where museums were situated. Other areas examined included the relationship between learning, education and entertainment; how a Museum exhibition interacts with an adult visitors' learning identity; as well as the roles visitors play during a museum visit.

This chapter brings together the findings and implications from both stages of the study across four main areas of investigation. First, adult museum visitors' views of learning are outlined under the 6P model of museum learning in conjunction with implications for museum practices. Second, the ways learning, education and entertainment link together is presented. Then, the outcomes and implications from the methodology used in the study are discussed. The final section outlines conclusions about the interrelationships between museum learning experiences and adult visitors' learning identities.

7.1 How adult museum visitors describe learning: findings and implications

It has long been recognised that learning plays a central role in people's lives and is essential to our humanity (Bowen & Hobson, 1987; Claxton, 1999; Confucius, undated; Dewey, 1938; Senge, 1992). Learning is an individual and social process that humans are constantly engaged in, both consciously and unconsciously. Dewey (1938) also suggested that learning was:

- the capacity to act intelligently in new situations through exercising personal judgment
- the interplay and interaction of objective (external) and internal factors
- a transition between individuals and their current environment

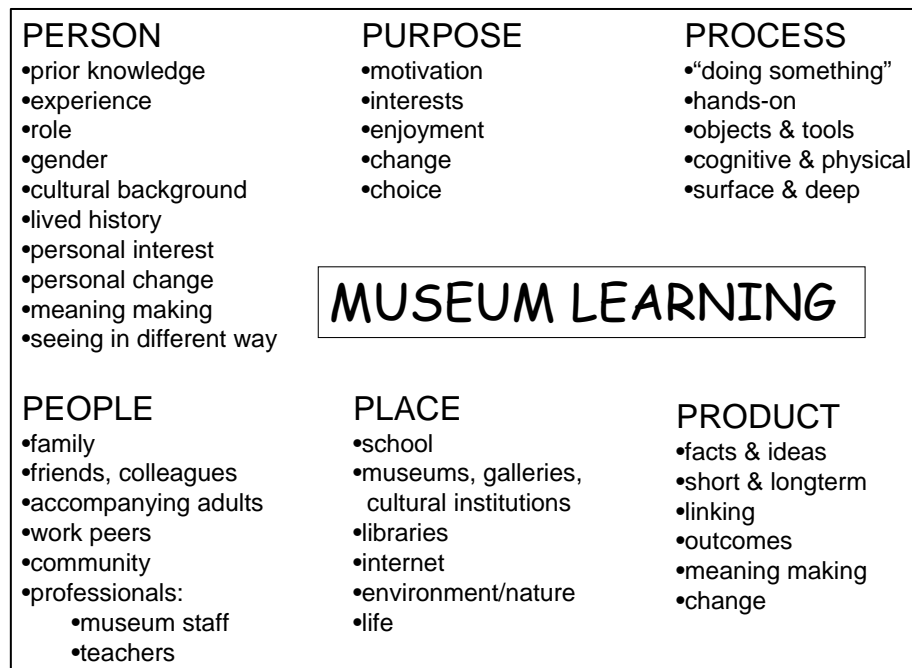
- a lifelong process of growth
- social—a shared common experience
- flexible, yet directed.

In the present study learning was seen as a complex, yet positive, process that occurs across a person's life. The data shows that learning is multi-faceted, involving meaning making; physical/hands-on learning; seeing something in a different way and choice. The role prior knowledge and personal interest play in learning was also acknowledged by participants. The importance of social learning—learning with, from and about others—was a particularly strong finding.

Learning is about change, and can often involve a major life-changing event (Falk & Dierking, 2002; Marton et al., 1993; Rennie & Johnston, 2004). This study found that participants viewed learning as the application of facts and information in a cognitive process of gathering information to gaining knowledge and changing in some way. Learning new facts was also seen as important, especially short snippets of information they could tell others about later. It was also found that significant changes in attitudes and values could occur when participants reflect on their exhibition experiences.

Many researchers have acknowledged that museum learning is a complex phenomenon (Falk & Dierking, 2000; Falk, Dierking & Holland, 1995a; Hein, 1998; Hooper-Greenhill, 2004b; Rennie & Johnston, 2004; Schauble et al., 2002), with Pierroux (2003) encouraging museum researchers to consider '... what *else* counts as learning' (p.7, emphasis added). The findings from the present study suggest that museum learning can be framed under six interrelated categories—person, purpose, process, people, place and product—the *6P model of museum learning* (Figure 7.1, over the page). This model, while resonating with Falk and Dierking's Contextual Model of Learning (2000) described in Section 2.2.5, is derived from the findings of the present study. It presents a potentially powerful way to theorise and explain museum learning through the interrelationships between each of the six categories.

Figure 7.1. The 6P model of museum learning



The next sections outline the findings under the 6P model categories in conjunction with the implications of each for museums.

7.1.1 Person

The category of *person* relates to the individual learner, including prior knowledge, experience and lived history; cultural background and gender; as well as roles played at different times in a person’s everyday life. The literature showed that visitors viewed exhibitions through the lens of their life experiences, often making connections with their own lives (Leinhardt & Gregg, 2002; Paris & Mercer, 2002; Stainton, 2002). The aspects of person demonstrated by participants in the present study were prior knowledge; learning that builds on what people already know; personal interest; personal change and seeing something in a different way; as well as meaning making.

Implications:

- Visitors will make their own meanings and construct their own narratives based on their experiences and interests.

As outlined in Chapter 6, Section 6.4.1, several museum learning researchers have discussed the variety of roles visitors played during a museum visit (Ash, 2002; Ellenbogen, 2002; Sedzielarz, 2003). Stage One of this study revealed that some participants (particularly mothers and grandmothers visiting with children) felt that their role was to support the learning of the children they accompanied to museums and other cultural institutions, rather than learn themselves. Stage Two investigated this idea further and found that adult visitors play three roles—the “visit manager” by directing and organising; the “museum expert” in explaining, clarifying and correcting; and the “learning-facilitator” through questioning, linking, reminiscing and wondering. These roles are interchangeable, occur simultaneously and are dependent on both the social context of the visit and the group composition, particularly the ages of any accompanying children.

Implications:

- Visitors play multiple roles at various times during the one visit.
- Acknowledge the different roles adults play during the visit through asking throughout the exhibition development process “What roles might a visitor be playing at this point?”.

Dewey (1938) acknowledged that learning was active, and the present study found that participants recognise the importance of physical, active, hands-on learning experiences. It was also found that adult visitors want hands-on, rich and immersive experiences as much as younger visitors do.

Implications:

- Provide a range of interpretive experiences for visitors, including interactive ones, even in exhibitions specifically developed for adult audiences.

The role of prior knowledge and experience has been widely discussed in the literature (Dewey, 1938; Doering & Pekarik, 1996; Fienberg & Leinhardt, 2002; Hein, 1995; Paris, 1997a; Rennie & Johnston, 2004). The present study demonstrated that building on what a person already knows and providing information of interest to them was felt by participants to be important in their learning.

Implications:

- Visitors expect that learning will build on what they already know.
- Improve understandings of the variety of visitors' prior knowledge, experiences and interests through continual front-end evaluation.

One area under person that was less clear was the role that cultural background plays in learning. Although it has been recognised that learning and identity can be influenced by an individual's cultural background (Kidd, 2002; Ogbu, 1992; Paris & Mercer, 2002; Wenger, 1998), could this also influence how a person perceives the concept of learning and therefore how they learn?

Implications:

- Further research could be undertaken about views of learning across groups of culturally-diverse museum visitors.

7.1.2 Purpose

Doering and Pekarik (1996) proposed that visitors came to museums with rich and deep prior experiences—storylines or “entrance narratives”—that they drew on to make sense of their interactions. A study of visitor agendas and museum learning in the United States reported that people who visited museums valued learning, sought it in many ways and were usually better educated than the general population (Falk, Moussouri & Coulson, 1998). In the 6P model *purpose* covers the motivations behind learning, including a person's general interests, enjoyment and fun and choosing learning.

Consistent with the literature (Dewey, 1916; Griffin, 1998, 2004; Hein, 1998; Hein & Alexander, 1998; Paris, 1997a; Park, 1994; Taylor & Spencer, 1994) choice was seen by participants in this study as an important way of facilitating learning, especially when comparing learning with education. The differences seemed to lie in the word *teach* which was associated with being “talked to” or “told to do something” in an educational sense, and the word *learn* that was connected with personal choice.

Visitors in the present study also want choice in their exhibition experiences, again resonating with the museum learning literature (Griffin, 2004; Kelly et al., 2004; Leinhardt & Knutson, 2004; Paris, 1997a). It emerged that visitors' exercise their choices in how they behave in an exhibition; in what they focus on and discuss; as well as in what they learn. This finding also corroborates with those from many observation studies undertaken in museums (Beer, 1987; Hein, 1991; Screven, 1990; Serrell, 1998).

Implications:

- Give visitors choice and control over their museum experience and their learning through providing multiple pathways through an exhibition and a variety of interpretive experiences suitable for both individuals and groups.

7.1.3 Process

The literature recognised that people learn in many different ways (Cassels, 1992; Dierking, 1989; Gardner, 1993; Schmeck, 1988). Leinhardt et al. (2003) suggested that museum learning was enhanced when visitors:

- had some prior knowledge and experience
- showed a deep engagement with the exhibition materials
- took part in conversations during their visit that included analysis and explanation.

In the 6P model the *process* category includes the numerous ways that learning happens. Across all samples learning as a general concept was expressed by participants as an everyday activity undertaken by all humans. Learning was also seen as a cognitive process, occurring inside a person's head, as well as a physical one. It was seen as a way of *acquiring and gathering something*, for example, information, skills or knowledge, and *doing something with it*, such as understanding, applying, expanding, discovering, assimilating, experiencing and exploring in order to reach an outcome, or end-product. Other words related to process that were raised by participants included accumulating, choosing, explaining, questioning, reminiscing and thinking.

Implications:

- Provide opportunities for visitors to engage in critical thinking and questioning, with exhibitions and texts that raise questions, point to some answers and addresses both facts and ideas.
- Present multiple points of view to enable visitors to reach their own conclusions and make their own meanings.
- Provide physical, active and lively hands-on experiences that engage the body as well as the mind.

This study found that visitors made connections from the exhibition to other areas of their lives based on shared experiences. Participants recognised the value of building on prior knowledge and experiences when museums addressed visitors' specific and general interests and also made the visit experience enjoyable and fun.

Implications:

- People visit museums to learn, to be educated and to be entertained:
 - in an exciting and stimulating environment
 - that is enjoyable for them and all members of their group.
- People are motivated to learn in museums and expect to do so.
- Museums need to make clear the relevance of the exhibition to visitors' learning goals.

7.1.4 People

The category of *people* covers the social aspects of learning. Research has consistently found that the social dimensions of a museum visit were important (Falk & Dierking, 2000; Leinhardt, Crowley et al., 2002; Paris, 2002; Paris & Mercer, 2002), and that sharing learning was a particular feature of family visiting (Anderson et al., 2002; Blud, 1990; Borun, 2002; Ellenbogen, 2002; Ellenbogen et al., 2004; Hilke, 1989; Kelly et al., 2004; McManus, 1994; Piscitelli & Weier, 2002).

Participants in the present study identified a broad and diverse range of people they learn with, including family, friends, colleagues and work peers, and professionals such as teachers, university lecturers and museum staff. The importance of peers (other students), teachers and university lecturers were more prominent in Stage Two, which could be due to participants' backgrounds (some were university students, older retired learners and teachers).

Implications:

- Museum visits are mediated experiences with knowledgeable others who facilitate discussion and sharing of opinions and understandings.
- Exhibition designs should facilitate the sharing of ideas and intellectual discourse across diverse groups of visitors.

The findings strongly support the views expressed in the literature about the significance of social learning. Stage Two, in particular, uncovered many examples of sharing learning across all ten groups studied. Other outcomes from Stage Two were that visitors link what they see in exhibitions to past, present and future life experiences through sharing these with each other. Many examples were found of adults using objects they saw in the exhibition as triggers related to previous life events, often holidays and other “environmental” experiences.

Implications:

- Provide opportunities for visitors to make links from the exhibition content to other areas of their lives.
- Use concrete examples of local and global environments when developing exhibitions based on animals and nature.

The role that accompanying adults played in facilitating learning has been reported in the literature (Falk & Dierking, 2000; Puchner et al., 2001; Sedzielarz, 2003). The present study revealed that the learner-facilitator role (described under *person*, Section 7.1.1) was also played by adults who visited with other adults. The findings demonstrate that adults accompanying children have special needs, both in the ways they perceive their roles (supporter of childrens' learning) and in the actual roles they play in a visit (visit manager and learner-facilitator).

Implications:

- Recognise that different people in the group play different roles, and some individuals play more than one role at any one time.
- Support the learning needs of adults and children especially in museums and/or exhibitions frequented by large numbers of intergenerational groups.
- Facilitate the learner-facilitator and visit-manager roles for adults accompanying children, for example:
 - Provide rest spaces throughout exhibitions where visitor management can take place, such as plenty of chairs, resting and eating spaces, as well as hands-on activities to manage distracted children.
 - Provide guides/texts with conversation suggestions and questions or information guides that detail the key messages of an exhibition.

McManus (1987; 1988) found that couples typically did not interact as much with each other as other groups, and that families observed read and discussed the content of labels (1991). The present study found that both the families and the couples that participated spoke together a great deal and exhibited McManus's (1994) "hunter-gatherer" mode of visiting, actively "foraging" in the exhibition to find areas that interested them and coming together at various points to share their experiences. Across all ten groups evidence was also found of intense label-reading and speculating about content in their conversations.

Implications:

- Design exhibitions that encourage conversation and promote group interaction and group activities, but also allow for private reflection.

7.1.5 Place

It has been reported in the literature that people accessed museums as one of a wide range of information resources used when learning (Anderson, 1997; Crane, Nicholson, Chen & Bitgood, 1994; Ellenbogen, 2002; Falk & Dierking, 2000, 2002; Kelly, 2006; Rennie & Johnston, 2004; Sachatello-Sawyer & Fellenz, 2000). While participants in the present study stated that learning occurs across all aspects of their lives they did nominate specific *places* when asked about

where they learn. Libraries; museums, galleries and other cultural institutions; and universities were places more frequently cited by participants when talking about where learning happens. Other places named were schools; formal education courses; adult education providers; and the home (through television, movies and computer programs).

The study also found that adults regard museums as valuable sources of information and learning. Therefore, museums could capitalise on these views by clearly differentiating themselves from other informal learning providers.

Implications:

- As a large range of places are accessed when learning, museums could promote themselves as unique and accessible learning places where visitors can experience real objects and be together in an enjoyable, safe environment.
- Demonstrate how museums complement a range of both formal and informal learning environments such as school, university and libraries.

Stage One revealed that the internet was an important place where learning occurs. Many participants reported that the internet is the first place accessed when learning something new as it was fast, immediate, usually accurate and something that they controlled. Certain characteristics of the internet have the potential to change how people learn and therefore their expectations of museum learning experiences. These include the freedom to choose pathways through content, being user-controlled, opportunities for interactivity, and enabling the provision of up-to-date content that is easily changed in response to external events.

Implications:

- Conduct further research into the relationship between learning experiences provided through the internet and physical experiences offered by museums.
- Utilise the internet as an information resource to provide deeper layers of exhibition content accessible either on-site or off-site.
- Design activities and material that can be accessed online after a museum visit for further exploration at the learners' own pace and discretion.

7.1.6 Product

Several authors have discussed learning as a progression from lower-order to higher-order outcomes (Entwistle, 1997; Marton et al., 1993; Sachatello-Sawyer et al., 2002; van Rossum et al., 1985). Ramsden (1992) acknowledged that learning involved both deep and surface approaches, and that learners applied the most appropriate to each situation. As mentioned earlier, many authors have equated learning with change (Dewey, 1938; Falk & Dierking, 2002; Marton et al., 1993; Rennie & Johnston, 2004). The present study found that participants also strongly associate learning with change, both deep and surface, as well as *products* such as learning new facts and engaging with ideas. When reflecting on their museum experiences, participants in the study were able to express changes made to deeply-held attitudes, as well as thinking differently about concepts, ideas and their own learning processes.

It has been recognised that personal declarations of learning can be a useful way to understand visitor learning, but is somewhat under-utilised in museum learning research (Griffin, Kelly, Hatherly & Savage, 2005). When asked, all those sampled in the present study could clearly state something they had learned from an exhibition—from “simple” facts or aesthetic appreciation; to deep change in attitudes, behaviours or self-perception. Participants also felt that learning new facts is important, as well as both asking questions and finding answers.

Implications:

- Recognise and reinforce that everyone learns in an exhibition.
- Use questions in text panels and interspersing short, quirky “did you know facts” throughout an exhibition, while also providing deeper layers of written content.

The exhibition used in Stage Two, *Uncovered: Treasures of the Australian Museum*, focussed on collections from the Australian Museum, Sydney. The data from the study suggest that visitors look for “why” and “how” information, as well as “what”. Participants raised many questions about why museums collect objects, why they have so many specimens and how they are preserved, often

using their museum expert role to speculate about these. However, it was shown that sometimes their conclusions were inaccurate, or that visitors became frustrated when they couldn't find an answer easily.

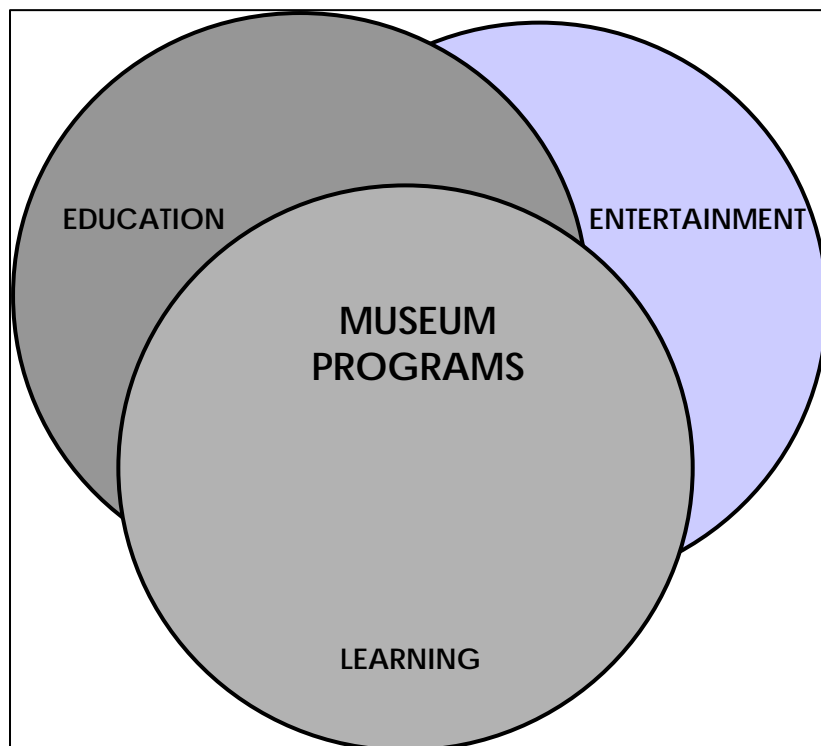
Implications:

- When presenting exhibitions based on their collections museums could:
 - provide information about how and why objects are collected
 - enable access to collection objects and other real material to actively use and manipulate
 - use objects that make an impact on visitors, particularly juxtaposing objects that are big and tiny; unusual and familiar; bizarre and everyday.

7.2 Learning in relation to education and entertainment

From data gathered in Stage One it is concluded that the concepts of learning, education and entertainment are closely linked in the museum environment (Figure 7.2).

Figure 7.2. Learning, education and entertainment



The literature review revealed that education was seen in negative ways, particularly when compared with learning (Combs, 1999; Hooper-Greenhill, 2003; Park, 1994; Taylor & Spencer, 1994). However, the data from the present study did not support these conclusions. Participants understand and appreciate the role that education plays across their learning lives and how it connects with learning. The literature also showed that the problem with the term education was in the perceived lack of choice it offered (Combs, 1999; Park, 1994). The data from the present study showed that education is seen as passive, and something done *to* a person, not *with* a person. Although, participants felt that education is similar to learning in gathering information, knowledge and skills, it is also associated with being told what to do by others and forced, not chosen. Participants viewed learning in more positive ways, understanding that there are many more possibilities for rich and deep outcomes based on choice, when compared with education.

Roberts (2001) and Combs (1999) suggested that entertainment was a passive process that was not necessarily personally enriching. Again, results from the present study do not support these ideas. Adult museum visitors describe entertainment in rich, sensory and active ways and appreciate that museums are entertaining as well as educational. Entertainment is a concept that incorporates fun, relaxing, pleasurable experiences that provide an escape from the everyday. Particular aspects of entertainment that relate to experiences museums offer include sensory, escapism, relaxation, choice and an activity undertaken in leisure time.

7.2.1 Implications: learning, education and entertainment

This study suggests that learning, entertainment and education are not competing concepts or opposites—they are complementary. Museums have a strong learning focus, with their educational role being one way to deliver formal museum programs, and entertainment representing the enjoyment, leisure, emotional and sensory aspects of a museum visit. In relation to the 6P model of museum learning described earlier, it is proposed that education is a *process* that happens within a defined *place*, that enables the delivery of formal *products* of

learning, grounded in sites such as schools, adult education courses and universities, as well as museums. Entertainment also occurs within a defined *place*, either real or imaginary, yet is *person-centred*—being sensory, escapist and relaxing. Learning, while it involves other people, is essentially an individual *process* that happens inside a person’s head and at their own instigation, with a specific *purpose* and end-*products*. It is also *place-oriented*, occurring across a broad range of formal and informal contexts.

The challenge for museums is to combine these three concepts in ways that build on the positive aspects of each. Hooper-Greenhill (2003) recognised that the construct of “edutainment” used by Mintz (1994) had attempted to integrate the perceived separation between education and entertainment. The term edutainment has long been problematic for museum professionals and, based on the findings from the present study, is probably redundant—learning in museums is *both* entertaining and educational. This study provides data that supports views in the literature that museums should be thinking about learning in the broadest sense, rather than narrowly focussing on education. Museums need to be clear that they provide visitor-centered learning experiences, rather than “educational” or purely “scholarly” ones. Museums should also not be concerned about their entertainment value and role, as results from this study indicate that adult visitors feel that entertainment *adds* to learning, not detracts from it. Overall, museums could promote themselves as places for enjoyable and entertaining learning experiences.

7.3 Methodology implications

Chapter 1 identified that there was a potential problem when using the term “learning” with visitors as it could contain negative connotations or not be understood by them (Falk et al., 1995a; Prince, 1990), with Senge (1992) arguing that learning had ‘... lost its central meaning in contemporary usage’ (p.13). Stage One revealed that participants initially found learning hard to describe, suggesting that methods need to be developed to give people the language in which to talk about learning as well as the space, both physical and conceptual, to facilitate the conversation.

One key outcome from the present study is that the method used in Stage Two demonstrates that participants could gain new insights into their learning identity when:

- they were asked to think about themselves as a learner *before* they visit an exhibition, and
- they then reflect on these views *after* their exhibition experience.

Therefore, when studying what visitors learn from an exhibition, it might be useful to ascertain what they think learning means and how they like to learn before discussing what they learned. The focus could be on how the exhibition experience may have impacted on a visitor’s self-awareness and views about learning, not only on facts and messages learned. In contrast to what some authors have speculated (Falk, Dierking & Holland, 1995b; Pitman, 1999; Roberts, 2001) researchers can use the term “learning” with visitors as they don’t see it as a negative concept or confuse it with education.

The methods used in this study generated a wide range of qualitative and quantitative data about learning identities within the sociocultural and museum contexts. Through implementing both open-ended questions and rating scales in Stage One a range of data were gathered about what adults think learning is, where it fits in their lives and the roles museums play in learning. In Stage Two taping visitors’ conversations coupled with a pre-visit and post-visit interview

and observations were useful ways of gaining insights into how visitors adapt and shape their experiences to match their learning identity, and the impacts of their exhibition experience on their learning identity. One interesting finding was that by discussing their ideas about learning before and after visiting an exhibition, participant's views about how they did *not* want to learn were strongly reinforced.

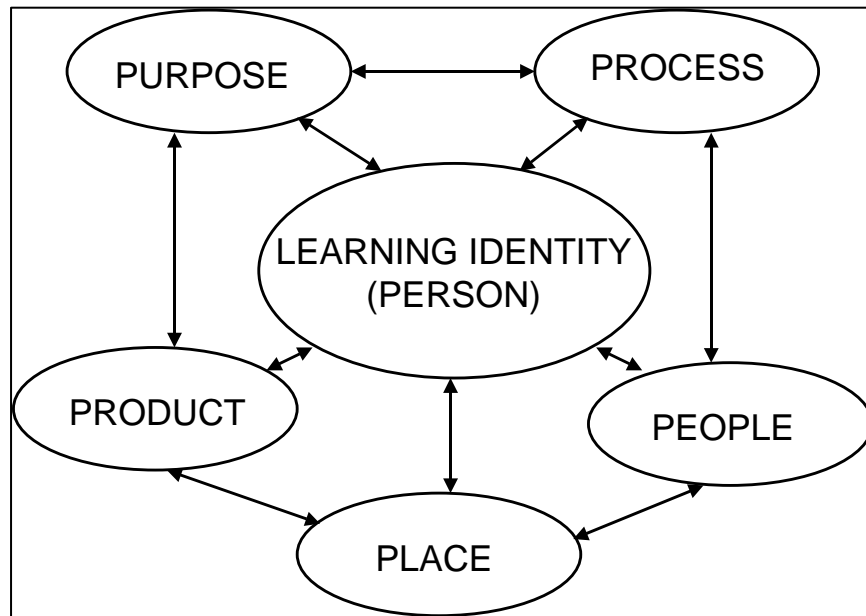
7.4 Learning identity implications

As discussed in Chapter 2, identity is how a person sees themselves in relation to their world and their role in it. Identity is fluid, changes across a person's life cycle and is shaped by the social context and membership of a community, (Kidd, 2002; Vander Zanden & Pace, 1984; Wenger, 1998). It is also an integral part of a person's personality and how others perceive them (Paris et al., 2001). Identity is comprised of a range of factors such as age, gender, cultural background, socioeconomic status, as well as general life experience (Fienberg & Leinhardt, 2002). Identity not only influences who a person is now, but also how a person behaves and conceives themselves in the future (Sfard & Prusak, 2005). Wenger (1998) stated that membership of a social community was a key influencer in defining a person's identity. Stage Two found that the social community of visitors impacts on the multiple roles adults play in the visit.

The literature identified that identity can be influenced by visitors' interactions with museum objects (Callanan, Jipson & Soennichsen, 2002; Gurian, 1999). Paris and Mercer (2002) noted that visitors recalled and responded to objects in exhibitions that resonated with their personal identities. The present study found many examples of visitors relating objects they were seeing to other shared experiences and using objects to recall experiences that were meaningful to them and to their group. Worts (1996) suggested that individuals have two kinds of identity—*personal* which made an individual unique, and *collective* in what types of groups they belong to. The present study found similar results to Worts—although sharing was important through linking to past, present and future experiences (collective), there were still defined roles for an individual (personal).

Sfard and Prusak (2005) proposed that learning was an integral part of a person's identity. This study suggests that an individual's learning identity is the link that connects each element of the 6P model, as illustrated in Figure 7.3.

Figure 7.3. Learning identity



In a museum visit learning identity is expressed through a combination of:

1. *person*: their life experience, the roles they play, as well as age and gender
2. *purpose*: why they visited
3. *process*: the ways they learn as well as the objects and interpretive tools such as texts, film and interactives provided in an exhibition
4. *people*: the visiting group
5. *place*: linking back to prior experiences such as group holidays and travel, social occasions and the natural environment
6. *product*: the outcomes of their learning.

Educational psychologists have mentioned how enduring a person's identity can be over time (Atchley, 1989; Vander Zanden & Pace, 1984). Examples from Stage Two demonstrate that learning identity is enduring for some people and not others—it ebbs and flows depending on the sociocultural context of the museum visit. Leinhardt and Knutson (2004) suggested that identity was participatory and

changed in response to a museum visit, which is supported by results from this study. In Stage Two it was found that participants gained insights into their learning identity in three ways, with the exhibition experience:

1. *Influencing* their learning identity through identifying new ways that they learn from their exhibition experience or becoming more confident in their learning.
2. *Resonating* with, or matching, their learning identity.
3. *Conflicting* with their learning identity, reinforcing in their minds the ways they do not like to learn.

Both Paris (1997b) and Morrissey (2002) noted that visitors learned more about themselves and others through their museum experiences. The present study found that adults who participated in Stage Two were aware of how they like to learn, how they can learn differently, as well as how they do *not* want to learn and were adept at articulating their learning preferences. It also emerged that participants in both stages of the study want museum learning experiences that are both educational and entertaining.

7.5 Conclusion

Museum learning is a dynamic process involving both the individual and the social and physical context. The findings from this study imply that museum learning experiences are enhanced through giving attention to the learner's needs and the multiple roles they play in a visit; the social context of the visit; the objects and tools the museum provides; and the interpretive approaches employed within the 6P framework of person, purpose, process, people, place and product. However, further investigation is needed to test the applicability of the 6P model across a range of museum programs, as well as in museum learning research.

The method used in the present study revealed that visitors could learn more about the concept of learning as well as their own learning processes—likes, dislikes, preferred strategies—if they are encouraged to think about themselves as a learner before they engage with an exhibition. Overall, it is concluded that

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museum experiences can impact on adult visitors' learning identities. When given the opportunity to articulate their personal views about learning, adult museum visitors demonstrate wide-ranging and deep understandings of themselves as learners, which are subsequently shaped by the sociocultural context of the museum in conjunction with the multiple roles they play during a visit. However, the method used in Stage Two could also be further tested across a broader range of audience types, such as school students, children, multigenerational visitor groups, and those from culturally-diverse backgrounds; as well as different types of exhibitions and programs.

Rounds (2006) proposed that visitors used museums for "identity work", trying out different identities and testing new ideas in a relatively safe environment. Rounds felt that a useful focus for museum research should be on what visitors were "doing about" their identity. The present study researched adult visitors' identities in relation to how they think about learning; the roles they play in a visit; how they share their learning; and the links they make with prior, current and future life experiences. It was found that the ways visitors see themselves as learners is fluid and changes in response to a range of factors both within and outside of their control and their consciousness. It is concluded that an adult museum visitor's learning identity is both *integral*, a part of themselves, and *derivative*, influenced by the sociocultural context of the museum.

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