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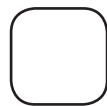
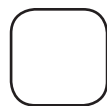
The future of the field of interpretation is in your hands and rests in the questions that you ask. I frequently receive phone calls from practitioners or managers in the field asking how they can defend their budgets, obtain an equal seat at the budget table, and protect their increasingly shrinking staff. The answer I give is often not what people want to hear, but I am afraid it is what we need to hear if we are to move into the future.

How can you defend your budget, your profession, your job security? Start by asking hard questions about what you are doing and why. What are you actually accomplishing toward your organization's mission with your interpretive programs? Can you actually describe the outcomes of your programs? Taking a step back, do you even know what your goals and objectives are for your programs? Does your staff know and can they articulate why they are conducting a particular program?

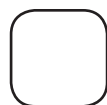
Measuring "field" success is relatively easy if you know what you are trying to achieve. All too often, this critical first step of programming and planning is missing. Conducting peer-reviewed, publishable research is quite different from creating programs with clear objectives that can be measured in the field by the interpreter performing the programs (or a supervisor, peer, etc.). This type of field assessment will go a long way in defending your programs, your budgets, and your place at the table. However, none of it is possible without knowing what you are trying to achieve and why. So as much of the seasonal interpretation winds down for the year, start asking yourself and your staff some hard questions.

Whether we are practitioners looking for a more effective approach for controlling visitor behavior or researchers searching for an improved method of data collection, research is the tool allowing for the communication what works, when, for whom, why, and how.

I look forward to the future developments of our field through your quality submissions to *JIR*.



RESEARCH



Free-Choice Family Learning: A Literature Review for the National Park Service

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Abstract

Learning in national parks often occurs in the context of family groups. Understanding the motivations, needs, and outcomes of family groups is critical to engaging a substantial portion of the National Park Service (NPS) audience. This literature review was prompted by an NPS initiative to improve lifelong learning. It explores research about the nature of family learning, factors that influence it, and recommendations for enhancing it.

This review uses Falk and Dierking's (2000) Contextual Model of Learning as a framework for understanding personal, sociocultural, and physical factors that contribute to family learning outcomes in free-choice settings. Recommendations for improving family learning include: tapping into the motivations of family visits, helping families converse to construct meaning, and creating physical spaces for visitors of many ages to interact. The NPS can enhance visitors' connections to parks if park programs, exhibits, and interpretive media are effectively and deliberately designed to engage families. National parks and similar sites need to thoughtfully design education

programs and exhibits to engage learners of all ages in meaningful, relevant, and memorable ways.

Keywords

National Park Service (NPS), family learning, free-choice learning, museum learning, informal learning, nonformal education, lifelong learning, contextual model of learning, literature review

Introduction

In 2016, the United States National Park Service (NPS) will celebrate its centennial. The NPS has grown in size and scope in the last century and its 397 units annually welcome millions of visitors from all over the world. Approximately half of national park visitors travel in family groups (Forist, 2003). The NPS can enhance visitors' connections to parks if park programs, exhibits, and interpretive media are effectively and deliberately designed to engage families. This is critical to ensure future park attendance since children who visit free-choice settings often return as adults (Beaumont & Sterry, 2005; Moussouri, 2003).

To engage families more effectively before, during, and after park visits the NPS must better understand their park experiences. Then they need to apply relevant, research-based family-learning practices that take into account family visitors' needs, expectations, and diverse experiences. This paper examines factors that influence family learning in free-choice environments in order to inform the NPS of ways of increasing family engagement, participation, and learning.

Falk (2005) defined free-choice learning environments, such as museums, aquariums, zoos, nature centers, and national parks, as places where individuals have significant choice and control over their learning. Free-choice learning is also defined by the National Research Council (2009) as "Learner motivated, guided by learner interests, voluntary, personal, ongoing, contextually relevant, collaborative, nonlinear, and open-ended" (p. 11). The terms *informal* and *nonformal* are often used synonymously with the term *free-choice* to describe these settings, but for the purposes of this paper, the term *free-choice* will be used.

Other terms essential to the paper include *family*, *learning*, and *family learning*. These seemingly simple terms can be complex with many different paradigmatic approaches to their definitions. We explored many definitions and chose the one for *family* that best represented park visitors, while being as inclusive as possible. The definitions selected for *learning* and *family learning* also encompassed not only the NPS mission, but also current understanding of the nature of learning in groups in free-choice settings.

Family: "Two or more people in a multi-generational group that has an on-going relationship, they may be biologically related, but not necessarily.... If a group defines itself as a family they are one" (Dierking, 2010, para. 3).

Learning: "A personally and socially constructed mechanism for making meaning in the physical world.... It is broad and includes changes in cognition, affect, attitudes, and behavior" (Falk, Dierking, & Foutz, 2007, p. xix).

Family Learning: "The products and processes of social interaction, collaboration, and sharing among members" (Patchen & Rand, 2007, p. 170).

This literature review was guided by the following three-part question: What does research literature reveal about (a) the nature of family learning in free-choice environments, (b) factors that influence family learning, and (c) recommendations for improving family learning in free-choice settings?

Background and Scope

The NPS's original mission: "maintaining and protecting our national parks for the continued benefit and enjoyment of all Americans" (NPS, 2011, p. 2) is as relevant today as it was 100 years ago. In its next century, the NPS aims to "use the collective power of the parks, our historic preservation programs, and community assistance programs to expand our contributions to society" (NPS, 2012, p. 5).

In an effort to expand programs, NPS recently enlisted the expertise of its non-governmental advisory boards to provide recommendations about topics pertinent to advancing the NPS's mission. Initial evaluations revealed weaknesses in areas of education and interpretation, such as having outdated media and a lack of audience diversity. The National Education Council (NEC) (2006a) stated, "Many parks offer interpretive media (exhibits, wayside exhibits, films, brochures) that are inaccurate, inaccessible, and significantly outdated.... The NPS must improve its media to meet twenty-first century standards" (p. 9). While the parks are meant to be for all Americans, the NEC also warned, "NPS audiences do not reflect the demographics of America" (p. 11).

A decade of NPS evaluation and improvement initiatives culminated in the NPS's (2012) release of *A Call to Action: Preparing for a Second Century of Stewardship and Engagement*. This document charted a path and created actions targeting 39 areas for improvement (NPS, 2012). Two key themes of the document *Connecting People to Parks and Advancing the NPS Education Mission* were especially pertinent to this paper.

Our national parks have the potential to play a unique and critical role fulfilling some of our country's educational needs. Learners typically spend only a small percentage of time in formal learning settings such as schools (Banks et al., 2007). Outside of formal schooling, learning tends to be self-motivated and driven by individual interests, activities, social groups, and surrounding environments. Falk and Dierking (2010) noted that the United States' "vibrant free-choice learning landscape" is a unique and valuable asset to the country's education system (p. 486). Within this learning landscape national parks and other venues are "contextually relevant and rich places; they are full of real things, situated within relevant contexts" (Falk, 2009, p. 150).

Evidence suggests that free-choice learning experiences, like those provided at NPS sites, have the potential to contribute significantly to the overall science literacy of the public. Moreover, the time families spend learning together results in improvements in attitudes about science and performance in formal education settings (National Research Council, 2009). In particular, attitudes toward science careers are formed primarily during out-of-school time in early adolescence and appear to be the single most important factor in determining children's future career choices in science (Falk & Dierking, 2010, p. 490). The NPS has the potential to positively and significantly influence learning for a larger percentage of visitors by focusing on educational improvements that benefit families and ultimately lead to further engagement in park efforts and stewardship.

While the NPS conducts educational programs for people of all ages, from a research standpoint, its educational impacts are largely unknown (Brody & Tomkiewicz,

2002; NEC, 2006a). According to the Park Service's own reviews, summaries of NPS evaluations are not easily accessible beyond the particular units of origin, and any use of these studies outside of the units is not known. (NEC, 2006b)

The NPS Education Advisory Board's Life-long Learning subcommittee was asked to provide guidance about enhancing learning opportunities in parks. It was from this broader scope that the subcommittee narrowed its approach to focus on using research literature to inform family free-choice learning experiences in the parks. A few peer-reviewed articles on learning in national park were found (e.g., Benton, 2008; Novey & Hall, 2007), but none directly addressed family learning. For example, Benton (2008) explored connections between indoor and outdoor exhibits and how visitors constructed meaning from a museum visit at the Grand Canyon while Novey and Hall (2007) studied the effectiveness of audio tours on visitor knowledge and behavior at Carlsbad Caverns National Park.

A parallel body of analogous literature that examines family learning in free-choice settings was used to fill the research gap, as "much of the existing informal education literature is considered to be applicable to park environments" (Brody & Tomkiewicz, 2002, p. 1122). Gross and Zimmerman (2002) directly linked parks and museum settings as comparable venues due to their common audiences, methods of communication, and roles in protecting culturally valuable items. The free-choice learning research field is not explicitly connected to research in the interpretation field. Therefore this paper serves to bridge the gap between the fields and communicate some relevant findings that will contribute to more successful interpretive practices.

Free-choice family learning research has often taken place in the context of science museums. While science is an important component of many national park experiences, it is not the central focus in many parks. Thus, pertinent findings were included from research conducted in science museum settings and also findings from natural history, children's museums, and history museums in order to better match the diversity of NPS units.

Dierking and Falk (1994) recognized that much of the free-choice learning research involved middle class Caucasian families and that more research on underrepresented populations and their use of free-choice settings was needed to ensure generalizability. A search for literature on underrepresented families' use of free-choice settings yielded only a few articles (e.g., Gaskins, 2008; Honey, Augare, & Sachatello-Sawyer, 2010; Melber, 2006; Stein, Garibay, & Wilson, 2008). These studies explored cultural differences in museum behavior and strategies that worked to connect community members to one another in their learning. They also looked at ways to engage Latino families in a museum-based science literacy program and questions museums should consider when working with immigrant audiences. Nearly two decades after Dierking and Falk (1994) noted the lack of research, literature on the dynamics underrepresented visitors in family groups still remains scarce.

The NPS has prioritized reaching a more diverse audience in *A Call to Action* (2012) and through other initiatives. One of these initiatives was a literature review on underserved audiences published in 2011. While *Parks and Under-served Audiences: An Annotated Literature Review* (Pease, 2011) is a comprehensive work, it is not readily available through traditional searches. Within this work, insight into under-served families' use of parks was limited, so relevant recommendations have been included in this paper.

Four previous literature reviews on family learning in free-choice settings provided background, context, and common themes (Adams, Luke, & Ancelet, 2010; Borun, Cleghorn, & Garfield, 1995; Dierking & Falk, 1994; Ellenbogen, Luke, & Dierking, 2004). This paper builds on those previous reviews by synthesizing the most recent peer-reviewed articles on the topic, including 26 articles published after 2007 or not included in related literature reviews as well as relevant information from edited books, non-peer-reviewed articles and reports. Of the sources used, 82% came from peer-reviewed journals or essays from edited books. The remaining 18% included relevant non-peer reviewed articles and reports. The latter provided relevant foundations, findings, and recommendations. Government and educational organization reports (e.g., NPS, 2012; Forist, 2003) provided demographic information and insight regarding education in the NPS.

Rather than having two authors as the only readers and reviewers of the literature, an innovative approach to “crowd-sourcing” reviews of the literature was used. NPS employees and partners were invited to participate in the review by reading, summarizing, and responding to the 26 core articles that were chosen with the help of two experts in the field of free-choice learning. The NPS employees’ responses, which summarized key concepts and highlighted relevant NPS connections, helped to shape this literature review. They also will contribute to a separate paper that identifies connections between the research literature and NPS practices.

Literature Review

Free-Choice Family Learning Research

Our understanding of family learning has expanded in the last 30 years as more research has been conducted. In the mid-1990s, Borun and her colleagues embarked upon an extensive research project on family learning in museums. The Family Learning Project was conducted in the four museums of the Philadelphia-Camden Informal Science Education Collaborative (PISEC) and aimed to use research to enhance family learning by improving exhibit design (Borun et al., 1998). PISEC researchers decided to find out whether families that appeared to be learning were actually doing so. Cognitive tests were deemed insufficient since they do not take into account the nuances of family learning. Instead learning was measured qualitatively through interviews. Families in the study did learn from exhibits and there was a relationship between learning levels (depth of learning) and observable behaviors. They also concluded that individual learning is enhanced by input from other family members (Borun, Chambers, & Cleghorn, 1996).

Using prior research and the results of their interviews, PISEC researchers created a list of seven characteristics of family-friendly exhibits to incorporate into their museums and test further. According to Borun and Dritsas (1997, p.180) family-friendly exhibits are:

1. Multi-Sided: Family can cluster around exhibit;
2. Multi-User: Interaction allows for several sets of hands;
3. Accessible: Comfortably used by children and adults;
4. Multi-Outcome: Complexity of observation and interaction fosters group discussion;
5. Multi-Modal: Appeals to different learning styles and levels of knowledge;

6. Readable: Text arranged in easily understood segments; and
7. Relevant: Cognitive links provided connect to visitors' existing knowledge and experience.

Subsequent research using these characteristics to enhance exhibits demonstrated that they did increase active family learning (Borun, Chambers, Dritsas, & Johnson, 1997). These seven characteristics are still being implemented in museums (Borun, 2008).

A decade after PISEC, Ellenbogen and colleagues (2004) examined literature on family learning in and from museums and related settings written between the mid-1990s and 2004. They noticed three trends. First, converging theoretical perspectives led to shared understandings of what constituted family learning. Second, more rigorous and standardized methodologies were emerging. Finally, they noted that researchers were increasingly regarding families as learning institutions in their own right (Ellenbogen et al., 2004). These three elements revealed that an increasingly cohesive body of research was developing.

In the 1980s, family learning research was based on behaviorist learning models that assumed visitors would learn the right material if they were provided with a well-designed exhibit (Falk, 2007). This perspective was institution-centered and did not take into account the visitor's background. These behaviorist ideas persist today but most researchers now agree that a complex suite of factors contribute to free-choice learning (Falk, 2007). Current research is primarily influenced by sociocultural and constructivist theories that advocate a holistic view of learning (Ellenbogen et al., 2004; Falk, 2007; Phipps, 2010). These theories require researchers to examine "the ways in which the family group is situated within the larger social and cultural context" (Ellenbogen et al., 2004, p. S50).

Using a new approach to looking at families as learning institutions, Ellenbogen et al. (2004) found that families use free-choice settings as tools or resources to build family identity, and Dierking (2010) highlighted the importance of putting the family at the center of the researcher's focus.

The very first learning group a person belongs to is her family and this group is so important that anthropologists, sociologists, and social psychologists refer to the family as an educational institution, similar to a museum or school but without the bricks and mortar. (para. 1)

Family members visiting free-choice settings bring with them identity-related motivations (e.g., the reasons why they chose to visit or what is driving them at a personal level to learn about or do something), expectations, and visit plans. These plans are negotiated among family group members before and during the visit on both a personal level and collectively as a family unit (Moussouri, 2003). In addition, families use shared, memorable experiences to create a common history and narrative. Family learning builds on this history; first-hand experiences in free-choice settings can meaningfully serve as building blocks upon which family members can construct further learning.

The Contextual Model of Learning

Models have been created to illustrate the multiple contexts that influence free-choice learning. Falk and Dierking developed an initial framework of contexts that visitors

Table 1: Summary of the Contextual Model of Learning

Personal Context Factors ^a	Sociocultural Context Factors ^a	Physical Context Factors ^a
Motivation and expectations	Within group social mediation	Advance Organizers
Prior knowledge and experience	Facilitated mediation by others	Orientation to physical space
Prior interests and beliefs	Cultural background and upbringing	Architecture and large-scale environment
Choice and control		Design of exhibits and content of labels Subsequent reinforcing events and experiences outside the museum

^a Twelve factors influencing Learning in Free-Choice settings (Adapted from Falk & Storksdieck, 2005, p. 747).

experience before, during, and after their visits to free-choice settings. Their Contextual Model of Learning illustrated how personal, sociocultural, and physical contexts overlap and influence visitor learning through time (Falk & Dierking, 2000). This model has evolved with further research, to include 12 more specific factors that influence learning within the three contexts summarized in Table 1.

Falk and Storksdieck (2005) explained that “the relative importance of any one of these factors may vary between particular visitors and venues” (p. 747).

Portions of this model will be used in the following sections to examine recent literature on family learning in museums. It is important to keep in mind that even though the factors within each context may be examined separately, they are inseparable and the interaction of the factors is unique for each family and to a certain extent, for each family member.

The Personal Context. The importance of visitors’ prior knowledge and experiences has been emphasized in the free-choice learning literature (e.g., Briseño-Garzón, Anderson, & Anderson, 2007b; Falk & Dierking, 2000; Moussouri, 2003). Family members often share similar beliefs and prior leisure experiences. Briseño-Garzón and colleagues’ (2007b) study revealed that “participants’ interests and what they looked forward to obtaining from the aquarium experience were shaped by particular and personally relevant prior events and knowledge” (p. 87). These events can form a common foundation upon which family learning develops.

Moussouri (2003) found that adult subjects in her study had child-centered motivations. However, Briseño-Garzón et al.’s (2007b) work found adults visiting in family groups had more complex motivations and that “overall, the adults of the participating families entered the venue with a three-fold recreation-learning-social motivated agenda” (p. 81).

Briseño-Garzón et al. (2007b) and Falk, Moussouri, and Coulson (1998) believe visitors see a connection between fun and learning throughout their free-choice experiences. While this may be true for many visitors, there are some who arrive at a free-choice setting with the goal of learning about a subject that is important to them. In other words, the reason for their visit involves a particular learning outcome. Other visitors find out during their experience that learning is fun (Packer, 2006). While formal education tends to emphasize the learning end of the learning-fun continuum, free-choice learning may have more freedom to offer experiences on the fun end of that continuum. Packer and Ballantyne (2004) argued, "Education and entertainment are not only compatible, but synergistic, in the context of educational leisure settings" (p. 54).

Understanding visitors' prior experiences could help practitioners to better meet visitor needs. For example, parents who do not have prior experience in free-choice settings may not feel comfortable leading their family through the visit. Melber (2006) interviewed Latina mothers at two California natural history exhibit halls. The mothers who had never visited a local museum discussed "a fear of not being welcome, not knowing the answers to questions their children may ask, and not feeling that they were knowledgeable enough to appreciate the museum as a learning environment" (p. 37). This research points to underrepresented visitors' need for museums to do more to support parents of any background who are unfamiliar with free-choice learning environments. Overall, more research is needed to discover how the prior knowledge, interests, and beliefs of underrepresented families may be influencing their visitation patterns.

An emerging area of research has centered on the concept of a museum-goer "identity." Falk and colleagues (2008) described five museum-goer identity categories. Identities are a combination of a person's motivations, expectations, needs, interests, and desired roles for a particular visit. This concept of a museum-goer identity is one Falk and his colleagues began using to better understand and simplify complex visitor agendas (e.g., Falk, 2009; Falk, Heimlich, & Bronnenkant, 2008; Falk & Storksdieck, 2010).

Falk et al. (2008) grouped adult visitors' descriptions of themselves, their experiences, expectations, and reasons for visiting into five categories: (a) Explorers, (b) Facilitators, (c) Professional Hobbyists, (d) Experience Seekers, and (e) Spiritual Pilgrims/Rechargers. They found that visitors may enter a museum with one or more of these identities and identities may change between visits and venues (Falk, 2009). Falk concluded, through extensive interviews and studies, that knowing adult identities can generate basic, predictable clues for how the visit will generally progress. Ultimately, visitor identities within the personal context, along with the sociocultural, and physical contexts of the visit strongly influence a visitor's choices during his or her visit.

The adults that Falk et al. (2008) interviewed were all members of visiting family groups that included children, allowing researchers to gather information about how identities influence family group dynamics. Although many visitors may "display continuous concern" for their children, Falk (2009) also found that in many family groups, adult behaviors are not centered on their children's experience. It is clear from this study that adult identities do influence family group dynamics.

Briseño-Garzón et al. (2007a) were surprised to find that the parents they interviewed did not consider their experience at the aquarium to have been a personal learning experience. These results were surprising for a few reasons. First, some adults had mentioned in pre-visit interviews that they were at the aquarium to learn. Second, adults were observed to exhibit learning behaviors during their visit. Finally, researchers

found evidence of cognitive, social, and affective aspects associated to learning in their study. Nevertheless, in the post-visit interviews those same visitors “did not see themselves as learners, but rather as caregivers whose main task was to provide educational and entertaining experiences” for their children (p. 307).

Wu, Holmes, and Tribe’s (2010) study in Taiwan illuminated the role children play in visits to free-choice settings. Children were consciously included in the 37 family interviews in this study, as “potential active participants in museum-visit decision making” (p. 711). These children indicated they wanted to visit museums after hearing about them at school or due to positive previous experiences. The authors found that the more children knew about a museum and the older they were, the more active they were in the decision-making process.

Children have also been observed making choices about which exhibits the rest of the family visited. Moussouri (2003) interviewed children from 29 family groups about their museum visit expectations. She found that children were interested in specific exhibits, particularly in the hands-on and active elements of the visit. Szechter and Carey’s (2009) study of 20 parent-child dyads in an informal science education center showed that children were the ones who chose exhibits for their families and used hands-on elements more than parents did. Wood and Wolf (2010) also found that parents at children’s museums preferred to let children older than toddlers initiate the activity across a variety of exhibition types. These observations ultimately point to interesting relationships among family members with regards to choice and control in free-choice settings. Children should not be overlooked as potential leaders during museum visits.

Ultimately many complex factors contribute to the personal context of family visits to free-choice settings and these factors influence the ways families learn and experience their visit. For example, different family groups have different needs and motivations and the family dynamics will vary according to the individual member’s identities. Research also shows that the agendas and expectations of the facilitators and of the institutions themselves (museums, parks, etc.) influence the visitor experience.

The Sociocultural Context. Falk and Dierking’s (2000) Contextual Model of Learning calls for researchers and practitioners to recognize the social and cultural contexts that visitors bring with them to free-choice settings. The social context is extremely important to families because family members interact with each other frequently throughout their visit, often taking turns teaching and learning. Staff and volunteers at free-choice venues may also mediate the experience for family visitors by answering questions and leading programs. All visitors experience free-choice learning through lenses informed by their cultural backgrounds. Free-choice venues present content and experiences through cultural perspectives that are sometimes intentional, but most often not. These factors and their influence on family learning are considered in this section.

McManus (1992) researched family learning behavior and compared museum-visiting families to hunter-gatherer groups searching for knowledge. Ash (2003) and Falk and Dierking (2000) observed families that split into dyads and triads during their visit and regrouped to share what they learned. Other families stayed together throughout their whole visit. These studies highlight the differences in family dynamics while visiting free-choice settings.

Research from two decades ago (e.g., Blud, 1990) and more recent work (e.g., Packer & Ballantyne, 2005) emphasized the importance of family interaction in family learning.

Blud (1990) went so far as to say, "Interaction between visitors may be as important as interaction between the visitor and the exhibit" (p. 43). Often, learning can be enhanced by other family members' insights and input (Borun et al., 1998). Families themselves often tell researchers they value the collaborative aspects of learning in museums (Allen & Gutwill, 2009; Briseño-Garzón et al., 2007a).

Astor-Jack and colleagues (2007) argued that in order to understand the nature of learning in museums, one must understand the social processes of learning. As a result, researchers have put substantial focus on studying conversations as a way to better understand family learning. For families, time spent at free-choice settings is typically dominated by conversation, which includes asking questions (usually about specific objects) and sharing knowledge (Falk & Dierking, 2000). Researchers have studied family conversations as a way to gain insight into how and what families are learning, including how frequently families talk throughout their visit.

Borun et al. (1996) found that the most consistent indicators of learning were in conversations that included analysis, synthesis, and explanation. References to or discussions about previous experiences often come up in family conversations and are used as ways for families to connect what they are learning to their shared past (Falk & Dierking, 2000; Ellenbogen et al., 2004). The new learning experience then becomes a shared family memory that can be referred to in the future. One reason that it might be particularly easy for people to access memories of museum visits is that they are often novel experiences. Crowley and Jacobs (2002) proposed that learning conversations in museums may be powerful foundations upon which future learning can be built because of this novelty.

In addition to conversations, parents use a variety of approaches when they mediate their children's experiences in free-choice settings. They may take on the role of teacher, navigator, questioner, helper, or interpreter. Children's museums in particular, are often used to research parent-child interactions. Gaskins (2008) observed that as parents approached children's museum exhibits they quickly assessed their child's interest and ability as well as the exhibit's potential for engaging them, to see if there was a match and whether or not they should participate. If the exhibit appears easy to engage in, parents, "tend to let children act on their own" and if the exhibit is more complicated, parents "interact with their children to bridge the gap between what the children can do on their own and the exhibition's activities" (p. 12). According to Gaskins (2008), in order for parents to best support children, adults must quickly understand the exhibit's message and goals and the exhibit should be constructed so it is big enough for adults to use.

Recent research studies have focused on parent-child interactions (Astor-Jack et al., 2007). In these, parents have been observed exhibiting what Moussouri (2003) called spontaneous "teaching" behavior. Parents, especially those of young children, assisted them by posing questions and providing clues and explanations (Moussouri, 2003). Parents and caregivers also use a variety of interaction styles. For example, Szechter and Carey (2009) found that parents described evidence, gave directions, provided explanations, made connections, and elicited predictions.

There are times when some parents do not intervene in the children's activities at children's museum exhibits unless their child needs help (Downey, Krantz, & Skidmore, 2010; Wood & Wolf, 2010). Parents overwhelmingly revealed in post-visit interviews that they stood back because they enjoyed letting their children independently discover new ideas (Wood & Wolf, 2010). Parents have also reported that they value observing their

children's learning because it helps them identify their children's strengths and learning styles (Briseño-Garzón et al., 2007a; Moussouri, 2003; Wood & Wolf, 2010). Parents do not always lead or mediate experiences in free-choice settings. According to Briseño-Garzón et al. (2007b), roles are often shared among family group members. Examples of these include a child taking on the role of exhibit selection, a parent taking on the storyteller role, or a grandparent acting as a questioner at a living history museum.

Improving adult-child interactions is an active area of recent research. The Indianapolis Children's Museum chose to change its mission from "serving children" to "serving families" (Borun, 2008; Wood & Wolf, 2010) after taking into account sociocultural learning research that emphasized the importance of adult-child interaction and literature that "identifies the benefits to children's learning when parents act as play facilitators" (Downey et al., 2010, p. 15). The change in this mission can also be seen as a change in the museum's agenda with the incorporation of research-based practices.

In a study conducted four years after the mission statement and programs were modified, Wood and Wolf (2010) found that parents continued to stand back at both interactive and non-interactive exhibits. These observations revealed stark differences between the museum and the parent's agendas. In a similar study, Downey et al. (2010) found discrepancies between parents' and museum professionals' beliefs about play.

Parents may see museums as places where their children can safely make choices, experiment, and learn without their help. They may not be aware of the museum's agenda or research that supports it. A museum that uses play as a learning mechanism for children needs to do more to help parents understand the benefits of play. This support could mean more enriching experiences for families (Downey et al., 2010).

Schauble et al. (2002) warned that, "unless careful attention is paid to helping the helpers [parents], the energy and resources devoted to deepening museum learning may be wasted, or at best, underexploited" (p. 449). This matches Astor-Jack et al.'s (2007) findings that adults must feel comfortable with the museum setting and subject matter in order to mediate their children's experiences

Researchers are studying how pre-exhibit instructions might help. Benjamin, Haden, and Wilkerson (2010) found that even brief instructions can improve parent mediation skills. Some caregivers in their study were given suggestions of possible conversational styles and questions. When the prompts were used, there were increased interactions between in children and caregivers as compared to those who did not receive such prompts (Benjamin et al., 2010). In addition, Rowe and Kisiel (2012) found that families that debriefed an aquarium touch-tank experience using questions likely had richer family engagement in learning.

Gutwill and Allen (2010) ultimately found that "offering parents a structured, co-investigative role in exploring phenomena may significantly enhance families' inquiry" (p. 738). This role helped parents avoid didactic teaching methods or a tendency to delegate simple tasks to children while taking on more difficult tasks themselves (Gutwill & Allen, 2010). The aforementioned parent behaviors usually fail to significantly challenge children in a way that enhances their learning.

Many grandparents bring their grandchildren to free-choice settings, playing important roles as caregivers. Studying grandparent-grandchild groups in free-choice settings is becoming more important as the American population ages (Bengston, 2001) and family structures change. Much like other research on specific types of family groups, there were a limited number of studies on grandparent-grandchild interactions

(Leinhardt & Knutson, 2006). The research available has revealed that grandparents, more than parents, are inclined to focus on their grandchildren's enjoyment and the social and emotional aspects of their time together (Moussouri, 2003; Sanford, Knutson, & Crowley, 2007). Sanford et al. (2007) studied 31 grandparent-grandchild pairs visiting the Franklin Institute in Philadelphia, where 70% of them engaged in collaborative learning.

A form of mediation by others is exemplified by families' interactions with free-choice learning staff and volunteers. Falk and Dierking (2000) suggested that skilled staff and volunteers can positively influence and facilitate visitors' experiences. In living history museum settings, where docents dress as historical characters, conversation is the primary means of learning. Rosenthal and Blankman-Hetrick (2002) found that staff interpreters who engaged in the right balance of dialogue involving all family members, inspired family conversations in these settings. However, if the interpreter provided too much monologue or too little conversation, there was little indication that visitors were learning. Astor-Jack et al. (2007) made an anecdotal claim that, "most interactions between museum staff and the public remain didactic" (p. 226) and advised museum staff to create more participatory experiences for families.

Although Astor-Jack et al. (2007) noted a lack of research on potential cultural differences within families' social interactions in museums, a few recent studies were found. Melber (2006) and Stein et al. (2008) cautioned that some family cultures may not encourage children to take on the role of teachers or leaders. Shouse, Lewenstein, Feder, and Bell (2010) and Stein et al. (2008) also pointed out that museum agendas encouraging children to lead, teach, or challenge their elders' ideas may conflict with families that value didactic approaches or ones where adults are seen as knowledge holders. Gaskins (2008) reminded practitioners to avoid the assumption that cultures share the same theoretical perspectives of how children learn best.

Gaskins (2008) studied 12 African-American families' interaction tendencies in a children's museum and found that adults from these visiting groups spent 60% less time at child-directed exhibits than at non-collaborative exhibits. She also found,

Hispanic American families embraced the opportunity for engaging in a joint activity, but...the focus for them was not on the children's learning experience, but in accomplishing the goal of building something and that adults, particularly male caregivers, maintained control of the event. (p.17)

While U.S. children's museums are often dominated by the theoretical perspective that play leads to learning and that it is appropriate for adults to play alongside their children, play carries different meanings in different cultures (Gaskins, 2008). It is important that free-choice settings provide accommodations for these potential differences. This is relevant for the NPS to consider because of their desire to welcome and include diverse groups in park experiences (NPS, 2012).

The Physical Context. The physical context of a free-choice setting has a strong influence on family visitor experiences. This context encompasses elements such as the venue's location, its architectural layout, seating availability, exhibit order, and information displays. It also takes into account electronic media, websites, and ways visitors might engage in post-visit experiences.

Since exhibits often serve as the starting point for family conversations, their design is important. Some exhibits facilitate conversation more than others. In the past few decades, thanks to recommendations from Borun et al. (1998) and others (e.g., Falk & Dierking, 2000), free-choice settings have moved from primarily static exhibits to those that incorporate more interactive, hands-on and minds-on features.

Astor-Jack et al. (2007) noted that progress has been made “particularly in exhibition and program development where there has been some effort to embed socially mediated notions of learning into the design process” (p. 225), which better meets families’ needs. Active Prolonged Engagement (APE) exhibits have been shown to increase time spent and learning talk for parent-child dyads in science museums (Szechter & Carey, 2009). Non-science museums also have been creating opportunities for visitors to ask questions and investigate the museum’s collection in an inquiry-based way (Allen & Gutwill, 2009). However, it must be noted that 12 years after the PISEC Family Learning Project, there is still room for growth in exhibit design to better meet families’ needs (Borun, 2008).

Although Moussouri (2003) found that families’ perceptions of exhibits were heavily influenced by their own personal and social agendas, physical elements that orient and guide visitors can also influence a family’s experience. Museum brochures, special exhibit guides, and websites are examples of what Falk and Dierking (2000) call advance organizers, which can be helpful orientation tools.

Use of electronic technology can also enhance or detract from families’ interactions at exhibits. Lyons, Becker, and Roberts (2010) predicted that as technology infiltrates informal learning environments, museums will be able to use it to support both individual and collaborative learning. Hatala et al. (2009) developed a technology-based game to enhance social interaction at exhibits. They researched 18 families’ use of this technology in a history museum and their preliminary results were promising, in that the technology was found to facilitate rather than inhibit social interaction because the game was designed for family use.

Electronic technology is not the only useful family learning tool. Supplemental exhibit materials can also be made available. Tenenbaum, Prior, Dowling, and Frost (2010) studied 58 families’ visits to a United Kingdom cultural and history museum. They found that family learning could be assisted with the support of booklets or activities that involved checking out a backpack designed to guide families through exhibits, even ones that featured family-friendly design elements. Families in their study “spent more time at the exhibits when assigned to the booklet and backpack conditions compared to the control conditions” (p. 248) and “children engaged in more historical talk when using the booklets” (p. 241). These findings point to ways in which free-choice settings may supplement existing exhibits without completely redesigning them.

Allen and Gutwill’s (2009) research exemplified how games can add structure to inquiry-based, hands-on science exhibits. Gutwill and Allen (2010) compared inquiry games with control conditions for 200 families and found that their “inquiry games increased the quantity and quality of families’ scientific inquiry” (p. 722). In particular, a “juicy questions” game was deemed successful at increasing families’ inquiry behaviors and encouraged total family participation and collaboration (Gutwill & Allen, 2010).

Family learning does not end when visitors leave free-choice venues. Learning conversations often continue during the journey home or around the dinner table and through time when they have similar experiences to which they can apply situated

knowledge. Allen and Gutwill (2009) reconnected with families who used their inquiry games during their museum visit and found that 15% of them continued to use the skills. The authors recommended adding website components that would allow families to join citizen science communities to continue their post-museum experiences.

Adults from six of the 13 family groups interviewed by Briseño-Garzón et al. (2007b) indicated that they intended to engage in future activities related to their aquarium visit. Although researchers were not able to verify these activities occurred, they concluded, “The learning impact of an informal experience not only resides in the experience itself, but also in the days and weeks following the visit” (p. 87).

Free-Choice Learning Research and the National Park Service

Even though the field is still developing and refining ways to document impacts, we do know that family learning in free-choice settings can be measured using a variety of approaches that must go beyond cognitive tests to encompass social and affective elements, also considering that ultimately, learning is contextual and happens over time (Rennie & Johnston, 2004). Indeed, studies have consistently revealed that families learn through their social interactions. Given these understandings, there are a number of implications, considerations, and recommendations the NPS should examine in order to improve family experiences at NPS units.

A Call to Action (NPS, 2012) aims to implement practices that will reach the themes of *Connecting People to Parks* and *Advancing the NPS Education Mission*. However, families are not directly addressed in the document. The NPS reaches some young people through school partnerships, but more youth could be reached through promoting effective multi-generational family programs. Considering the diversity of park visitors, it is important to emphasize that exhibits and programs that encourage social interaction and allow for multiple users to engage in activity will facilitate learning not just for families but also school and other adult groups (Borun, 2008; Kiihne, 2008).

Some parks and museums approach engaging under-served audiences by creating outreach programs to engage learners off-site. Outreach often involves bringing personnel, resources, activities, and artifacts to a location outside the park or museum site. Populations that may be unfamiliar with or have difficulty getting to the park are often targets for outreach programs. In *Learning Science in Informal Environments: People, Places, and Pursuits* (NRC, 2009) a problem with an outreach approach was discussed; it not a true collaboration and the institution may be seen as out-of reach. Shouse et al. (2010) agreed and noted that the term “outreach” does not imply partnering or reciprocity that has been shown to be effective and valuable in the process of involving underrepresented populations (Honey, et al., 2010; Stein et al., 2008). Thus, NPS exhibit and program designers must also “explore diversity as a positive resource” that adds richness to visitor understandings and perspectives (Shouse et al., p. 145). Since changes to educational programs that are made to improve learning experiences for families may not have the intended effect, careful evaluation of changes will be important.

Recommendations

Falk and Dierking’s (2000) Contextual Model of Learning is used to frame and organize recommendations. However, such recommendations are not mutually exclusive and some fall under multiple contexts. In addition to these recommendations, it is critically important that the NPS conduct research studies on family learning at NPS sites

and facilitate ways for interpreters and exhibit designers to share research-based best practices for family learning in the parks.

The Personal Context

To fulfill family learning needs the NPS and other organizations are encouraged to consider the following recommendations taking into account the motivations, expectations, knowledge, experiences, interests, and beliefs of visiting families.

- **Visitor Agendas:** Seek to further understand families' individual and collective agendas, motivations, and expectations. Special group agendas (e.g., multi-generational and underrepresented populations) should be addressed.
- **Prior-Knowledge:** Help families relate everyday experiences and prior knowledge to what they see and do in museums and allow them to investigate issues that interest them (Moussouri, 2003).
- **Adult Learners:** Reach adults who visit as part of family groups as "learners in their own right," (Sanford et al., 2007, p. 148), not just facilitators of their children's experiences (Briseño-Garzón et al., 2007a).
- **Exhibit Elements:** Differentiate exhibit elements in order to reach individuals with different developmental needs, learning styles, and museum-goer identities (Falk, 2009; Gaskins, 2008; Lyons et al., 2010; Moussouri, 2003).

The Sociocultural Context

Families learn in free-choice contexts by conversing with each other and helping one another. NPS staff and volunteers also serve as mediators of programs and park experiences. The following recommendations will enhance those processes.

- **Social Connections:** Develop ways to reward and foster connections and interactions among family members since family groups value such social elements during their visits (e.g., Moussouri, 2003; Sanford et al., 2007).

Help parents facilitate learning.

- **Optional Help:** Create opportunities for "parents to self-select interpretive support, but not assume that such support will or should be utilized" (Falk, 2009, p. 222).
- **Support Multiple Roles:** Provide information that helps adults quickly recognize their role if the child is the focus audience for the exhibit or experience (Downey et al., 2010; Falk, 2009; Gaskins, 2008). Offer ideas for rotating family roles (e.g., teacher, learner, storyteller) (Gaskins, 2008; Leinhardt & Knutson, 2006).
- **Inquiry Skills:** Enhance inquiry skills through structured co-investigative roles for parents (Gutwill & Allen, 2010).
- **Technology:** Enhance parent-child interactions through well-designed electronic mobile technology (Lyons et al., 2010). Use technology to provide memory cues and prompts to help families with sharing experiences and to assist in question-posing strategies (Lyons et al., 2010).

Help NPS staff and volunteers facilitate family learning.

- **Communication Training:** Foster “talking with, rather than talking at visitors” (Astor-Jack et al., 2007, p. 225; Moussouri, 2003). Train facilitators to communicate with visitors of all ages and engage all members of multi-age families (Falk & Dierking, 2000; Rosenthal & Blankman-Hetrick, 2002).
- **Collaborate:** Create opportunities for novice staff to work collaboratively with knowledgeable mentors (experienced staff/volunteers/experts) (Falk & Dierking, 2000). Additional collaboration between novice and expert NPS staff, free-choice learning experts, and researchers will ensure high-quality exhibits and programs and create opportunities for rich dialogue and more meaningful improvements to park experiences.

Cultivate culturally relevant partnerships.

- **Model after Successful Programs:** Engage youth and their families in ongoing informal science education programs by valuing reciprocity (mutual benefits for all parties), and involving multiple generations (Honey et al., 2010).
- **Go Beyond an Invitation:** Attract new audiences by collaboratively developing settings in which “a multitude of cultures feel both welcome and valued and see personal relevance” (Melber, 2006, p. 36) (Stein et al., 2008).
- **Family Rates and Incentives:** Encourage first-time visitors by offering family rates or incentives (Roberts, 2007).
- **Translate and Interpret:** Create a welcoming atmosphere by providing translated materials, bilingual labels, and interpretation services for non-native English speakers (Melber, 2006; Shouse et al., 2010; Stein et al., 2008).

The Physical Context

A *Call to Action's* (2012) action item #19, “Out with the Old,” addresses some changes that should be made in NPS physical contexts. What follows are research-based recommendations for preparing families for visits, extending the visit’s benefits, and improving the physical structure of NPS venues.

- **Pre-Visit:** Create a “for families” section on NPS websites. Help parents to understand how to take advantage of the free-choice setting’s offerings (Falk, 2009).
- **Post-Visit:** Develop opportunities that help families to extend their visit conversations and skills (Falk & Dierking, 2000). Link them to other projects beyond the specific venue.
- **Exhibit Characteristics:** Create exhibits that have several family-friendly characteristics (Borun & Dritsas, 1997). The best family exhibits are collaborative and “feature repetition” (Borun, 2008, p. 9; Kiihne, 2008).
- **Supplemental Materials:** Supplement existing exhibits with materials such as booklets and/or backpacks that scaffold family learning and promote interaction (Tenenbaum et al., 2010).

- Seating: Provide seating and other accommodations for visitors with limited mobility, including grandparents (Beaumont & Sterry, 2005; Moussouri, 2003). Since physical comfort is an important factor in ensuring learning can occur, seating can allow families to linger at exhibits longer and have a space to rest or gather.

Conclusions

Instead of approaching the above recommendations as add-ons, the NPS must rethink all exhibits, programs, and other interpretive media and experiences from a family perspective (Moussouri, 2003). Parks have welcomed families for over 100 years and the NPS can take steps to prioritize relevant, engaging, and fun educational opportunities for families as a major component of many visitors' experiences. Packer (2006) concluded that "learning for fun is a unique and distinctive offering of educational leisure experiences" (p. 329). She added, "Perhaps one of the most important contributions that museums and other educational leisure settings can make to society is in enabling their visitors to rediscover the joy of learning" (p. 341).

In addition to the recommendations above, it will be critical for the NPS to engage in research on all types of learning, including family learning. The fact that we found no NPS research literature on families to draw from for this review indicates the extreme need. The NPS does not need to start from scratch, however; research should be built on the quarter century of work done in museum-like settings. The NPS must create both national and site-specific educational objectives to ensure that changes and successes can be measured. Involving families in exhibit and program planning, design, and evaluation will be critically important (Bachman & Dierking, 2010; Moussouri, 2003; Sanford et al., 2007). Clear education and interpretation objectives and specified "take-home" messages for families should be evaluated regularly so that progress made in family learning in the NPS can be tracked over time. An initial direction could be for researchers to look for ways in which opportunities for and approaches to learning in NPS settings differ from other free-choice settings.

While budgets and logistics may be hurdles to overcome, now is the time to consider bolstering the NPS's approach to family visitors as the nation looks to NPS's second century. Free-choice learning has far-reaching beneficial effects on families and these benefits must be shared and promoted. The NPS must find ways to promote its activities, conduct further research, and communicate research findings to engage more Americans and secure funding. Taking these actions will increase public and policy-maker awareness that the NPS provides exceptional places for lifelong learning and fulfills an important role in society.

To lead, the NPS must continue to build structures through which NPS staff can collaborate with each other and with other educational and community organizations. Overall, creating family-centered opportunities and seeking to engage families in deeper levels of learning and collaboration will enable the NPS to reach its *A Call to Action* (2012) goals and will make our national parks and historic monuments exemplary places for family learning.

References

- Adams, M., Luke, J., & Ancelet, J. (2010). What we do and do not know about family learning in art museum interactive spaces: A literature review. Retrieved from Family Learning in Interactive Galleries website: <http://familiesinartmuseums.org/images/pdf/CompleteFLINGLitReview.pdf>
- Allen, S., & Gutwill, J. P. (2009). Creating a program to deepen family inquiry at interactive science exhibits. *Curator: The Museum Journal*, 52(3), 289–306. doi:10.1111/j.2151-6952.2009.tb00352.x
- Ash, D. (2003). Dialogic inquiry in life science conversations of family groups in a museum. *Journal of Research in Science Teaching*, 40(2), 138–162. doi:10.1002/tea.10069
- Astor-Jack, T., Whaley, K. L. K., Dierking, L. D., Perry, D. L., & Garibay, C. (2007). Investigating socially mediated learning. In J.H. Falk, L.D. Dierking, & S. Foutz (Eds.), *In principle, in practice: Museums as learning institutions* (pp. 217–228). Lanham, MD: AltaMira Press.
- Bachman, J., & Dierking, L. D. (2010). Learning from empowered home-educating families. *Museums & Social Issues*, 5(1), 51–66. Retrieved from <http://www.lcoastpress.com/journal.php?id=4>
- Banks, J.A., Au, K.H., Ball, A. F., Bell, P., Gordon, E.W., Gutiérrez, K.D., & Zhou, M. (2007). Learning in and out of school in diverse environments: Life-wide, life-long, and life-deep learning. Retrieved from http://life-slc.org/docs/Banks_etal-LIFE-Diversity-Report.pdf
- Beaumont, E., & Sterry, P. (2005). A study of grandparents and grandchildren as visitors to museums and art galleries in the UK. *Museum and Society*, 3(3), 167–180. Retrieved from <http://www2.le.ac.uk/departments/museumstudies/museumsociety/documents/volumes/beaumontsterry.pdf>
- Bengston, V. L. (2001). Beyond the nuclear family: The increasing importance of multigenerational bonds. *Journal of Marriage and Family*, 63(1), 1–16. doi:10.1111/j.1741-3737.2001.00001.x
- Benjamin, N., Haden, C. A., & Wilkerson, E. (2010). Enhancing building, conversation, and learning through caregiver–child interactions in a children’s museum. *Developmental Psychology*, 46(2), 502–515. doi:10.1037/a0017822
- Benton, G. (2008). Visitor meaning-making at Grand Canyon’s Tusayan museum and ruin. *Curator: The Museum Journal*, 51(3) 295-309. doi:10.1111/j.2151-6952.2008.tb00313.x
- Blud, L. M. (1990). Social interaction and learning among family groups visiting a museum. *Museum Management and Curatorship*, 9(1), 43–51. doi: 10.1080/09647779009515193
- Borun, M. (2008). Why family learning in museums? *Exhibitionist*, 27(1), p.6-9. Retrieved from http://name-aam.org/uploads/downloadables/EXH.spg_08/EXH_spg08_Why_Family_Learning_in_Museums_Borun.pdf

- Borun, M. (2008). Why Family Learning in Museums? *Exhibitionist*, 27(1), p. 6-9. Retrieved from http://nameaam.org/uploads/downloadables/EXH.spg_08/EXH_spg08_Why_Family_Learning_in_Museums_Borun.pdf
- Borun, M., Chambers, M., & Cleghorn, A. (1996). Families are learning in science museums. *Curator: The Museum Journal*, 39(2), 123–138. doi:10.1111/j.2151-6952.1996.tb01084.x
- Borun, M., Chambers, M. B., Dritsas, J., & Johnson, J.I. (1997). Enhancing family learning through exhibits. *Curator: The Museum Journal*, 40(4), 279–295. doi:10.1111/j.2151-6952.1997.tb01313.x
- Borun, M., Cleghorn, A., & Garfield, C. (1995). Family learning in museums: A bibliographic review. *Curator: The Museum Journal*, 38(4), 262–270. doi:10.1111/j.2151-6952.1995.tb01064.x
- Borun, M., & Dritsas, J. (1997). Developing family-friendly exhibits. *Curator: The Museum Journal*, 40(3), 178–196. doi:10.1111/j.2151-6952.1997.tb01302.x
- Borun, M., Dritsas, J., Johnson, J. I., Peter, N.E., Wagner, K.F., Fadigan, K., Jangaard, A., Wenger, A. (1998). *Family learning in museums: The PISEC perspective*. Philadelphia: Franklin Institute.
- Briseño-Garzón, A., Anderson, D., & Anderson, A. (2007a). Adult learning experiences from an aquarium visit: The role of social interactions in family groups. *Curator: The Museum Journal*, 50(3), 299–318. doi:10.1111/j.2151-6952.2007.tb00274.x
- Briseño-Garzón, A., Anderson, D. & Anderson, A. (2007b). Entry and emergent agendas of adults visiting an aquarium in family groups. *Visitor Studies*, 10(1), 73–89. doi:10.1080/10645570701263461
- Brody, M., & Tomkiewicz, W. (2002). Park visitors' understanding, values and beliefs related to their experience at Midway Geyser Basin, Yellowstone National Park, USA. *International Journal of Science Education*, 24(11), 1119–1141. doi:10.1080/09500690210134820
- Crowley, K., & Jacobs, M. (2002). Building islands of expertise in everyday family activity. In G. Leinhardt, K. Crowley, & K. Knutson (Eds.), *Learning conversations in museums* (pp. 333–356). Mahwah, NJ: Lawrence Erlbaum Associates.
- Dierking, L.D. (2010). Laughing and learning. Retrieved from <http://www.familylearningforum.org/family-learning/familylearning-overview/what-family-learning.htm>
- Dierking, L. D., & Falk, J. H. (1994). Family behavior and learning in informal science settings: A review of the research. *Science Education*, 78(1), 57–72. doi:10.1002/sce.3730780104
- Downey, S., Krantz, A., & Skidmore, E. (2010). The parental role in children's museums: Perceptions, attitudes, and behaviors. *Museums & Social Issues*, 5(1), 15–34. Retrieved from <http://www.lcoastpress.com/journal.php?id=4>

- Ellenbogen, K. M., Luke, J. J., & Dierking, L. D. (2004). Family learning research in museums: An emerging disciplinary matrix? *Science Education*, 88(S1), S48–S58. doi:10.1002/sce.20015
- Falk, J. H. (2005). Free-choice environmental learning: Framing the discussion. *Environmental Education Research*, 11(3), 265–280. <http://dx.doi.org/10.1080/13504620500081129>
- Falk, J. H. (2007). Toward an improved understanding of learning from museums: Filmmaking as metaphor. In J.H. Falk, L.D. Dierking, & S. Foutz (Eds.), *In principle, in practice: Museums as learning institutions* (pp. 3–16). Lanham, MD: AltaMira Press.
- Falk, J. H. (2009). *Identity and the museum visitor experience*. Walnut Creek, CA: Left Coast Press.
- Falk, J. H., & Dierking, L. D. (2000). Learning from museums: Visitor experiences and the making of meaning. Walnut Creek, CA: AltaMira Press.
- Falk, J. H., & Dierking, L. D. (2010). The 95 percent solution. *American Scientist*, 98(6), 486–493. Retrieved from <http://web.ebscohost.com/ehost/detail?sid=88ba670f-7be1-435b-90dc-876780c03984%40sessionmgr11&vid=4&hid=19&bdata=JnNpdGU9ZW hvc3QtbGl2ZQ%3d%3d#db=aph&AN=54616188>
- Falk, J. H., Dierking, L. D., & Foutz, S. (2007). Preface. In J.H. Falk, L.D. Dierking, & S. Foutz (Eds.), *In principle, in practice: Museums as learning institutions* (pp. xiii–xx). Lanham, MD: AltaMira Press.
- Falk, J.H., Heimlich, J.E., & Bronnenkant, K. (2008). Using identity-related visit motivations as a tool for understanding adult zoo and aquarium visitor's meaning making. *Curator: The Museum Journal*, 51(1), 55–79. doi: 10.1111/j.2151-6952.2008.tb00294.x
- Falk, J.H., Moussouri, T., & Coulson, D. (1998). The effect of visitors' agendas on museum learning. *Curator: The Museum Journal*, 41(2), 107–120. doi: 10.1111/j.2151-6952.1998.tb00822.x
- Falk, J.H., & Storksdieck, M. (2005). Using the Contextual Model of Learning to understand visitor learning from a science center exhibition. *Science Education*, 89(5), 744–778. doi: 10.1002/sce.20078
- Falk, J. H., & Storksdieck, M. (2010). Science learning in a leisure setting. *Journal of Research in Science Teaching*, 47(2), 194–212. doi:10.1002/tea.20319
- Forist, B. E. (2003). *Visitor use and evaluation of interpretive media: A report on visitors to the national park system*. National Park Service. Retrieved from U.S. Department of the Interior. Social Science Program: http://nature.nps.gov/socialscience/docs/Visitor_Use_and_Evaluation.pdf
- Gaskins, S. (2008). Designing exhibitions to support families' cultural understandings. *Exhibitionist*, 27(1), 11–19. Retrieved from: http://name-aam.org/uploads/downloadables/EXH.spg_08/EXH_spg08_Designing_Exhibitions_to_Support_Families_Cultural_Understandings_Gaskins.pdf

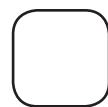
- Gross, M. P., & Zimmerman, R. (2002). Park and museum interpretation: Helping visitors find meaning. *Curator: The Museum Journal*, 45(4), 265–276. doi: 10.1111/j.2151-6952.2002.tb00064.x
- Gutwill, J. P., & Allen, S. (2010). Facilitating family group inquiry at science museum exhibits. *Science Education*, 94(4), 710–742. doi:10.1002/sce.20387
- Hatala, M., Tanenbaum, K., Wakkary, R., Muise, K., Mohabbati, B., Corness, G., . . . Loughin, T. (2009). Experience structuring factors affecting learning in family visits to museums. In U. Cress, V. Dimitrova, & M. Specht (Eds.), *Lecture notes in computer science: Vol. 5794. Learning in the synergy of multiple disciplines* (pp. 37–51). Berlin, Germany: Springer-Verlag. doi:10.1007/978-3-642-04636-0_6
- Honey, R. E., Augare, H., & Sachatello-Sawyer, B. (2010). Reciprocal relationships: Effective strategies for working with parents at the Blackfeet Native Science Field Center. *Museums & Social Issues*, 5(1), 117–135. Retrieved from <http://www.lcoastpress.com/journal.php?id=4>
- Kiihne, R. (2008). Following families: From tracking to transformations. *Exhibitionist*, 27(1), 54–60. Retrieved from http://name-aam.org/uploads/downloadables/EXH.spg_08/EXH_spg08_Following%20Families-From%20Tracking%20to%20Transformations_Kiihne.pdf
- Leinhardt, G., & Knutson, K. (2006). Grandparents speak: Museum conversations across the generations. *Curator: The Museum Journal*, 49(2), 235–252. doi:10.1111/j.2151-6952.2006.tb00215.x
- Lyons, L., Becker, D., & Roberts, J. A. (2010). Analyzing the affordances of mobile technologies for informal science learning. *Museums & Social Issues*, 5(1), 87–102. Retrieved from <http://www.lcoastpress.com/journal.php?id=4>
- McManus, P. (1992). Topics in museums and science education. *Studies in Science Education*, 20(1), 157–182. doi: 10.1080/03057269208560007
- Melber, L. M. (2006). Learning in unexpected places: Empowering Latino parents. *Multicultural Education*, 13(4), 36–40. Retrieved from <http://www.eric.ed.gov/PDFS/EJ759638.pdf>
- Moussouri, T. (2003). Negotiated agendas: Families in science and technology museums. *International Journal of Technology Management*, 25(5), 477–489. doi:10.1504/IJTM.2003.003114
- National Education Council [NEC]. (2006a). *Interpretation and education renaissance action plan*. Retrieved from National Park Service, U.S. Department of the Interior, Interpretation and Education Program: <http://www.nps.gov/interp/renaissance/lowresolutionieactionplan.pdf>
- National Education Council [NEC], Education and Evaluation Coordination Team (2006b). *Servicewide interpretation and education evaluation strategy. Volume 2: The foundations*. Draft v11. Retrieved from National Park Service, U.S. Department of the Interior: http://www.nps.gov/interp/evaluation/NEC_EVAL/SIEES_Volume_Two.pdf

- National Park Service. (2011). *NPS overview*. Retrieved from National Park Service, U.S. Department of the Interior: http://www.nps.gov/news/upload/NPS-Overview-2011_5-20.pdf
- National Park Service. (2012). *A call to action: Preparing for a second century of stewardship and engagement*. Retrieved from U.S. Department of the Interior: http://www.nps.gov/calltoaction/PDF/Directors_Call_to_Action_Report_2012.pdf
- National Research Council [NRC]. (2009). *Learning science in informal environments: People, places, and pursuits*. Committee on Learning Science in Informal Environments. P. Bell, B. Lewenstein, A. W. Shouse, & M. A. Feder (Eds.) Board on Science Education, Center for Education. Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.
- Novey, L., & Hall, T. (2007). The effect of audio tours on learning and social interaction: An evaluation at Carlsbad Caverns National Park. *Science Education*, 91(2), 260–277. doi:10.1002/sce.20184
- Packer, J. (2006). Learning for fun: The unique contribution of educational leisure experiences. *Curator: The Museum Journal*, 49(3), 329–344. doi:10.1111/j.2151-6952.2006.tb00227.x
- Packer, J., & Ballantyne, R. (2005). Solitary vs. shared: Exploring the social dimension of museum learning. *Curator: The Museum Journal*, 48(2), 177–192. doi:10.1111/j.2151-6952.2005.tb00165.x
- Patchen, J. H., & Rand, A. G. (2007). Fostering effective free-choice learning institutions: Integrating theory, research, practice, and policymaking. In J. H. Falk, L. D. Dierking, & S. Foutz (Eds.), *In principle, in practice: Museums as learning institutions* (pp. 167–179). Lanham, MD: AltaMira Press.
- Pease, J. (2011). *Parks and under-served audiences: An annotated literature review. A Report prepared for the National Park Service*. Retrieved from <http://www.nps.gov/hfc/services/interp/interpPlanning/literatureReview.pdf>
- Phipps, M. (2010). Research trends and findings from a decade (1997–2007) of research on informal science education and free-choice science learning. *Visitor Studies*, 13(1), 3–22. doi: 10.1080/10645571003618717
- Rennie, L., & Johnston, D. (2004). The nature of learning and its implications for research on learning from museums. *Science Education*, 88(Suppl. 1) S4–S16. doi: 10.1002/sce.20017
- Rosenthal, E., & Blankman-Hetrick, J. (2002). Conversations across time: Family learning in a living history museum. In G. Leinhardt, K. Crowley, & K. Knutson (Eds.), *Learning conversations in museums* (pp. 305–329). Mahwah, NJ: Lawrence Erlbaum Associates.
- Rowe, S., & Kisiel, J. (2012). Family engagement at aquarium touch tanks: Exploring interactions and the potential for learning. In E. Davidsson and A. Jakobsson, (Eds.), *Understanding interactions at science centers and museums: Approaching sociocultural perspectives* (pp. 63–78). The Netherlands: Sense Publishers.

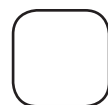
- Sanford, C., Knutson, K., & Crowley, K. (2007). "We always spend time together on Sundays": How grandparents and their grandchildren think about and use informal learning spaces. *Visitor Studies*, 10(2), 136–151. doi:10.1080/10645570701585129
- Schauble, L., Gleason, M., Lehrer, R., Bartlett, K., Petrosino, A., Allen, A. . . . Street, J. (2002). Supporting science learning in museums. In G. Leinhardt, K. Crowley, & K. Knutson (Eds.), *Learning conversations in museums* (pp. 425–452). Mahwah, NJ: Lawrence Erlbaum Associates.
- Shouse, A., Lewenstein, B. V., Feder, M., & Bell, P. (2010). Crafting museum experiences in light of research on learning: Implications of the National Research Council's report on informal science education. *Curator: The Museum Journal*, 53(2), 137–154. doi:10.1111/j.2151-6952.2010.00015.x
- Stein, J. K., Garibay, C., & Wilson, K. E. (2008). Engaging immigrant audiences in museums. *Museums & Social Issues*, 3(2), 179–195. Retrieved from <http://www.lcoastpress.com/journal.php?id=4>
- Szechter, L. E., & Carey, E. J. (2009). Gravitating toward science: Parent-child interactions at a gravitational-wave observatory. *Science Education*, 93(5), 846–858. doi:10.1002/sce.20333
- Tenenbaum, H. R., Prior, J., Dowling, C. L., & Frost, R. E. (2010). Supporting parent-child conversations in a history museum. *British Journal of Educational Psychology*, 80(2), 241–254. doi:10.1348/000709909X470799
- Wood, E., & Wolf, B. (2010). When parents stand back is family learning still possible? *Museums & Social Issues*, 5(1), 35–50. Retrieved from <http://www.lcoastpress.com/journal.php?id=4>
- Wu, K., Holmes, K. & Tribe, J. (2010). "Where do you want to go today?" An analysis of family group decisions to visit museums. *Journal of Marketing Management*, 26(7–8), 706–726. doi:10.1080/02672571003780007

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IN SHORT



A New Interpretive Pedagogy

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Abstract

One of the most prominent debates related to interpretation lies in the approach that this informal education process takes—in essence its pedagogy. At its core, personal interpretation's goal is to make the visit a memorable and meaningful encounter. It is an approach that if done properly, may be difficult to master, but one, that ultimately would increase the “success” of interpretation and improve its perception among those in the field as well as those outside the profession. This paper proposes a new pedagogic approach that focuses on the visitor more than the interpretive program. The more that can be learned about the constituents increases the ability to offer information that correlates to their lives and has far more potential to result in long-term impacts desired by our field. The notion of this new interpretation is to devote time and effort in the interpretive experience to learning who the visitor is and with that information, offer a message that would best resonate with participants.

Keywords

interpretation, pedagogy, training

A New Interpretive Pedagogy

The National Park Service's interpretive approach has tended to focus on fixed and final conclusions or "themes" that are supposed to guide interpretation over the long term. This approach has artificially sequestered interpretation from the original open-ended experiences of historical actors, from dynamic, ongoing patterns of scholarship, and from engaging visitors with flexible, multiple perspectives on interpretation.... These dynamics predispose NPS to underestimate visitors and view them as people to be instructed rather than listened to and engaged. (*Imperiled Promise: The State of History in the National Park Service*, 2011, p. 106)

The observations noted by the Organization of American Historians are directed toward historical interpretation. However, the "instructed" rather than "engaged" approach has been observed in a variety of studies conducted by this author (Knapp, 2007) that represented both cultural and environmental interpretation. Specifically, the interpreter offers messages to the visitor with no attempt at receiving responses from the participants. In observed walks, campfire programs, and presentations, visitors had few opportunities to offer their own responses to interpretive messages. In virtually all of the observed programs the interpreter would interchange briefly with the visitors prior to the start of the program but when the interpretive program actually began, dialogue with the visitors generally ended, establishing a *one-way* form of communication. The lack of a *two-way dialogue* limited the actual knowledge the interpreter could have regarding his/her audience (i.e., emotional, cognitive, and/or physical state at the time of the interpretive experience) debilitating the chances for visitor connections desired by the field.

A recommendation for the interpretive field is to look closer at constructivist learning that promotes interactions between the learner and teacher, or in this case, the interpreter and the participant. A major theme in the constructivist framework developed by Bruner (1966) is that learning is an active process in which learners (in this case the visitor) construct new ideas or concepts based upon their current/past knowledge. The learner selects and transforms information, constructs hypotheses, and makes decisions, relying on a cognitive structure to do so. The interpreter and visitor would therefore engage in an active dialogue (i.e., Socratic learning) with the interpreter presenting information that matches with the visitor's current state of understanding.

An important principle of a constructivist approach is the notion that the educator, at times, takes on a facilitation role. Learning occurs through interactions with the environment and is mediated by the educator. In essence, constructive learning would be enhanced through interpreter-led discussions and dialogue with the participants and not at the group. Therefore, an interpretive experience should include input from the visitors throughout the program. This, in sum, marks the difference between a one-way and two-way approach to promoting meaningful connections.

A Dialogic Approach to Interpretation

Therefore, the authors offer a new pedagogy for interpretation that would emphasize a two-way approach to interpretation. An interpretive approach that is based on real-world experiences, connects to everyday life, and offers active delivery of the content. This

Introduction: This approach would necessitate a clear and articulate overview of the message/content that the interpreter would like to see covered. This should be brief but to the point with no more than a few main points to avoid overwhelming the visitors with too much information.

Visitor Orientation: This phase would involve two primary objectives. First, it would enable individuals to offer their names and hometown information. But, more importantly, enable them to offer any immediate reaction/feedback related to the message/content. This phase would call for fairly close facilitation by the interpreter to avoid lengthy individual introductions by visitors and to encourage all to offer feedback related to the interpretive message. This element of dialogic interpretation would call for the interpreter to have personal communication skills that would enable as many people who want to contribute to do so yet allowing others to feel comfortable about not wanting to be actively involved in the dialogue.

Connection Assessment: By far this phase of the dialogue would be the most challenging. However, it would be essential in that it would attempt to make direct connections between the visitors and the message/content. This would occur *internally* through a wide range of approaches. Throughout an interpretive experience, the interpreter is constantly assessing and reassessing the trajectory of the dialogue based on his/her active participation with the visitors as they collectively come to understand the resources through the visitors' knowledge and inquiry.

Content Delivery: With the use of one or more of the connection approaches the interpreter would then deliver a clear and concise overview of the message/content. As with any interpretive program, a variety of techniques/styles could and should be used to develop the topic. A dialogic approach may require preparation of interpretive techniques and materials that may or may not be utilized in any given program. This is dependent on the visitors' interests and the ways any given technique can help to develop an associated understanding.

Visitor Adjustments to Content: Ample time should be allowed for visitors to ask questions, gain clarification, or attempt to contribute to the content delivered by the interpreter. Facilitation skills would be needed to assure all questions are answered or at least addressed.

Final Articulation of Content: This element would give the opportunity for the interpreter to summarize key points brought up in the dialogue. More importantly, it would give the interpreter the final opportunity to summarize key points related to the message/content delivered. This would ensure specific site goals would be met even if the dialogue had "strayed" from the main points.

The six phases of this dialogic interpretive process would call on an interpreter to possess the following skills/elements:

<i>Presence</i>	being genuine and fully engaged in the specific interaction taking place
<i>Openness</i>	recognizing and accepting the genuine being of the other person and understanding that the other is fundamentally different from oneself
<i>Emergence</i>	understanding that the process and outcomes of dialogue are not predetermined
<i>Extraverted</i>	marked by interest in and behavior directed toward others or the environment as opposed to or to the exclusion of self
<i>Knowledgeable</i>	well informed regarding the resource site and the messages/content offered to the visitors.

The element of emergence can be particularly troublesome to interpreters schooled in the didactic, one-way approach to interpretation. Not knowing a specific trajectory for a program can be disorienting and can be seen by some untrained practitioners as a process that lacks guidance and control. Enos Mills offers some sage advice regarding emergence in one of his early 20th-century essays. In “A Day with a Nature Guide,” originally published in *The Outlook*, he describes the interaction of a nature guide and a small group of visitors to the Long’s Peak area of Colorado. His description is the embodiment of the notion of emergence.

Each member of the party remembered something of plant distribution and each contributed something to the discussion concerning plant zones, slope exposure, temperature, and moisture—the determinism of ecological influences.... This party being interested in the distribution of plant and animal life, and in erosion, the guide made these the features of the day’s excursion. (Mills, 1990, p. 126)

Conclusion

Dialogue-based interpretation is, indeed, much less presentational than the traditional offerings. It is more about the visitors and their interaction with the protected resources than it is about the planned presentation of the interpreter. It attempts to veer programs from didactic one-way presentations to active two-way communication between the visitors and the interpretive message. This approach is more complex and challenging but would certainly increase the potential for the visitors to make direct connections and therefore have lasting memories of their interpretive experience.

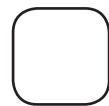
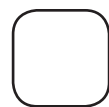
Describing European tour guides in his book *The Innocents Abroad, or The New Pilgrims’ Progress* (2003), Mark Twain offered an incisive and instructive indictment of interpreters. We argue that in taking Twain’s insights to heart we can find the inspiration to engage in a new dialogic pedagogy.

They talk forever and forever and that is the kind of billingsgate they use. Inspiration itself could hardly comprehend them. If they would only show you a masterpiece of art, or a venerable tomb, or a prison-house, or a battle-

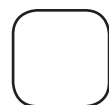
field, hallowed by touching memories or historical reminiscences, or grand traditions, and then step aside and hold still for ten minutes and let you think, it would not be so bad. (p. 127)

References

- Bruner, J. 1966. *Toward a theory of instruction*. Cambridge: Harvard University.
- Knapp, D.H. 2007. *Applied interpretation: Putting research into practice*. Fort Collins, CO: National Association for Interpretation.
- Mills, E. 1990. *Adventures of a nature guide and essays in interpretation* (E. M. Kiley, Ed.). Friendship, WI: New Past Press.
- Twain, Mark. 2003. *The innocents abroad, or the new pilgrims' progress*. New York: The Modern Library.
- Whisnant, A. M., Miller, M. R., Nash, G. B., & Thelen, D. 2011. *Imperiled promise: The state of history in the National Park Service*. Bloomington, IN: Organization of American Historians.



APPENDIX



Manuscript Submission

Instructions to Authors

Purpose

The purposes of the *Journal of Interpretation Research* are to communicate original empirical research dealing with heritage interpretation and to provide a forum for scholarly discourse about issues facing the profession of interpretation. The *Journal* strives to link research with practice. The *Journal of Interpretation Research* is published by the National Association for Interpretation, the preeminent professional association representing the heritage interpretation profession.

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The primary function of the *Journal* is to disseminate original empirical research regarding interpretation. However, the *Journal of Interpretation Research* takes a broad view of the field of interpretation and publishes manuscripts from a wide-range of academic disciplines. The primary criteria for deeming a manuscript appropriate for the *Journal* are whether it adds to the current state-of-knowledge for practitioners, researchers, academics, or administrators who work in the field of interpretation.

In recognition of how diverse the relevant literature is, the *Journal* will also publish reviews of recent books, government publications, original literature reviews, and bibliographies dealing with interpretation. Abstracts from dissertations, private consultant materials, and reports from public agencies will be published in the *Journal* in a section called “In Short: Reports and Reviews.” This section will also provide an outlet for summaries of research studies with limited scope. Interpretation research often consists of small “in-house” program evaluations and basic visitor studies. The purpose of this section is to communicate current research activities, allow readers to identify colleagues with similar interests, and provide practitioners and administrators with useful information and direction for conducting their own mini-research projects. Submissions for the “In Short: Reports and Reviews” section should be limited to 800 to 1,000 words and will be reviewed by the editor and two associate editors.

Additionally, the *Journal* will publish thought pieces that exhibit excellence and offer original or relevant philosophical discourse on the state of heritage interpretation. The “In My Opinion” section of the *Journal* encourages the development of the profession and the practice of interpretation by fostering

discussion and debate. Submissions for the “In My Opinion” section should be limited to 1,000 to 1,200 words and will be reviewed by the editor and two associate editors.

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All research manuscripts will be reviewed anonymously by an associate editor and by at least two other reviewers. Based on the nature of the manuscript, special efforts will be made to identify well-qualified associate editors and reviewers to evaluate the manuscripts. From the recommendations of the associate editor, the editor will make the final decision of the manuscript’s disposition and communicate this information to the author.

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Manuscripts will be accepted with the understanding that their content is unpublished and not being submitted elsewhere for publication.

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- Margins should be 1" on all sides.
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- Maximum length of manuscripts shall be 30 double-spaced pages (including all text, figures, tables, and citations). The editor will consider longer manuscripts on an individual basis.

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Must be as brief as possible (six to 12 words). Authors should also supply a shortened version of the title, suitable for the running head, not exceeding 50 character spaces.

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On the title page include full names of authors, academic, and/or other professional affiliations, and the complete mailing address of the author to whom proofs and correspondence should be sent. An e-mail address and phone and fax numbers should also be included. As all manuscripts will be reviewed anonymously; the name(s) of the author(s) should only appear on the title page.

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Authors must supply five to 10 key words or phrases that identify the most important subjects covered by the paper.

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Ryan, C. & Dewar, K. (1995). Evaluating the Communication Process Between Interpreter and Visitor. *Tourism Management*, 16(4): 295-303.

Tilden, F. (1977). *Interpreting Our Heritage* (2nd ed.). Chapel Hill: University of North Carolina Press.

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