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Staff-Mediated Learning in Museums: A Social Interaction Perspective

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ABSTRACT

Educators, docents, and interpreters are considered integral to the learning experiences at many museums. Although there is growing recognition that these staff members need professional development to effectively support visitor learning, there has been little research to describe their work or identify effective facilitation strategies. To address this need, we explored the nature of unstructured staff-facilitated family learning at the Oregon Museum of Science and Industry in Portland, OR, videotaping and inductively analyzing 65 unstructured staff-family interactions. The analysis highlighted the importance of role negotiation between staff and adult family members, particularly during the initiation of interactions, staff and visitor facilitation of family learning, and the introduction of new learning goals by staff members. Aligned with prior research on family learning in museums, adult family members played a critical role in shaping the nature of the interactions and determining the level of involvement of staff members. Findings have important implications for both future research and the professional development of staff.

Although museum researchers have long argued that interactive exhibits support visitor learning (Dierking & Falk, 1994; National Research Council [NRC], 2009), recently there has been increased focus on how staff facilitation influences these experiences. This interest has been fueled by the recognition that staff¹ potentially play a powerful role in mediating learning in museums, fostering personal connections, tailoring the content and the depth of experiences for different visitors, and serving as learning models and guides (Astor-Jack, Whaley, Dierking, Perry, & Garibay, 2007; NRC, 2009). In response, an increasing number of institutions are creating professional development programs for front-line interpreters. Traveling exhibitions now often include training programs or materials for museum educators, and funding agencies, such as the National Science Foundation, have made professional development for interpretive staff an important part of their portfolios (e.g., *Successful Scaffolding Strategies in Urban Museums* [DRL-0515468], *Communicating Ocean Sciences Informal Education Network* [DRL-0917614], *Zoo and Aquarium Action Research Collaborative* [DRL-1114335], and *Access Algebra* [DRL-0714634]).

Despite this growing attention, it is widely recognized that the characteristics of successful staff-mediated learning are poorly understood (Aster-Jack et al., 2007; Falk & Dierking, 2000; NRC, 2009), especially when compared to effective exhibition design strategies (Mony & Heimlich, 2008). The recent synthesis report on learning science in informal environments (NRC, 2009) referenced only one study focused on staff-mediated learning (i.e., Schauble et al., 2002) and highlighted unanswered questions about the contexts in which such mediation is appropriate and the potential for staff members to interfere with the visitor experience (p. 162). The authors argued that front-line interpreters need support and professional development to effectively facilitate learning for the diversity of visitors to free-choice and informal learning settings.

Aligned with these recommendations, we argue that a clear understanding of how staff mediation influences learning in museums—and the factors that contribute to successful interactions—is necessary to identify effective facilitation approaches and design professional development for museum educators. Because so little research exists in this area, particularly for unstructured staff-family interactions (described below), the purpose of this qualitative study was to explore the nature of interactions between museum educators and families and to build a baseline understanding of staff-mediated learning in museums.

Staff-Mediated Learning in Museums

Museum educators engage with visitors in a variety of ways, including *structured interactions*, such as museum tours, stage shows, or classroom programs, in which the length of interaction and the relationship between visitors and staff are largely predetermined (Cunningham, 2004), and *unstructured interactions*, such as unscripted conversations between staff and visitors at activity tables or exhibits. Researchers focused on structured interactions have investigated school group programs and tours (Cox-Peterson, Marsh, Kiesel, & Melber, 2003; Flexer & Borun, 1984; Jarvis & Pell, 2005; Tal & Morag, 2007; Tran, 2007; Wollins, Jensen, & Ulzheimer, 1992), scheduled demonstrations for everyday visitors (Anderson, Piscitelli, Weier, Everett, & Taylor, 2002), and interactions between staff and visitors in highly structured research settings (Allen & Gutwill, 2009). Findings suggest that visitors often have positive feelings about engaging with museum staff (Anderson et al., 2002; Falk & Dierking, 2000; Jarvis & Pell, 2005; Lindemann-Matthies & Kamer, 2005; Marino & Koke, 2003; Wollins et al., 1992). In addition, there is evidence that the presence of staff can increase visitor satisfaction, time spent at exhibits (Anderson, Kelling, Pressley-Keough, Bloomsmith, & Maple, 2003; Dierking et al., 2004; Falk & Dierking, 2000; Marino & Koke, 2003), knowledge acquisition (Flexer & Borun, 1984; Lindemann-Matthies & Kamer, 2005; Marino & Koke, 2003), and inquiry behaviors (Allen & Gutwill, 2009).

A few studies of structured interactions have suggested potential negative impacts (Flexer & Borun, 1984; Marino & Koke, 2003; NRC, 2009), including staff interfering with visitors who wish to engage individually with an exhibit (Marino & Koke, 2003). Also, staff members may often use didactic strategies resembling teacher-directed classroom instruction. For example, studies of staff-guided school group visits (Cox-Peterson et al., 2003; Tal & Morag, 2007) highlighted the use of

close-ended or fact-based questions, high-level vocabulary, limited opportunities for social interaction, inflexible lesson structures, and a focus on facts rather than big ideas. In rare cases, highly skilled and experienced educators have been shown to be able to adapt the structure and content of lessons to accommodate students' prior knowledge and experiences while preserving the free-choice nature of their interactions (Tran, 2007).

Historically, the research community has paid less attention to unstructured interactions, even though they likely represent the most common type of staff-mediated experience in museums. Two notable exceptions are a mixed-method study with educators at a zoo (Mony & Heimlich, 2008) and a qualitative study of interpreters at a living history museum (Rosenthal & Blankman-Hetrick, 2002). Exploring the factors influencing message communication in docent–visitor interactions, Mony and Heimlich found that the length of the interactions and the number of key educational messages communicated were influenced by location (“exhibit region”), visitor group composition, and how the interactions were initiated. Staff-visitor interactions with adult groups were longer and included more educational messages. Interactions were also longer when staff approached visitors, although the number of messages communicated was similar. Rosenthal and Blankman-Hetrick investigated unstructured staff-visitor interactions in a living history museum. Analysis of videotape from five families during their visits suggested that appropriately designed staff facilitation integrating visitor interest and prior knowledge prompted families to engage in more learning conversations during and subsequent to the interactions. Approaches that actively engaged the entire family in a dialogue also promoted more learning conversations. Findings from these two studies suggest that the nature and outcomes of unstructured interactions may be particularly sensitive to the social dynamics between staff and families.



Perspectives from Research on Social Interaction

Although studies of social interaction in sociology, sociolinguistics, and anthropology offer key insights into the rules and patterns that govern everyday social encounters, they have rarely been applied to the study of behavior and learning in museums (vom Lehn, Heath, & Hindmarsh, 2001). A defining characteristic of human interaction from these perspectives is the negotiation of roles, relationships, and identities. In some of the earliest work on everyday social interaction, Goffman (1959, 1967, 1981) asserted that impression management, or “face work,” was a principal goal of all social interaction and communication. Subsequent research on impression management, or how participants in a conversation or social interaction communicate their self-image or identity to other participants, has continued to support this assertion (Canary, Cody, & Manusov, 2000; Kendon, 1990; Lerner, 1996; Nevile & Rendle-Short, 2009). Since Goffman, researchers have made significant headway in describing the interactional rules and patterns that define the “rituals and customs” of everyday interactions and allow individuals to negotiate roles and identities. For example, conversational analysis of everyday interactions has highlighted the importance of opening and closing sequences, turn-taking practices, methods for avoiding overlap and gaps during conversations, the organization of talk into sequences, and strategies for “repair” (i.e., restoring face) (Gumperz & Hymes, 1972; Mchoula, 1978;

Neville & Rendle-Short, 2009; Schegloff, 1999). During these interactions, participants also negotiate the meaning and goals of the situation, or “situation definition” (Rowe, 2005), which serves as the background for interpreting roles and relationships



Research suggests that much of the work of negotiating roles, relationships, and situation definitions occurs in the initial stages of a social interaction, referred to as the greeting or opening sequence (Goffman, 1981; Gumperz & Hymes, 1972; Kendon, 1990; Schegloff, 1972, 1986). One reason that this initial phase is so important in social discourse is that much of what follows, including the topic of conversation and the patterns and rules that govern conversation structure and participant behavior, is dependent on the relationships and identities negotiated by participants (Gumperz & Hymes, 1972; Kendon, 1990; Schegloff, 1986; Scollon, 1998). Scollon argued that defining the relationship between participants in a conversation is a necessary step before the topic of that conversation can be established.

The physical and social context of an encounter can also predefine interactional roles or leave them open for negotiation. In many situations, relationships between individuals have been “conventionalized” (Scollon, 1998) or “institutionalized” (Goffman, 1967), based on broadly established sociocultural norms, with identity and role negotiation playing a minor role (Filliettaz, 2005; Goffman, 1967; Gumperz & Hymes, 1972; Scollon, 1998). For example, classroom discourse between students and teachers has traditionally been highly structured, with cultural expectations largely predetermining the roles, relationships, and power structures between teacher and student and among students (Mchoula, 1978; NRC, 2005; Wertsch, 1998).

In other contexts, relationships between individuals can be more ambiguous. George (2008) described the challenges of role negotiation involved in “expert service work,” such as professional fitness trainers, and noted that “unlike professional work, where the contents of the service and the role relations of the participants are more clearly defined and regulated, expert service work often takes place in unstandardized industries marked by ambiguous interactional roles” (p. 115). Research on the professional identities of museum educators (Tran, 2007, 2008) suggests that their roles closely mirror expert service work and that they likely face similar challenges in establishing their identities and negotiating roles and relationships during interactions with visitors.

Theoretical Framework

The research described above indicates that the negotiation of roles, relationships, and situation definitions (defined broadly to include the smooth, seemingly effortless negotiations involved in everyday life, as well as the sometimes contentious negotiations) is central to human interaction. To explore these dynamics in the context of staff-mediated learning in museums, we framed learning and development from a sociocultural perspective, positing that they are best understood within cultural, historical, and institutional contexts. More specifically, we adopted mediated discourse (Norris & Jones, 2005; Scollon, 1998) as a theoretical framework to guide and inform data collection and analysis.

In his development of mediated discourse, Scollon synthesized several important strands of research and theoretical thinking, including mediated action (e.g., Wertsch, 1998), sites of engagement (e.g., Scollon, 1998), and communities of practice

than when a staff member approaches a family that has already spent time together at an exhibit. By carefully considering the influence of social and physical context and learning how to observe and respond to family social dynamics, museum educators can develop a repertoire of approaches for different situations and will be better prepared to determine when and how to effectively facilitate family learning. In addition, staff members should understand and appreciate the important role that many adults play in mediating family learning and remain aware of their own roles in relationship to those adults. One promising strategy, currently being explored at OMSI (Pattison, 2011; Pattison & Dierking, 2012), is to support the facilitation that adult visitors are already providing for families. These research-based perspectives on practice are critical to supporting training for museum educators and other informal learning professionals (Tran, 2008).

Museums can also support educators by considering staff when designing exhibitions and learning labs. Findings suggest that the physical design of a learning space may be as important in influencing the nature and outcomes of staff-family interactions as the facilitation strategies that staff members use. By considering the design of these settings, institutions can support the success of front-line staff. However, doing so requires clearly articulating institutional goals for the visitor experience. Implications for design depend on the degree to which an institution supports visitor-oriented experiences, in which staff members play relatively minor roles in supporting learning, or more staff-directed experiences, where educators take a leading role.

Directions for Future Research

Researchers are just beginning to understand staff-mediated learning in museums, and in particular unstructured interactions between staff and visitors. Based on our findings, supported by the social interaction literature, we suggest that role negotiation between staff and adult family members is a critical element of these interactions, particularly during initiation, facilitation, and the introduction of new learning goals.

Future research should explore the extent to which these findings can be transferred to other audiences and learning environments. Although a diversity of staff members participated in this study, all of the educators were influenced by the institutional context and culture of OMSI. Staff at other museums may use distinctly different approaches to facilitating such interactions. Similarly, different family groups, including those from diverse cultural or socioeconomic backgrounds, may respond to staff facilitation in different ways, perhaps being more or less likely to contest the authority and expertise of educators. Because the cultural tools that families and staff use during unstructured interactions represent specific cultural practices, the nature of these interactions will likely differ across diverse audiences. Although we did not collect demographic data from families, the majority of OMSI visitors are from White, middle-class, and English-speaking communities, which have traditionally been disproportionately represented in education and learning research (e.g., NRC, 2009; NRC & IOM, 2000). Researching interactions in different institutions, with a diversity of families, will help broaden our understanding of the many ways families learn in museums.

To ensure the generalizability of research findings, investigators should use a variety of data collection methods and theoretical perspectives. A limitation of this study was the reliance on naturalistic observation. Interviews with families and staff

would have provided an additional and important perspective on staff-mediated family learning in museums. In addition, our methodology focused on observing selected activities. Another approach would be to track families throughout their visit, providing additional insights into the interactive dynamics we observed between and among the social and personal contexts of families and facilitators and the physical contexts of the environments and individual activities.

Future research should also continue to explore the factors that influence the outcomes of these interactions. Quantitative approaches that complement qualitative findings would help identify correlations and causal connections between social dynamics and learning outcomes, defined broadly to include engagement, learning behaviors and conversations, increased knowledge and understanding, visitor satisfaction, and other emergent and long-term impacts. It may be that staff-mediation is particularly well suited to support some types of outcomes but not others.

In summary, a social interaction perspective in general, and mediated discourse in particular, proved a useful theoretical framework for studying staff-mediated learning, particularly unstructured interactions between staff and families. Given the potential frequency of these interactions in free-choice learning institutions around the globe, and the importance of families as an audience for museums and science centers, a better understanding of these interactions, and the facilitation strategies staff can use to successfully support family learning, remains a research priority for the field.

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Notes

1. Throughout this article, we use the terms *staff*, *volunteers*, *museum educators*, and *front-line interpreters* to refer to paid and unpaid staff who work in museums, science centers, and other informal or free-choice learning environments and whose primary responsibility is to facilitate learning experiences for visitors, including families, adults, seniors, and school groups.
2. All recruitment and informed consent procedures were reviewed and approved by the Oregon State University Institutional Review Board.

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