

How Grandparents and Their Grandchildren Think About and Use Informal Spaces

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Introduction

Older adults are becoming an increasingly important audience for informal learning venues such as museums and websites. But we do not yet know if the assumptions made about designing these learning environments for parents and children also hold true for older adults. In fact, older adults often come to places like museums with a specific social agenda, to spend time with and talk to their grandchildren (Roberto & Stroes, 1992).

When thinking about how grandparents might experience informal learning with their grandchildren, we examined two different literatures: family learning and gerontology. The family learning literature suggests that a family member's level of knowledge and experience can affect the type of interactions that the family has around an activity (Matusov & Rogoff, 1995). This literature also states that the agenda and beliefs that families have for an informal experience can affect how they use different learning environments (Falk & Dierking, 2000). The gerontology literature holds that grandparents enact a variety of roles with their grandchildren throughout their lives (Ramirez-Barranti, 1985), and it is beneficial to consider how those roles play out within particular learning environments (Leinhardt & Knutson, 2006). The current study focuses on two learning environments, a museum exhibit and a website dealing with the topic of heart health in order to determine how grandparents are thinking about and using the different informal spaces.

Research Questions

1. Do grandparent-grandchild interactions around educational content look different depending on whether they are participating in a web or a museum learning environment?
2. What are grandparents' goals for and beliefs about their interactions within these different learning environments? What roles do they seek to play?

Methods

Participants

- 30 grandparent/grandchild pairs for the museum condition (Mean age grandparent=62; Mean age child=8.1)
- 31 grandparent/grandchild pairs for the web condition (Mean age grandparent=57; Mean age child=6.8)

Procedure

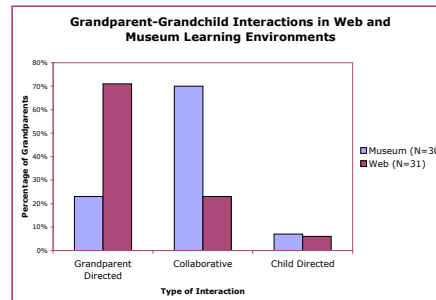
All participants worked collaboratively to answer a series of pre-test questions about heart health. Next, participants either visited the Giant Heart exhibit at the Franklin Institute in Philadelphia, PA or visited a Heart Health website at the Children's Museum of Pittsburgh, PA. After the visit, identical heart health post-test questions were asked. Older adults were also asked about their roles and beliefs in regards to informal learning.

Results

Interactions within Learning Environments

Type of Interaction: Who led the majority of talk and activity
Interaction type was determined from transcripts and videotapes of grandparent-grandchild talk and activity.

- **Grandparent directed:** Older adult led conversation and activity
- **Child directed:** Grandchild led conversation and activity
- **Collaborative:** Grandparent and grandchild talked an equal amount and both engaged in activity



The high percentage of grandparent involvement (93%) in both the museum and the web suggests that grandparents saw informal learning settings as opportunities to actively engage with their grandchildren.

Grandparents engaged in more collaborative interactions in museums than on the web. This difference reflects perceptions that museums are places for social learning, while the web is viewed as a more solo and customizable learning environment.

Agenda within Learning Environments

Agenda: What grandparents thought about learning environments
A composite measure was constructed from grandparents' open-ended responses to questions about their role and how the presence of their grandchildren affected their agenda. Grandparents received a point for any new idea referencing a shared agenda, and a point was deducted for every reference to a conflicting agenda.

Grandparents found the museum learning environment ($M=0.4$, $SD=1.7$) to be more conducive to intergenerational learning than the web ($M=1.5$, $SD=2.16$), $t(59) = 3.65$, $p < .001$.

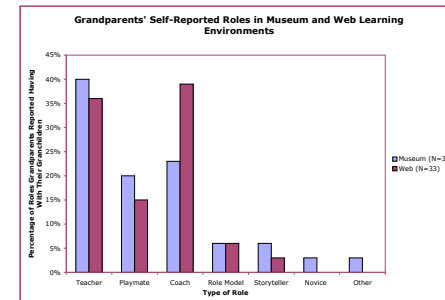
Grandparents in the museum said that the need to share the experience with their grandchildren opened up new opportunities that they may not have pursued if they had been visiting the museum on their own. For example, they were drawn to exhibits where they could make personal connections and "see the museum through the eyes of a grandchild". In contrast, grandparents on the web reported that the need to share the experience distracted them from their own learning goals. In particular, they focused on their inability to access relevant content quickly while in the presence of their grandchildren.

Results, cont.

Roles within Learning Environments

Roles: What role grandparents embodied most during activity
Type of role was determined from a forced-choice interview question.

- **Teacher:** Explained topics to child during activity
- **Playmate:** Shared the fun and enjoyable aspects of the activity
- **Coach:** Encouraged, supported, and offered suggestions to child
- **Role Model:** Ensured that the child remained on-task and respectful
- **Storyteller:** Related some personal stories to child during the activity
- **Novice:** Taught by the child during the activity
- **Other:** Played another role during the activity



Grandparents often took up Teacher roles in the museum and on the web. Slightly more grandparents self-identified as Coaches on the web, and grandparents felt like Playmates in both the museum and web.

These findings are in contrast to the gerontology literature, which tends to position grandparents in storyteller, role model or historian roles throughout the lifespan (Weber & Absher, 2003; Neugarten & Weinstein, 1964). Instead, we found that grandparents acted more like parents, who often take up teacher or guide roles in order to support children's scientific thinking (Swartz & Crowley, 2004).

Conclusions

- Grandparents want to be involved in their grandchildren's lives. Informal learning settings empower grandparents to be actively engaged in learning behaviors with their grandchildren.
- Grandparents have consistent ideas about how to use the museum and the web as a whole. In museums, they are socially invested in helping their grandchildren learn. On the web, grandparents' own learning agendas conflict with those of their grandchildren. When thinking about designing learning environments for older adults, we must examine how they want to use those spaces.
- Grandparents take on parent-like roles in museums and on the web. Future work might explore how informal spaces can be designed to provide opportunities for grandparents to enact a wider range of roles.

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