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Family Connections: Family Conversations in Informal Learning Environments

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Carol McNulty, Editor

Family Conversations in Informal Learning Environments

by Kelly Riedinger

A parent chaperone works with a group of young learners on a field trip to a marine science camp program. The parent and young learners are conducting an investigation to determine the color of the ocean water during a research cruise, using a test called the Forel Ule kit. The parent reads the directions to the young learners, provides orders to the group for completing the tests, analyzes the results, and then tells the group members what to record. The parent dominates the conversation; the young learners make very few comments as they listen to the parent chaperone and complete the activity. (Riedinger, 2011)

In a different activity, a group of young learners works with an adult to determine the correct identification of a fish in an aquarium. The adult and learners use a key and take turns looking for characteristics to correctly identify the fish. As they read each description, both the adult and the young learners contribute to the conversation, accepting or rejecting each description based on evidence from their observations. The adult asks the young learners for their opinions and a conversation is fostered within the group. When the young learners have difficulties understanding a particular description, the adult helps them look up the definition and guides them in making sense of the terms. Together, they go through the key until they eventually identify the fish as a Sheepshead Minnow. (Riedinger, 2011)

Both of the examples provided above demonstrate adult interactions with young learners during conversations in informal learning environments. Family visits to informal learning environments provide opportunities to learn together, interact, engage in conversations, and learn more about one another. This article explores family learning in informal environments and suggests ways for parents to guide young learners in conversations to make sense of exhibit and program content.

Informal Learning Environments

Learning is not confined to schools. Bransford, Brown, and Cocking (2000) estimated that students spend, on average, less than 14% of their time in schools. Rennie (2007) reiterated this notion, stating that "most people spend less of their lives in school than out of it, and they continue to learn throughout their lifetime in many places other than educational institutions" (p. 125).

Children and adults learn in a variety of contexts and from a number of sources (Dierking, Falk, Rennie, Anderson, & Ellenbogen, 2003; Falk, 2001; Falk & Dierking, 2000).

Informal learning environments refer to venues for learning opportunities that are outside of the formal classroom context. These experiences include, but are not limited to, art museums, history museums, science centers, historic sites, zoos, aquaria, botanical gardens, nature centers, afterschool programs, science camps, the Internet, television, and film (Anderson, Druger, James, Katz, & Ernisse, 2001; Dierking et al., 2003). These types of experiences often have several characteristics in common. Crane (1994) indicated the following features are common to informal learning environments:

> Activities that occur outside the school setting, are not developed primarily for school use, are not developed to be part of an ongoing school curriculum, and are characterized by voluntary as opposed to mandatory participation as part of a credited school experience. (p. 3)

Hofstein and Rosenfeld (1996) also noted that experiences in informal learning environments are often non-assessed and non-competitive. Dierking et al. (2003) added that opportunities to learn in informal learning environments are characterized as being driven by the needs and interests of the learner.

Family Visits to Informal Learning Environments

As children spend a relatively short amount of time in the classroom with teachers, family learning in settings outside the classroom plays an important role in their development (Olson & Drake, 2009). Research suggests that parent involvement contributes to the success of children's learning (Buxton & Provenzo, 2011), and informal learning environments allow families to support their children's development in such topics as science, history, and art. Ash (2003) states, "Museums are places where families play, talk, and learn from each other" (p. 138). In these contexts, families co-construct knowledge and collaboratively make sense of exhibit and program content. In fact, Sandifer (1997) determined that visiting a museum in a family group resulted in greater learning outcomes. The family groups

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followed in his study spent more time than nonfamily groups and individuals at museum exhibits.

Another way that informal learning environments support learning is by fostering positive attitudes about learning among students. In a study of science learning at an observatory, Szechter and Carey (2009) suggested that informal learning experiences sparked children's interest in understanding science. The voluntary and free-choice nature of informal learning environments may influence children's motivation and interest in learning. Anderson et al. (2001) pointed out that informal learning environments accommodate children's differing interests and these contexts offer unique opportunities to engage in experiential learning.

Family Learning Conversations in Informal Learning Environments

Experiences in informal learning environments foster social interactions between groups, such as families. The term "learning conversation" refers to opportunities for groups (such as families) to socially interact and engage with one another to make meaning and sense of content presented in informal learning environments (Crowley et al., 2001; Zimmerman, Reeve, & Bell, 2009). Learning in this sense is viewed as a "joint collaborative effort" between members of the group or family (National Research Council, 2009, p. 33). Through learning conversations, explanations are constructed and revised as the family or group attempts to interpret exhibits and make meaning. Individual family or group members contribute to the conversation as part of a shared understanding and collaborative negotiation of meaning. Knowledge is distributed among the group or family, and each member contributes uniquely to the construction of meaning (Ash, 2003).

Research exploring parent involvement in learning conversations with children has demonstrated a number of positive outcomes for young learners. Families have shared experiences, beliefs, and values that influence and enhance learning conversations (Ellenbogen, 2002; Falk & Dierking, 2000). For instance, members of the family share stories that draw on the group's shared experiences. These shared experiences help each member to make sense of the science content (Falk & Dierking, 2000; Zimmerman et al., 2009).

Investigations of family conversations have looked specifically at the ways parents interact with their children during museum visits. Ash (2003) found that previous research on family conversations examined how parents assist children's scientific reasoning, the role of parent-child explanations, and categories of science content. Crowley et al. (2001), in a study of parent-child interactions at a children's museum, found that parents scaffolded the

Strategy	Example
Direct children's attention to relevant and key aspects of the exhibit or program content.	"Did you notice it says . . ."
Help young children read and decipher exhibit text, such as information and instructions.	"Let me help you read the instructions . . ."
Encourage children to participate equitably in the discussions during learning conversations.	"What do you think about this exhibit?"
Model for children how to appropriately interact with the exhibit or program.	"The instructions say to . . ."
Ask open-ended questions to guide children's thinking and sense-making practices related to the exhibit content.	"Why might it have happened that way?" "What explanations do you have?" "How are these two things similar or different?"
Prompt children to think about, discuss, and speculate on a topic, rather than directly providing them with answers.	"What do you think? Is there any information in the exhibit that might help you answer your question?" "Let's look at the information and find out."
Encourage scientific reasoning by prompting learners to cite evidence during the discussions.	"What makes you say that?"
Elaborate on exhibit content by sharing stories, past experiences, and family history, all of which can help children construct meaning and connect it to their lives.	"This reminds me of the time that we . . ."
Model enthusiasm and interest for learning about program and exhibit content.	"Wow, this is really neat. Did you know that . . ."

Figure 1
Recommended strategies for engaging children in learning conversations in informal learning environments.

museum visit experience for children. They encouraged children to participate in talk, select and encode information, and generate evidence. Zimmerman et al. (2009) reported similar results, concluding that parents demonstrated for children how to use evidence, directed children's attention to relevant aspects of the exhibit, and provided connections to prior knowledge and experience. Family members used their prior knowledge and experiences to make sense of the material presented in the exhibit through such strategies as shared remembering, storytelling, joking, and the use of analogies. These strategies helped parents scaffold learning for the children during the museum visit.

Fostering Learning Conversations in Informal Learning Environments

The two examples provided at the beginning of the article represent two conversations from a research study on learning conversations at an informal education science camp. In the first example, the parent read the directions, directed the procedures, and interpreted the investigation for the young learners. That is, the adult dominated the conversation. As a result, the young learners participated infrequently in the conversation and did not need to engage in shared sense-making practices.

In the contrasting example, the adult invited the young learners to participate equitably in the conversation. She shared the task of identifying the fish, taking turns with the young learners in carrying out the procedures, and asking learners for their input. As each characteristic of the fish was considered, both the adult and learners offered their opinions and cited evidence to support their comments. A learning conversation was fostered in which both the adult and young learners were engaged in sense-making practices.

It is important to note the contrast between the two examples. In the first example, young learners are not invited into the conversation. As such, they do not necessarily engage in making meaning of the content. On the other hand, learners in the second group engage equitably with the adult in the conversation and co-construct knowledge and shared understandings. The adult was talking with—not at—the young learners.

Figure 1 shows recommended strategies for guiding learners' conversations in informal learning environments as well as examples for implementing these recommendations.

Conclusion

Informal learning environments offer occasions for children to continue learning in settings outside the classroom, also supporting classroom lessons in settings in which children can learn in family groups alongside their parents. Parents can maximize learning and draw children into equitable learning conversations through the strategies recommended in this article. In this way, children and parents can engage in shared meaning-making and co-construct understanding of exhibit and program content.

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