

# Module 2

## Supporting Intergenerational Communication

### Module Overview

---

#### Objective

In this module, participants will explore the benefits of fostering intergenerational communication within families—that is, encouraging visitors of different ages within the group to interact and talk with each other as they engage with the exhibit. Participants will hone their skills at noticing when and how intergenerational communication happens, reflect on their own role in supporting intergenerational communication, and brainstorm strategies to integrate into their practice.

#### Materials needed



- Module 2 Video 1 (<https://vimeo.com/user12277459/reveal-module2video1>)
- Module 2 Video 2 (<https://vimeo.com/user12277459/reveal-module2video2>)
- Handouts (one per participant)
  - Introducing Module 2: Supporting Intergenerational Communication (a few copies in case participants need them)
  - Module 2 Video Discussion
  - Module 2 Reflection Homework
  - Introducing Module 3: Encouraging Exploration and Inquiry
- Chart paper or whiteboard and markers

#### Plan for Session (95-105 minutes)



- 1) Warm-up activity, 10minutes (optional)
- 2) Homework sharing, 15 minutes
- 3) Introducing the module, 10 minutes
- 4) Video discussion, 60 minutes
- 5) Homework for Module 3, 10 minutes

## Warm-Up Activity

10 MIN



If you opt to do a warm-up activity, start the session with it. We recommend the improv activity, I Say Hi (<http://www.nisenet.org/catalog/improv-exercises>). In general, an effective warm-up activity for this module will focus on communication and connections among group members.

## Previous Session's Homework

15 MIN



In small groups, participants take turns sharing experiences they had doing the homework: one recent experience they had observing a family or one experience they had interacting with a family. After reflecting on the interaction, participants can also share what they might repeat or do differently in the future.

After 10 minutes, ask a few volunteers to share either their own learning or lessons gleaned from their group discussion. You may want to summarize observations, point out dominant themes, or make connections to practices at your institution.

## Introducing the Module

10 MIN



Introduce this module's topic, paraphrasing what is written below. Participants should have already read "Introducing Module 2: Supporting Intergenerational Communication" prior to this session.

### Introducing the topic



*Today's topic is supporting intergenerational communication. We'll watch two videos and discuss as a group strategies and techniques that facilitators can use in their practice to encourage group members of different ages to talk with each other and interact together at an exhibit.*

### Connecting to previous experiences

In small groups, participants discuss their responses to the questions at the end of the handout "Introducing Intergenerational Communication." After a few minutes, continue the discussion in the larger group.



- 1) In families and multigenerational groups, how do people of different ages usually interact with exhibits at your institution? Are there roles that particular family members tend to take on?

- 2) How might a family's culture and prior experiences influence how visitors of different ages interact with each other, the facilitator, and an exhibit?
- 3) Which group members (e.g., adults or kids) do you usually focus on when facilitating with families? Why?
- 4) What is a time when you have seen facilitators (including yourself) supporting intergenerational communication at exhibits? What specific things were done or said to encourage visitors to interact with one another?

## Video Discussion

60 MIN

In this module, you will be using the following two videos:

- Module 2 Video 1 (<https://vimeo.com/user12277459/reveal-module2video1>)
- Module 2 Video 2 (<https://vimeo.com/user12277459/reveal-module2video2>)

### Introducing the videos



Both of the videos in this module take place at the exhibit Balancing Art. Participants should have read the exhibit description as part of their preparation for Module 1. Before beginning, ask them if they have any questions about the exhibit.

Pass out copies of the Video Discussion handout and give participants a minute or two to review it. Paraphrase the following information about the videos to participants.



*In the first video segment you are about to watch (Module 2 Video 1), a facilitator is working at Balancing Art with a family of two adults and three boys between about 7 and 11 years old. The video segment starts partway through the interaction. Up to this point, two of the older children have been handling the exhibit pieces more than the younger child and have been discussing the mathematics of the exhibit. One adult has talked with the boys and interacted with the exhibit several times. The other adult has stayed in the back. The second video (Module 2 Video 2) features a different facilitator with a family consisting of a man with two young children at Balancing Art. This video includes the entire interaction with the family.*

*We will watch each video twice. The first time, ignore the handout and just try to take in the whole interaction. In between the first and second viewing, read over the handout questions. During the second viewing, I encourage you to look for how the family members interact with each other and how the facilitator encourages intergenerational communication. Notice how the visitors—both adults and children—respond to this facilitation. After the second viewing of each video, you will have time to jot down responses to the handout prompts in preparation for discussing your observations and reactions.*

## Key video moments for the session leader

Below are some moments in the video when something particularly noteworthy happens relevant to intergenerational communication. This is not an exhaustive list of every interesting moment in each interaction. We point these out to help you, the session leader, have evidence to support observations by participants. We do not recommend giving these lists to participants.

### Video 1:

- 0:29 Facilitator offers a challenge and hands a mystery piece to the adult female.
- 1:30 Facilitator hands a mystery piece to the adult male.
- 2:12 Facilitator hands a mystery piece to the adult female.
- 2:48 Adult female takes a photo.
- 3:20 Facilitator assigns a role to the youngest boy.
- 3:50 Facilitator asks adults if they remember the values of the mystery pieces and tells the boys that they can ask adults for that information.
- 4:09 Facilitator steps to the side to talk with the adults.
- 4:55 Facilitator gives a job to the adult female.
- 5:47 Facilitator encourages oldest boy to use white board.
- 6:28 Facilitator explains to other family what is going on.
- 6:45 Group celebrates success.

### Video 2:

- 0:55 Facilitator enters conversation by addressing the whole family, then stands back and watches.
- 2:02 Facilitator provides exhibit orientation to the whole family.
- 2:25 Adult male is silent for about a minute.
- 3:48 Adult male makes a suggestion about weight placement to the older child and facilitator supports the suggestion.

## Video discussion: Module 2 Video 1



Watch the video segment twice. Then take 3-5 minutes for participants to quietly jot down their answers to questions on the first page of the video discussion handout.



Next break into small groups of 2-4 participants (if possible, try to mix up groups from previous discussions) and share answers. Ask one member from each group to share a summary of their discussion with the larger group.

In your discussion, keep track of the strategies participants mention on the whiteboard or chart paper. You may want to write down other group responses as well, but keep those ideas separate from the list of strategies. Some strategies participants might mention include:

providing roles for adults, such as posing challenges or using the whiteboard to track the group's math reasoning; giving adults additional information about the exhibit to help empower them to become more involved; encouraging children to consult with adult family members; playing a supporting, rather than leading, role; and stepping back to provide space for adult-child interactions.

- 1) What did you notice happening in this video segment? What evidence did you see of intergenerational communication between adults and children?
- 2) What did the facilitator try to do to involve the adults in the activity and encourage them to interact with the children?
- 3) How were these strategies more or less successful?
- 4) Was there anything the facilitator did that might have inhibited interactions between adults and children?
- 5) What are some reasons the adults in this group might have been less comfortable becoming involved in the activity?
- 6) What are other strategies the facilitator might have tried to better support intergenerational communication?

### **Video discussion: Module 2 Video 2**



Watch the video segments twice. Then take 3-5 minutes for participants to quietly jot down their answers to questions on the second page of the video discussion handout.



Break into small groups of 2-4 participants and share answers. Ask one member from each group to share a summary of their discussion with the larger group. Continue to record possible strategies on the chart paper or whiteboard.

- 1) What did you notice happening in this video segment? What evidence did you see of intergenerational communication between adults and children?
- 2) What did intergenerational communication look like in the first few minutes of the interaction and what role did the adult play in the group?
- 3) How did the role of the adult and interactions between the adult and children change over the course of the video segment?

- 4) Did the facilitator seem to try to involve the adult and support intergenerational communication? Was there anything the facilitator did that might have inhibited interactions between the adult and children?
- 5) What are other strategies the facilitator might have tried to better support intergenerational communication?

## Video Discussion for Both Videos



After watching both videos and having small group discussions about each, continue the group conversation about the broader themes and implications of supporting intergenerational communication.

- 1) What were some of the similarities and differences between these two video segments? How did the adults in each segment approach the interactions differently? How were the approaches by the two facilitators different?
- 2) What challenges might you encounter trying to support intergenerational communication for families at your institution?
- 3) When might you choose not to interact with a family? What clues or hints would you look for that would lead you to take a smaller role in the interaction?

At the conclusion of this module, record the list of strategies generated during the conversations (e.g., take a photo or type the list) and share the ideas with participants to help them explore new ways of supporting intergenerational communication within families. Other relevant strategies participants might mention include: explicitly inviting family members to participate, asking one visitor to explain their ideas to the rest of the group, and posing challenges or activity extensions that require teamwork.

## Reflection Homework

10 MIN



In the time between this session and the next, participants will practice noticing aspects of intergenerational communication both with and without facilitators present. They will also try out some facilitation strategies for supporting group engagement and fostering interactions within families.

Pass out copies of the Module 2 reflection homework handout to each participant, as well as the background reading for the next module: “Introducing Module 3: Encouraging Exploration and Inquiry.” Allow participants a few minutes to read over the homework handout. Ask for any questions, clarifications, or comments.

## For Further Exploration

---

### More Videos

Full-length, unedited versions of the videos from this module (without subtitles) are also available:

- Module 2 Video 1, unedited (<https://vimeo.com/203905379>)
- Module 2 Video 2, unedited (<https://vimeo.com/203905609>)

You can also watch videos that were assigned to other modules and the bonus videos, paying particular attention to what the interactions reveal about intergenerational communication.

### Readings

The following books and articles can be useful for continuing to explore the topic of intergenerational communication and interactions among adult and child family members:

Bertschi, K., Benne, M., & Elkins, A. (2008). **Creating a learning environment that fosters parent-child interactions: A case study from the Animal Secrets exhibition project.** *briefCAISE, 2008*(4). Retrieved from <http://www.informalscience.org/creating-learning-environment-fosters-parent-child-interactions-case-study-animal-secrets-exhibition>.

Falk, J. H., & Dierking, L. D. (2013). **The museum experience revisited.** Walnut Creek, CA: Left Coast Press. (See especially Chapter 7, “The Sociocultural Context.”)

Leinhardt, G., Crowley, K., & Knutson, K. (Eds.). (2015). **Learning conversations in museums.** Mahwah, NJ: Erlbaum Associates.



### Video 1

- 1) What did you notice happening in this video segment? What evidence did you see of intergenerational communication between adults and children?
  
- 2) What did the facilitator try to do to involve the adults in the activity and encourage them to interact with the children?
  
- 3) How were these strategies more or less successful?
  
- 4) Was there anything the facilitator did that might have inhibited interactions between adults and children?
  
- 5) What are some reasons the adults in this group might have been less comfortable becoming involved in the activity?
  
- 6) What are other strategies the facilitator might have tried to better support intergenerational communication?

### Video 2

- 1) What did you notice happening in this video segment? What evidence did you see of intergenerational communication between adults and children?

- 2) What did intergenerational communication look like in the first few minutes of the interaction and what role did the adult play in the group?
- 3) How did the role of the adult and interactions between the adult and children change over the course of the video segment?
- 4) Did the facilitator seem to try to involve the adult and support intergenerational communication? Was there anything the facilitator did that might have inhibited interactions between the adult and children?
- 5) What are other strategies the facilitator might have tried to better support intergenerational communication?

### **Both Videos**

- 1) What were some of the similarities and differences between these two video segments? How did the adults in each segment approach the interactions differently? How were the approaches by the two facilitators different?
- 2) What challenges might you encounter trying to support intergenerational communication for families at your institution?
- 3) When might you choose not to interact with a family? What clues or hints would you look for that would lead you to take a smaller role in the interaction?

- 1) Take some time, even just 20-30 minutes, to watch both facilitated and unfacilitated family groups engaging with exhibits at your institution. When you are watching other staff members, first ask them for permission to observe. When watching unstaffed interactions, respect the privacy of families by being unobtrusive and ending your observation if families appear to be uncomfortable.
  - a. For unfacilitated groups: What roles do family members in the unfacilitated family groups take on? How do members of different generations talk to or interact with each other?
  - b. For facilitated groups: What does the facilitator do or say to encourage intergenerational communication among group members? How do the visitors respond?
  
- 2) Now that you've watched examples of facilitators interacting with families and considered how to incorporate new ideas into your own practice, you can try these strategies out yourself (if needed, refer to the list generated during the video discussion). Before you meet for the next session, try to incorporate a few new strategies into your facilitation with families at exhibits. Observe how visitors react and reflect on ways you can continue to improve the new approaches. Choose one interaction to share with the group during the next module session.
  
- 3) To prepare for Module 3, please read the handout "Introducing Exploration and Inquiry." Consider how this perspective relates to your facilitation experience by answering the questions on the handout, in preparation for discussing them at the next module meeting.



Although the REVEAL project focused on mathematical thinking and, in particular, algebraic reasoning, the goal was not to teach families mathematical facts, formulas, or techniques for “solving for X.” Instead, the purpose of the exhibits and the facilitation strategies featured in REVEAL was to engage families in algebraic thinking—a way of exploring and representing mathematical patterns in the world in order to accomplish real tasks and solve creative challenges (Greenes & Rubenstein, 2008). This focus contrasts sharply with other goals a science center might have for different exhibits or different programs. For example, a science center program might focus on helping visitors understand the causes and implications of climate change. However, “increasing knowledge” is only one of many potential ways of learning. In the context of informal science education, the National Research Council (2009b) outlined six learning strands: developing interest in science, understanding science knowledge, engaging in scientific reasoning, reflecting on science, engaging in scientific practices, and identifying with the scientific enterprise. For the REVEAL project, a primary educational goal was promoting a mode of mathematical inquiry, similar to “engaging in scientific reasoning.”

Why is encouraging exploration and inquiry an important goal for facilitators? In the context of mathematics, algebraic thinking plays a central role in mathematical literacy and problem-solving, both in life and in school (Kaput et al., 2008; NCTM, 2000). Focusing on exploring the relationships among variables and quantities also may help shift perceptions about mathematics, since many adults and children think about math as solely involving arithmetic and equations. More broadly, across all fields and topic areas, ways of thinking and exploring are critical—consider engineering and design thinking, creativity, problem-solving, scientific inquiry, and more. Educators in formal and informal settings are increasingly recognizing that these ways of thinking are often more important than the bodies of knowledge, facts, and terminology that have traditionally been the priority of formal teaching (IMLS, 2009; NGSS Lead States, 2013).

A focus on supporting inquiry, such as algebraic reasoning, requires a shift in educational strategies and facilitation approaches. Instead of communicating big ideas or key messages, a facilitator must find creative ways to encourage and extend exploration, offer challenges and tasks that promote thinking and reasoning, and tailor the strategies to different family goals, ages, and interests. Facilitators must also let go of some more traditional expectations about teaching and learning, such as a preoccupation with getting a particular correct answer or a focus on terminology and facts. For example, one of the REVEAL exhibits, *Balancing Art*, is a mathematical version of a classic balancing rod activity. In other situations, the goal of this activity might have been to help visitors understand the physics concept of torque. However, in the case of REVEAL, the goal was to encourage visitors to explore the

mathematical relationship among distance, weight, and balance across the rod, regardless of what they understood about angular force. The ultimate goal was not necessarily that visitors should arrive at the equation that demonstrates the exact relationship among these quantities. For some visitors, realizing that the weights exert different amounts of force depending on their location along the rod was a sufficient reasoning goal. This shift can ultimately be extremely freeing for educators, since they no longer need to be responsible for the “right answer.” Instead, they can explore and discover with visitors, including honestly admitting when they are stumped or confused. At the same time, they are modeling interest in how the world works and in the mathematical patterns that underlie everything around us.

Consider the following questions. You will discuss them in small groups when your team meets to discuss Module 3: Encouraging Exploration and Inquiry.

- 1)** Consider one (or more) of the “practice exhibits” you’ve chosen for this PD program. Think about that exhibit through the lens of “exploration and inquiry” and describe several ways visitors might interact with it that follow quite different paths.
- 2)** How could facilitators support families in these varied interactions with the exhibit you’re considering?
- 3)** Think of a time when you yourself interacted with an exhibit without worrying about “getting it right.” What did it feel like? How was it different from situations in which you felt there was a right answer?
- 4)** How might a visitor’s background or prior experiences (e.g. careers, interests, school experience) affect his or her approach to exploration and inquiry?