Professional Development situation: Meeting

Skill Focus: Reflecting and Processing STEM Learning

Time Required: 30 minutes

DEVELOPING STRATEGIES FOR REFLECTION

Participants will reflect on their current inclusion of reflection in STEM activities and will create common goals to include more reflection in STEM learning.

Agenda

Introduction—5 minutes

- Self-Reflection: Reflecting and Processing STEM Experiences

See the Skill in Action—15 minutes

- Creating Opportunities for Youth to Reflect video-based learning module

Shared Action Plan—10 minutes

- Reflection in Your Program

Materials

- Computer with internet connection
- Projector and speakers
- Pens for participants
- One copy of Self-Reflection: Reflecting and Processing STEM Experiences for each participant
- Creating Opportunities for Youth to Reflect video-based learning module
- Reflection in Your Program

Before the Session

- **Read this meeting guide** to become familiar with the content and allow time to personalize the activities to best suit your presentation style.
    - *Italics indicate text that can be read aloud or emailed to participants.*

- Send reminder email about the meeting. Determine if any participants require accommodations (sight; hearing; etc.).
    - *The next professional development opportunity to enhance our STEM skills will be on DATE at TIME at LOCATION. Our focus for this session will be "Reflecting and Processing STEM Learning". Let me know if you require any accommodations to participate in the training. I am happy to answer any questions you have and look forward to seeing you at the workshop. I can be reached at CONTACT INFO.*
- Gather all materials needed for the session.
- On the day of the session, test the audio and video equipment.

Session Outline

Introduction (5 min)

- Pass out the Self-Reflection: Reflecting and Processing STEM Experiences. Ask participants to read it and complete it at their tables.
- Ask if there are questions about any of the items. Ask the participants to use the checklist to consider the various skills needed to Reflect and Process STEM experiences.
- Ask them to consider their schedules and current reflection habits.
    - *Consider your schedule. What ways do you currently reflect alone, with others, and with children during and after STEM experiences? Write these on a piece of paper.*

See the Skill in Action (15 min)

- Play the skill video under step three of the Creating Opportunities for Youth to Reflect video-based learning module.
- Ask participants to share what they saw and heard related to collaboration.
    - *How was the space organized?*
    - *What did the adult do ahead of time to prepare?*
    - *How much time would the adult have to plan to spend to include a debriefing?*
    - *How did the questions the adult asked 'push' or deepen children's understandings?*
        - *If the group feels they did not, what questions would they have asked?*
    - *What materials were used? (chart paper—to write questions and record experiences, materials for activity, etc.)*

Shared Action Plan (10 min)

- Pass out the Reflection in Your Program handout. Ask participants to think about how they reflect in their program: with youth, alone, during, and after experiences.
    - *On this table, you will write challenges, successes, and solutions to problems for building more time, materials, and space for youth to reflect on their learning. You might also consider adults: do they have enough time to reflect on their facilitation of activities?*
    - **Option: You can have complete this as a poster together or individually.**
- Allow time for the room to reflect on their program's needs together. During this conversation, be as supportive as possible. One way to encourage the participants to stay focused is to continually ask the room, "Does anybody have a solution to that barrier?"
- As a group, make a list of three goals that can be worked toward together to include more reflection in your program.
- Send these three goals out in a follow-up email to the group.

After the Session

- Email the participants:
    - *Thank you for your participation in the recent Click2Science training on "Reflecting and Processing STEM Experiences". I hope you found it useful and applicable to your practice. I am including a list of strategies you identified as potentially helpful for supporting reflection. Consider sharing your thoughts with a co-worker, supervisor, or friend. Please let me know if you have any questions. You can reach me at CONTACT INFO.*
- Include the three goals that the group developed in the meeting in this email.

Want to Earn Credit? Click2Science has teamed up with Better Kid Care to provide continuing education units. Check it out at: http://www.click2sciencepd.org/web-lessons/about

Self-Reflection: Reflecting and Processing STEM Experiences

Think about how often you do the following reflective activities with youth in your program. Use the rating scale below to choose responses to each statement.

1=never tried it 2=not usually 3=sometimes 4=most activities 5= every activity

1 2 3 4 5 I reflect on the activities we've done in our program to try to improve.

1 2 3 4 5 I ask questions like, "How can you explain what happened?" to help learners make meaning of their experiences.

1 2 3 4 5 I help learners connect our STEM experiences to real-life phenomena.

1 2 3 4 5 I ask guiding questions during investigations to help learners make sense of what's happening.

1 2 3 4 5 I encourage learners to reflect on what they have learned at the end of each activity.

1 2 3 4 5 I ask learners what they would try next.

1 2 3 4 5 I meet with learners to help them plan next steps.

1 2 3 4 5 I provide time for individual reflection.

1 2 3 4 5 I provide time for group reflection.

1 2 3 4 5 I ask questions to connect learners to other activities we've done.

1 2 3 4 5 I encourage youth to write about their STEM learning experiences.

1 2 3 4 5 I help learners build on their own knowledge in meaningful ways.

1 2 3 4 5 I am confident guiding group discussions in which youth explain their learning.

1 2 3 4 5 I reflect on my own understanding of STEM with other staff.

Reflection in Your Program

	Space for Reflection	Materials for Reflection	Time for Reflection
What We do Well			
Barriers We Encounter			
Solution Ideas			