Professional Development Situation: Training
Skill Focus: Facilitating an Inclusive Learning Environment
Time Required: 110 minutes

FACILITATING INCLUSIVE LEARNING EXPERIENCES FOR COMPUTER SCIENCE

Participants will learn how adapting computer science activities to meet the needs of individual learners can benefit all participants, and the field as a whole.

Agenda

Welcome & Introduction – 20 minutes

- Two Truths and an Untruth handout

Benefits of Diversity – 20 minutes

- Introducing the X-box Adaptive Controller video

See the Skill in Action – 10 minutes

- Including all Learners video-based learning module

Program your Playground Activity – 45 minutes

- Program Your Playground activity (p. 39-45)
- Program Your Playground Adaptations worksheet
- Conditional Tag video

Process the Experience – 10 minutes

Conclusion – 5 minutes

Materials

- Computer with internet connection, camera and speakers
- Paper and pens/pencils (for taking notes)
- Copy of Two Truths and an Untruth handout for each participant

- Copy of Program Your Playground Activity (p. 39-45) for each participant
- Copy of Program Your Playground Adaptations worksheet for each participant
- Introducing the X-box Adaptive Controller video
- Including all Learners video-based learning module
- Conditional Tag video

Before the Session

- **Read this training guide** to familiarize yourself with the content and to personalize the activities to best suit your style. Watch all videos and read informational materials. If you are planning on conducting the meeting virtually, please see our Preparing for Virtual Training guide.
    - *Italics indicate text that can be read aloud or emailed to participants.*
- Send a 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*. Our focus for this session will be "Facilitating Inclusive Learning Experiences". This is a virtual training, so before we begin the session, have paper and a pen or pencil for taking notes and print one copy of each of the attached handouts. You will connect to the training at* INCLUDE LINK *and will need to install* VIDEOCONFERENCE APP *on your computer before the session. Please test and familiarize yourself with the tool before the meeting. If possible, use a computer with video camera and headphones to participate in the workshop. This will give you the best experience. There are three attachments to print that we will use during the training.*
        - Two Truths and a Lie handout
        - Program your Playground activity
        - Program Your Playground worksheet

      Let me know if you require any accommodations to fully 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 and download handouts before the session to use as visual aids if necessary.
- Test your audio and video equipment.

Training Outline

Welcome and Introductions (20 min)

- Greet participants as they join the meeting. Encourage them to turn on their video and use a gallery view so they can see everyone.
- Introduce yourself and the topic for this training, "Facilitating Inclusive Learning Experiences for Computer Science".
- Explain the ice breaker Two Truths and an Untruth.
    - *You should have printed a handout which looks like this* [hold up the handout "Two Truths and an Untruth"]. *Please use a marker or pen to write your name on the line. Then think of 3 things that could be true of someone who is in a wheelchair and 2 of the things you list should be true about you as well and one should not be true of you. I will give you 3 minutes to write your 2 truths and an untruth. Then we will share our lists and people can try to figure out which thing is a lie.*
- It might be helpful to give your list as an example, so everyone understands what you are asking them to do.
- If you have less than 12 participants, indicate when it is each person's turn to introduce themselves and share their handout. People can guess which item on the list is the untruth. This will assist people in knowing when it is their turn to speak.
- If you have 12 or more participants, use breakout rooms to divide into groups of 4-5. Tell them they will have 10 minutes to get to know each other in their groups.
- After 8 minutes, notify the groups that they have 2 minutes left to finish introductions. If using Zoom, use the "broadcast a message to all" button to do so.
- If using Zoom, click the "Close All Rooms" button at 9 minutes. This will give each breakout room a 60-second countdown and will automatically end the breakout session and return them to the main room when the timer ends.
- Bring everyone back together ask if there are any questions about the activity.
    - *This icebreaker gave us each a chance to try on different identities and imagine having different life experiences. Diverse learners bring different points of view and life experiences that can help us be better problem solvers. How do you think increasing diversity would benefit the computer science field?*

Benefits of Diversity (20 min)

- Ask each person to create a list of 10 ways diversity can benefit computer science and engineering. Allow 4 - 7 minutes for individual thinking but move on to sharing in small groups quickly.
- Once individual lists have been created, return participants to the same break out groups to share their lists and generate a "Top 5" list of benefits that their group thinks makes the biggest impact. Let groups work for about 5 minutes then use "Close All Rooms" button to give them a 60-second countdown and then will automatically end the breakout session and return them to the main room.
- Have one person designed by each group to type their "Top 5" list into the chat box. (If you are doing the training in-person, you can have the groups use flip chart paper for brainstorming and sharing the Top 5 Lists.)
- Discuss the "Top 5" benefits. Did the small groups come up with similar ideas? What different types of benefits did the group take notice of (i.e. economic impact, quality of life/work, innovation, etc.)?
- Introduce the video.
    - *We're going to watch a video about the development of a new product by x-box and people of diverse experiences contributed to the product in unique ways.*
- Watch the entire video: Introducing the X-box Adaptive Controller. It is a little less than 3 minutes long.
- More information can be found on the website https://www.xbox.com/en-US/xbox-one/accessories/controllers/xbox-adaptive-controller.
- Discuss the video.
    - *The adaptive controller for x-box was created for people with physical disabilities. What stood out to you in the video?* (allow time for sharing) *How does the controller benefit people with limited mobility* (social benefit and connections, flexibility, control, etc.)? *How did involving people with limited mobility benefit the design process*?
    - *Take a moment to add at least two new ideas to the original list you created about the benefits of diversity. You may have heard new ideas in your breakout room, in the whole group discussion, or through the video.*

See the Skill in Action (10 min)

- *Now we're going to see this skill in action with two videos. The first video will explain the activity that this class of English language learners are doing, called The Game Without Rules. The second video will focus on the skill we're learning. As you watch the video, think about how this activity might be challenging for someone who is still learning English.*

- Open the Including All Learners video based learning module. You can discuss the videos as a group, or you can divide into the same breakout groups for the discussion.
- Watch the activity overview video, The Game with No Rules:
- Briefly discuss the overview video, then continue with the skill video.
  - *What did you notice in the video?*
  - *What parts of the activity rely on reading or speaking English?*
  - *Now let's watch a second video that focuses on facilitating an inclusive learning experience. As you watch the video, notice how the facilitator adapts the activity for his audience. Pay attention to how he talks about computational thinking.*
- Watch the skill video, Including All Learners:
- Use these questions to facilitate a discussion about the videos.
  - *What did you notice in the second video?*
  - *What strategies did you notice?*
  - *How does working in small groups help all the learners in this activity?*
  - *What ideas or strategies do you use to make sure everyone is included in computer science activities?*

Program Your Playground Activity (45 min)

- *Next, we are going to apply what we are learning to an activity called Program Your Playground, from the 2019 4-H National Youth Science Day Challenge.*

- Hand out the "Program Your Playground" activity from Game Changers which was the 2019 4-H NYSD challenge or tell participants to find this handout from the materials they printed before the session started. You can find this handout on page 39-45 of the Game Changers Facilitator Guide at https://4-h.org/parents/4-h-stem-challenge/game-changers/

- Give participants 5 minutes to read through the activity.
    - *As you read through the activity, think about what is most important for everyone to experience. Take note of the critical parts of the activity that every learner needs to experience or learn.*
    - *Now we're going to see what the activity looks like. As I play the video, notice if the critical parts you identified are present, and if every learner gets to experience them.*
- Watch the video of youth playing Conditional Tag.
- Use these questions to facilitate a discussion about the video.
    - *What is the purpose of playing conditional tag?*
    - *What should participants learn from the experience?*
    - *Do you have any concerns about parts of this activity that may need to be adapted?*
- Explain that you will work in small groups to think about how to adapt the activity. Each group should focus on adapting the activity to a couple of different needs. Assign each group one or two of the sections from the Program Your Playground Adaptations worksheet. Explain that each group should adapt the Program Your Playground activity for their assigned students and share with the whole group so they can learn from one another.
    - *You will have 15 minutes to work in your small group and decide how you would adapt the activity for the individuals you were assigned. An adaptation should make the activity more developmentally appropriate for the individual or give them the opportunity to participate in a more meaningful way. Make some notes about your adaptations to share them with the larger group when we come back together. Your group will have 2 minutes to share your adaptations when we come back together.*
- Send participants back to the same breakout rooms. (If you are doing the training in-person, you divide into small groups and move between groups as they work.)
- While they are working, visit each breakout room to see if there are questions, to provide feedback, and ensure everyone understands what adaptations are so they can make appropriate ones.
- After about 12 minutes, use the "Broadcast a Message to All" button to announce to the group that they have 3 more minutes left in their discussion
- Reconvene the entire group and allow them to share their ideas and adaptions with the whole group.
    - *As each group shares, you can record their ideas on your handout.*

Process the Experience (10 min)

- *Thank you for sharing all your ideas and great work so far. I'd like to do a quick check for understanding. Let me know if you have ideas that you can take back to your program. If you have at least one idea to take back, you'll give me a thumb's up* (Show example by raising your hand with a thumb's up). *If you have at least two ideas to take back, you'll use the peace sign* (Show example by raising your hand with two fingers). *If you have at least five ideas to take back, you'll give a high five* (Show example by raising hand with fingers spread).

- Note if there are people who do not raise their hand, or only give a thumbs up, you may want to chat privately (or talk with them quietly) during the self-reflections.
  - *Now I want you to apply what we are learning to your own work. You will have five minutes for self-reflection. Get a sheet of paper. Write about the unique needs of youth in your program that may require you to adapt some computer science activities. What are the needs? How can you meet them? What assets does diversity bring to your program?*
- Observe the group as they are writing. When you start seeing several people who seem finished, bring the group back together even if it has been less than five minutes.

Conclusion (5 min)

- *Does anyone have thoughts or questions they want to share with the group? What are the challenges that are on your mind? Let's see if the group has some creative solutions to help you meet the unique needs in your program.*

- If there are no volunteers, have at least two examples to ask the group – i.e. What can I do about a program on a military installation where I cannot bring my computers/ connect to the internet for Scratch? What would you do?
  - *Thank you for your good ideas. Remember the reasons we want to include all learners in computer science experiences is not just to meet their needs – but because the field of computer science will benefit from greater diversity and points of view.*
- Answer any final questions participants may have.

After the Session

- **Before you end the session,** save the chat box. Within three weeks of the training, send an email to participants that includes links to the activities used in the workshop and any ideas from the chat boxes or whiteboards that might help them in their work with youth.
- **Email the participants:**
    - *Thank you for your participation in the recent Click2Science training "Facilitating Inclusive Learning Experiences." I hope you found it useful. Consider meeting with a co-worker, supervisor, or friend to share what you learned. I look forward to continuing our learning at the next session on* SKILL/FOCUS *on* DATE *at* TIME *at* LOCATION. *Please let me know if you have any questions. I can be reached at* CONTACT INFORMATION.

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

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Inclusive Two Truths and an Untruth

Create a list of 3 facts. All that facts need to be things that could be true of someone who is in a wheelchair. Two of the facts need to be true about you, while one is not true about you, the untruth. Once you have generated the list, you will share with your group and your group members try to guess which facts are true to you and which one is not true of you.

Name

I am in a wheelchair, and I also:

1. _____

2. _____

3. _____

Program Your Playground Adaptations

Imagine that you work in a program that includes youth with needs that may require you to adapt some activities. How will you adapt the activity for the following situation?

1. Youth from two different families that do not speak English at home. One family speaks Spanish and one speaks Arabic at home.	
2. Three gifted learners that always seem to learn new skills quickly. They tend to get bored before the rest of the group completes most activities.	
3. You have a youth who is legally blind.	
4. You have two youth who are autistic. One loves computers, the other loves working with animals.	
5. You have a youth who is deaf and reads lips well.	
6. You have a youth who just finished receiving chemotherapy. He has been back in your program for a week but has not regained his full strength.	
7. You have a youth who has a reading disability.	
8. You have a youth who is in a wheelchair because she was in a car accident. She is paralyzed from the waist down by a spinal injury.	