Professional Development Situation: Training

Skill Focus: Giving Youth Control

Time Required: 120 minutes

GIVING YOUTH CONTROL WITH PROJECT-BASED LEARNING

Participants will engage with the components of project-based learning to learn ways to support giving youth control.

Agenda

Welcome—5 minutes

Completing a Mini-PBL Cycle

Selecting a Theme—5 minutes

Entry Event: A Nature Walk—25 minutes

Choosing a Driving Question—15 minutes

- Framing Guide for Driving Questions

Sustained Inquiry—40 minutes

Review, Revise, and Present—10 minutes

- Review & Revision Guide

Planning for PBL—15 minutes

- Project Teaching and Learning Guide

Conclusion—5 minutes

Materials

- Computer with internet connection
- Projector and speakers
- Flip chart paper and markers
- Pens for participants
- Blank paper for name tents
- 6 Sticky dots or notes for each participant

CLICK 2 SCIENCE pd

click2sciencepd.org

- One copy of [Framing Guide for Driving Questions](#) per participant
- One copy of [Review & Revision Guide](#) per participant
- One copy of [Project Teaching and Learning Guide](#) per participant.

Before the Session

- **Read this training guide** to familiarize yourself with the content and to personalize the activities to best suit your presentation style. Read all informational materials.
    - *Italics indicate text that can be read aloud or emailed to participants.*
- Send reminder email about the training. 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 "Giving Youth Control." 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 training.
- Develop a list of possible questions or concerns participants might have during the training. Create potential responses to be explored through informal conversation. Review any key terms or ideas that may be unclear.

Training Outline
Welcome (5 min)

- Greet participants as they arrive. Make sure everyone feels welcome and comfortable.
- Introduce yourself and the focus of the session: "Giving Youth Control"
    - *Who felt that they had ownership over their actions after they made the decision?*
    - *Asking youth and adults to make decisions is one effective strategy for supporting positive youth development. It can also help highlight youth voices and give them more control over their learning.*
    - *Today we will be talking about project-based learning which is an instructional design strategy for helping youth make decisions about how to pursue their learning.*
- Introduce the process for a PBL Unit:
    1. Choosing a Theme
    2. Entry Event
    3. Driving Question
    4. Sustained Inquiry

click2sciencepd.org

5. Review, revision, and presentation
6. Wrapping up the project

This process can be represented in a linear way, like this:

1. Choosing a Theme

1. Entry Event

1. Driving Question

1. Sustained Inquiry

1. Review, revision, and presentation

1. Wrapping up the project
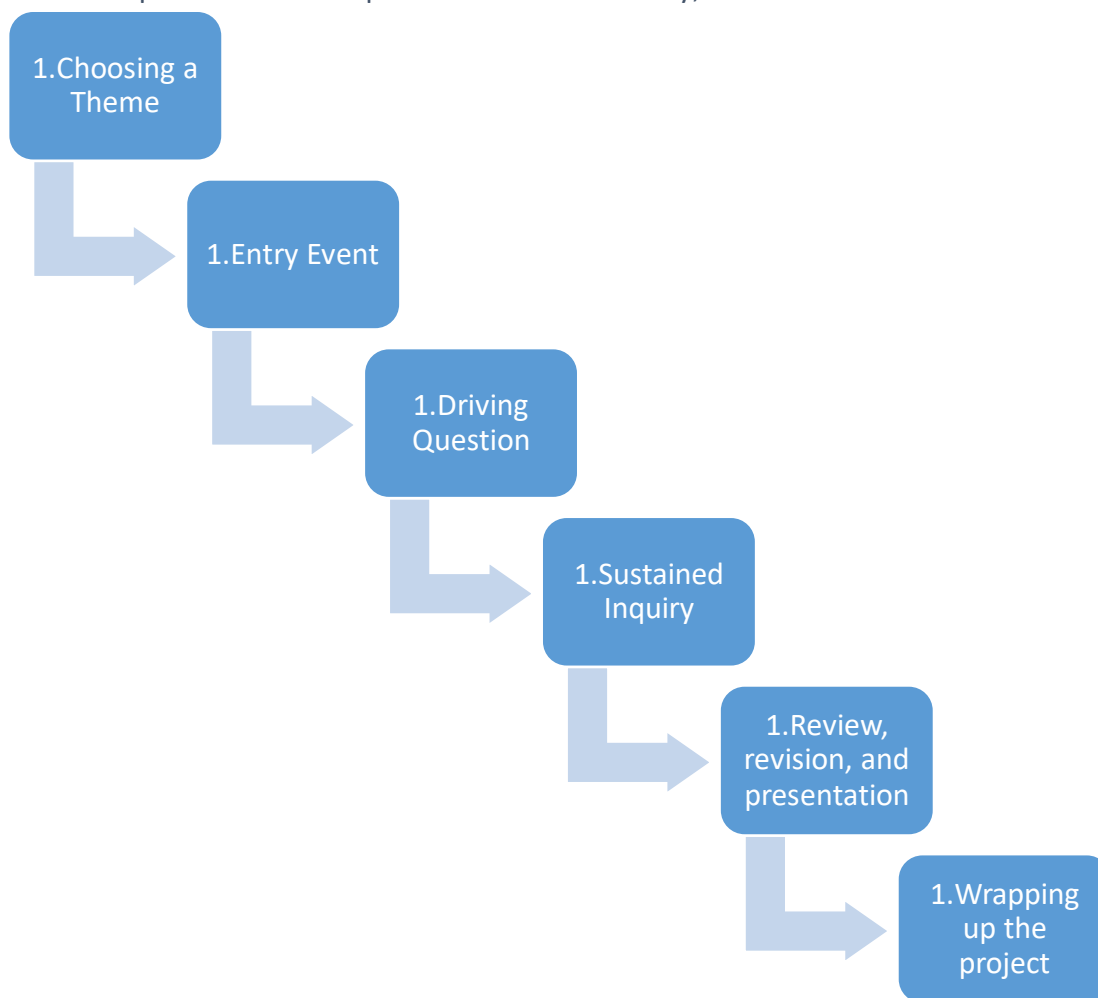
- Over the course of the workshop, participants will directly engage in a rapid process in which they do a mini-project and complete the first five steps.
  - *We are going to do the first five steps of this process today in the time we have. Let's start with choosing a theme.*

Selecting a Theme (5 min)

- **Background:** The first part of a project-based learning sequence is selecting a theme. A PBL unit should have a theme broad enough to afford a variety of entry points and possible projects.
- **Some example themes you might use are "electricity," "the human body," or "nature".** As an example, "nature" can launch investigations about your local park, how to support pollinators like birds and butterflies, or whether the construction of a highway nearby will destroy a local ecosystem.

- o *What other themes might work? (Brainstorm a list)*
  - ▪ **Optional**: Have participants put sticky dots near a theme they most want to explore. They will do this for the guiding project question, as well, so the sticky dots protocol may be used twice.
- o *But how do we come up with these themes?*
- o *Does anyone have any ideas where and how we might find a theme for PBL?*
  - ▪ *For example, you might:*
  - ▪ *Notice/ask what the kids are interested in*
  - ▪ *Turn a theme from your organization into a PBL theme (e.g., if your organization's mission is assigned the theme "Eating Well", that could become a PBL theme).*
  - ▪ *Turn a curriculum you're using into a PBL (e.g., if you're using an engineering curriculum about building things, you could expand it into a PBL that involves investigating community buildings, making models, talking to experts).*
- Name the theme that the group will be investigating for their mini-PBL project. This could be one they generate or one that you have an interest in.
- If you don't know a theme to use, name the theme "Nature." (Note: participants are going to take a walk to find things that interest them in the next phase of design work, so choose a theme that will be apparent to them on this walk.)

Entry Event: A Nature Walk (25 min)

- Participants will now experience an **entry event.**
  - o *An entry event is the students' first exposure to the theme. It should intrigue them and help them figure out what interests them within the theme. A good entry event will pique kids' interest and help them narrow their focus, changing a broad theme like "Nature" to a topic they can investigate and develop, like "Plants in our Parks".*
- Do the entry event.
  - o *With your group, you are going to take a walk and look for things that interest you about our theme: Nature. These questions should guide your walk:*
    - ▪ *What do you observe about nature around us?*
    - ▪ *What are some natural areas that could be improved with STEM? (water, plants, animal life, etc.)*
    - ▪ *What do you see in nature that you want to learn more about?*
- Allow 15 minutes to walk around and look for ideas.
  - o *When you return, take 10 minutes to choose two topics to share with the whole group.*

- o *Please return to the room at _____.*
- As groups return, greet them and engage them in conversation about what they noted on their walk. Remind them that they will be sharing out and encourage them to clarify their thoughts. From all of their observations, they should choose two topics they would like to investigate over a longer time.
- Share the topics that they are interested in exploring. Create a group list while participants share, and then, use the sticky dots for everyone to "vote" on a topic by putting a sticky dot on it.
- Reflect on this process.
  - o *Did I give you the ideas to further explore? (No – the ideas came from their groups)*
  - o *Did I help structure your group sense making? (Yes.)*
  - o *Did I help you make your ideas doable? (Yes.)*
  - o *Did I tell you what to do? (No.)*
- Ask participants:
  - o *What other entry events might help youth think of a topic, other than a walk around?*
    - ▪ Examples: guest speaker; field trip; photos, video, or media; hands-on investigation; or an introductory challenge, like an egg drop.

Choosing a Driving Question (15 min)

- Pass out the [Framing Guide for Driving Questions.](#)
  - o ***Our next step is to design a driving question. It is very powerful to let youth do this themselves.***
- Write this on the board or chart paper: ***"How can we, as _____(role), _____(action) in order to _____(purpose) with _____(audience)?".***
- When they construct their question, they will refer to the [Framing Guide](#).
- Have participants work together to write their driving question on a separate piece of paper.
  - o *If I were creating a driving question about local animals and plants, it might be this: How can we, as environmentalists (role), create a pamphlet about biodiversity in our community (product) to educate (purpose) City Council (audience)?*
- Give the groups instructions about how to make a framing question.
  - o *Now I'd like each group to play with this for a few minutes, using the pattern to create a driving question related to the topic we've chosen. Your group has to*

agree on one question, and when it's written please post it here and our whole group will vote on them. Does anyone have any questions about how to do this?

- Encourage them to get up and look at the questions created by other groups. Let them know when the time is nearly up. If the group is large you may need more time.
- Read each question aloud and record the votes. Tell them which question got the most votes, and ask if we can agree to pursue this question as a group.
  - o Note: It is possible to have more than one driving question working in your classroom.

Sustained Inquiry (40 min)

- Now participants will investigate questions of their choice. This part of the PBL unit is the most important to link to STEM.
- Ask participants to take some sticky notes and **write down questions** that they have about nature related to the driving question. Examples:
  - o How does this natural environment contribute to groundwater?
  - o What species are present in this natural environment?
  - o What kinds of man-made structures impede on this environment?
- Have participants group their sticky notes by similarities, if possible.
- Tell participants to stand next to a set of post-it notes that they want to investigate.
- These groups will now do **open-ended inquiry** related to the post-its they chose.
  - o *With your group design an investigation and carry it out to the best of your ability with the supplies we have available. You can do interviews, recordings, journal entries, internet searches – anything that contributes to the driving question and our goal.*
- Examples:
  - o Youth interested in the effects of acidification on the oceans might do an experiment with vinegar and chalk.
  - o Youth wanting to build a footbridge from a park to their school might ask a local city planner to come and talk to them about permits.
  - o Youth studying the effects of earthquakes might make model buildings and test them with a "shake table".

Review, Revise, and Present (10 min)

- This section of the work focuses on refining the presentation for a specific audience.
  - o ***Presentation*** *is a key element in effective PBL, it is important to build in time to help students learn and practice presentation skills.*
- Pass out the Review and Revise Handout and ask groups to think hard about who their audience is in order to best plan their product.

- o *Let's think about our intended audience and get more specific about them. In your table groups, I'd like you to think about the following questions on the Review and Revise Handout, and be ready to share your ideas with the whole group. I also encourage you to think about additional questions we should be asking.*
  - o *Although we will not share your mini-projects today, we are going to talk about what might help youth make the best possible presentation.*
- **Debrief the PBL process**. Share their thinking about the entire PBL sequence with the whole room.
- Encourage everyone to celebrate their learning in this rapid-cycle version of PBL.
  - o Optional: Use a beach ball to throw around the room to determine who goes next.

Planning for PBL (15 min)

- Pass out the [Project-Based Teaching and Learning Guide](#). Its purpose is to help participants map lessons to the outcomes of the project.
  - o *Take a few minutes to fill in the planning tool. It will help you think about the kinds of lessons you'll need to lead to enable your youth to be successful.*
- As participants work, circulate and guide them to think from the perspective of their youth. What would a first grader need to present a project? How about a middle school student? These skills are often the skills that will carry over into other school subjects and the rest of their lives, so they are worth taking some time to teach.

Conclusion (5 min)

- Ask participants to come together and debrief the activity.
  - o *Why is it important to give youth control decision-making in an activity?*
    - ▪ *(It deepens learning, helps them connect to identities in the discipline, etc.)*
  - o *What have you seen before that illustrated the components we talked about?*
  - o *Were any of the components missing?*
  - o *We're focusing on PBL as a means to increase our ability to give youth control. Did you see youth voice and choice? Can you think of ways you might increase it?*
  - o *What might be some constraints programs face with PBL? How would these affect the PBL project?*
- Highlight that participants now have 1) the capacity and 2) the tools to develop a PBL unit of their own. Encourage them to make a plan at their site to use project-based learning to give youth control of their learning within their program.

click2sciencepd.org

After the Session

- From notes you took on the pieces of chart paper, compile a list of strategies from the documented experiences shared by the group. Share this in your follow-up email to participants.
- Within 2-3 weeks of the training, email to participants:
  - *Thank you for your participation in the recent Click2Science training on "Giving youth Control". I hope you found it useful. Attached are some strategies the group discussed during the training. 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 INFO.*
  - *Attach the* [Framing Guide]*, the* [Project Teaching and Learning Guide]*, and the* [Review & Revision Guide]*.*

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

Framing Guides

How can we, as ROLE, PRODUCT in order to PURPOSE AUDIENCE?

Example: How can we, as citizen scientists, produce a video in order to educate parents in our school about the importance of bees?

EXAMPLE ELEMENTS

Role
Community Members
Scientists
Students
Urban Developers
Environmentalists
Engineers
City Planners

Purposes
Educate
Show
Recommend
Convince
Provide Evidence
Demonstrate

Product
Create a _____
Make a _____
Write a _____
Plan a _____
Build a _____
Cause a _____

Audience
City Council
Mayor
Members of our Community
The School Board
Families
Urban Development Planners

CLICK 2 SCIENCE

Project Teaching and Learning Guide

Project:		
Major Product(s) and Presentation students need to complete	Knowledge and Skills Needed by Students to successfully complete major products and presentations	Scaffolding/Materials/Lessons to be Provided by the project teacher, other teachers, experts, mentors, community members
		→
		→
		→
		→
		→
		→

Adapted from PBL in the Elementary Grades: Step by Step Guidance, Tools and Tips for Standards-Focused K-5 Projects, Buck Institute for Education, February 2011, pg. 129.

CLICK 2 SCIENCE pd

click2sciencepd.org

Review & Revision Guide

Think about how you will share your thinking with your audience in the final presentation. This guide can help you plan to make the best presentation possible.

Audience

- Names

- How will we contact them?

- What are their opinions about the subject?

- What do they already know?

Strategy

- Do we need to use a second language?

- How should we invite them?

CLICK 2 SCIENCE

click2sciencepd.org