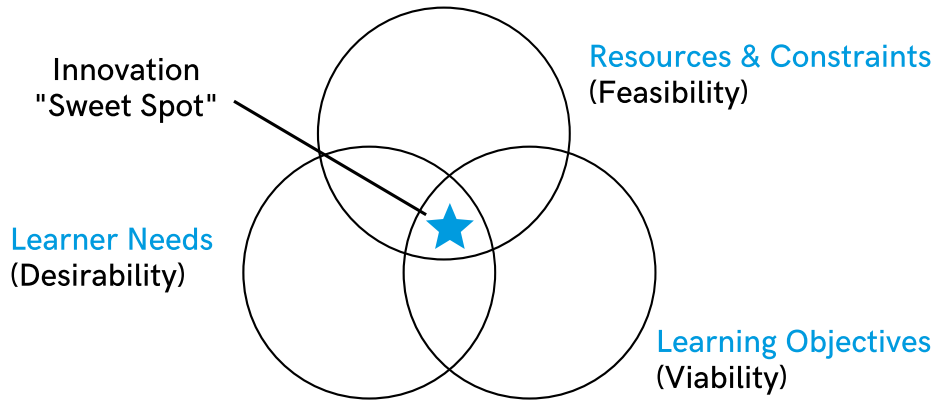


Activity Planning Worksheet

For use with Video 1.1: The Three-Legged Stool

Use the prompts on this worksheet to plan a learning activity that meets the three criteria for innovation derived from design thinking.



Concept

Start with a basic idea of what you want to create. Consider using a lesson plan you need to rethink, or an upcoming program you need to plan. Describe it in a few words below (e.g. "Halloween-themed early literacy outreach," or "introduction to molecular structure and polarity").

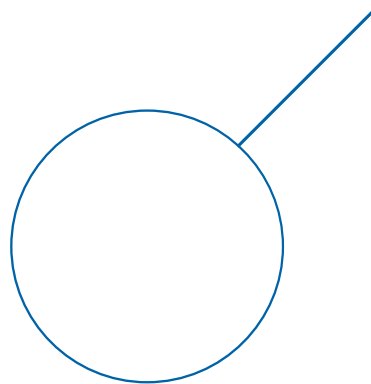
I. Learner Needs

In 1-2 sentences, describe your population of learners. Include characteristics such as age, demographics and the environment in which the learning is taking place:

Tip: Discover additional insight about your learners that may help you better define their needs by using the Tools on pages 6 & 7 of this toolkit.

On the next page, create a bubble diagram to capture the needs of your learners. Write or draw your learners in the center bubble. Take a moment to reflect on your past experiences with this group. In general, what do they need in order to learn successfully? Add each need as its own bubble connected to the center of the diagram. See our included list of example needs for help getting started.

Bubble Diagram: Learner Needs



It might not always be possible to meet every need with every activity. However, there are likely *certain* needs you want to take into account whenever you work with this group of learners. Look back at your bubble diagram. Use a different colored pen to mark the needs you think are *most important* for your learners' success. These are needs you will definitely want to address when planning your activity.

Now that the basics are taken care of, what other ways can you find to support your learners? Take a third colored pen and mark any additional needs you think you can address within this activity.

LEARNER NEEDS: EXAMPLES

DEVELOPMENTAL

- Literacy building
- Fine motor development
- Gross motor development
- Confidence development
- Job skills development
- Social-emotional development
- Life skills development
- Sense of Independence

SOCIAL

- Validation from teacher
- Validation from family
- Validation from peers
- Positive reinforcement
- Sense of belonging
- Judgement-free environment
- Connection with peers
- Emotional regulation
- Access to role models
- Encouragement

INSTRUCTIONAL

- Physical stimulation
- Personally relevant content
- Culturally relevant content
- Variable modes of instruction
- Choice
- Demonstrations/Examples
- Clear expectations
- Repetition
- Creative freedom
- Real-world applications

STRUCTURAL

- Time to focus
- Time to reflect
- Time to ask questions
- Routine/Structure
- Open-ended activities
- Frequent breaks
- Ability to work at own pace
- Frequent change of activity
- To be challenged
- Chance to make mistakes

II. Resources

Work through the following prompts about the resources available to implement your activity.

Time

How much time do you have to spend on this activity with your learners? -----

How much time do you have to spend on set-up and preparing materials? -----

Money

How much money do you have to purchase new materials for this activity? \$ -----

Materials

Make a bullet list of materials you have access to. Feel free to list categories of items rather than every specific material (e.g. "recyclables," "craft supplies"). Remember to include: technology such as computers or iPads; supplies that learners already own or are required to have; materials you have access to at home; and items you can borrow from other educators or organizations (e.g. "library books").

Expertise

List any individuals who will help prepare and facilitate this activity, followed by any special skills or expertise they can provide (including yourself).

Are there any other individuals (parents, colleagues, community members) to whom you could reach out who could provide special expertise in this area? (e.g. a wildland firefighter to provide real-life context for a unit on disaster management)

Feeling constrained by limited resources? Try the "Strategize Around Constraint " Tool on page 8 of this toolkit.

III. Learning Objectives

Learning objectives describe what a learner should know or be able to do after completing an activity. Write learning objectives for your activity in the spaces below. Use the criteria at the bottom of this page to guide you.

Interested in a [step-by-step process for writing effective learning objectives? Check out the "Develop Learning Objectives" Tool on pages 9-10 of this toolkit.](#)

Participants in this activity will...

(1)

(2)

(3)

(4)

(5)

LEARNING OBJECTIVES SHOULD BE....

- OUTCOMES BASED:** Describe the intended effects of the activity on participants, not what will happen during the activity or what the lesson is about.
- LEARNER CENTERED:** Write each objective as a complete sentence with the learner(s) as the subject. Focus on what the learner(s) will walk away with.
- SPECIFIC:** The specificity of your objectives should fit the project you are writing them for. Objectives for a seven-week course will be more broad than objectives for a 60-minute activity. Each objective should describe a single intended outcome that is distinct from the other objectives.
- ACHIEVABLE:** Write objectives that your learners can realistically achieve in the time-frame allotted.
- MEASURABLE:** Consider how you will know when your objectives have been met. Avoid objectives for which you cannot think of any indicators of success.



IV. Brainstorm: Find the "Sweet Spot!"

Use the space below to brainstorm an activity idea based on the criteria you defined above.

Tool: Challenging Assumptions

For use with Video 1.2: Learner Needs

Try this exercise with a group or partner who works with the same (or a similar) group of learners as you. In the box below, write a brief description of the learners, e.g.: *Class of ~20 Kindergartners at full-day kindergarten program at the K-3 public school (Title 1 school).*

Write down one or more assumptions you have made, or observed others make, about this learner group. Examples of assumptions might be: "Their parents don't care about what we are doing at school;" "My students hate math;" or "Girls and boys just don't work well together at this age." Next, have another person (or yourself, if working alone) try to *challenge* this assumption, with an anecdote, data or a question that suggests otherwise: "What if some parents are just intimidated to talk to the teacher?" Give everyone in the group the chance to challenge each assumption, then have a conversation about the information you've shared.

This practice of reflecting on your assumptions, and the evidence that supports or negates them, will help put you in the right frame of mind for identifying your learners' relevant needs.

Assumption:

Challenges:

Assumption:

Challenges:

Assumption:

Challenges:

Tool: Empathy Map

For use with Video 1.2: Learner Needs

An Empathy Map is a graphic organizer for the information you acquire through observing and interacting with your learners. Use the template below to capture information about a learner group you work with. Watch the video for more information on how to complete the map.

<p style="text-align: center;"><u>Say</u></p> <p>What do your learners say about the material, the environment or their own learning process?</p>	<p style="text-align: center;"><u>Do</u></p> <p>What do you observe your learners do in the environments where they work, play and learn?</p>
<p style="text-align: center;"><u>Think</u></p> <p>What might your learners be thinking about the material, environment or their learning process?</p>	<p style="text-align: center;"><u>Feel</u></p> <p>What does your learners' behavior, body language, etc. suggest about how they feel?</p>

Tool: Strategize Around Constraints

For use with Video 1.3: Making The Most of Your Resources

For each strategy listed in the chart below, list one or more ways you could use this strategy to address resource constraints in your learning environment. Watch the video for an in-depth explanation and examples of each strategy.

Strategy	Application(s) in Learning Environment
<p>Use materials in novel ways: Use everyday classroom items like pencils, markers, cleaning supplies - even desks and chairs - as building materials or manipulatives for exploring concepts.</p>	<p><i>Example: Build a pulley using a jump rope wrapped around a broom, and use it to lift a student's backpack full of books!</i></p>
<p>Identify untapped resources: Look for free educational resources on the internet, such as coding or design programs, as well as organizations, businesses and individuals in your community that offer learning opportunities.</p>	
<p>Use recycled and/or natural materials: Develop a system for gathering and storing recyclables and natural materials and look for ways to integrate them in activities or lessons.</p>	
<p>Incorporate space & movement: Make activities with simple materials more engaging by scaling up the area in which they take place and/or incorporating physical movement in the learning process.</p>	
<p>Encourage peer-to-peer learning: Pair or group students together with diverse knowledge and skills and find ways to encourage learners to help each other solve problems.</p>	

Tool: Develop Learning Objectives

For use with Video 1.4: Learning Objectives

I. Inputs, Outputs & Outcomes

Effective learning objectives are based on outcomes. Review inputs, outputs and outcomes and how they are different from one another.

Inputs:

The resources you need to conduct an activity, like "2 hours of staff time" or "36 pieces of paper."

List input for your activity here...

Outputs:

The intended direct products of your activity, such as "students complete a math packet," or "25 kids build rockets."

List output for your activity here...

Outcomes:

The desired *effect* of your activity on participating learners. Your objectives should be based on these intended outcomes, rather than the inputs and outputs you listed above.

II. Long-Term Goals

Before brainstorming outcomes for a specific activity, you should first consider your long-term goals. Specific long-term goals may be articulated in your organization's mission statement, continuous improvement plan or -- if your program is grant-funded -- your funding proposal. Make a list of these institution-level goals below, as well as any goals you have personally set for your students this year or session. Each activity you do should support your learners on the path to achieving these long-term goals.

In the table on the next page, identify outcomes of your activity for the different categories listed. (Some categories may have more ideas than others.) Keep your long-term goals in mind and remember to focus on what learners will be able to do after the activity, rather than what you will do during the activity.



III. Outcomes Brainstorm

KNOWLEDGE	SKILLS	ATTITUDES
What new knowledge do I want my learners to have?	What skills do I want my learners to develop?	How do I want my learners' attitudes to shift?
OTHER Other kinds of outcomes, i.e. changes in behavior, status or conditions.		

IV. Draft Objectives

Look back at what you've written above. Are there any items that go together, or don't really belong? What are the most important takeaways, and what can you do without? Organize your ideas into 3-5 "rough" learning objectives and write them below. Each objective should include a strong action verb to describe the capacity learners are developing (analyze, build, solve, identify, support an argument, etc.)

Re-articulate these ideas as formal learning objectives on the Activity Planning Worksheet (page 4), keeping in mind the criteria for effective learning objectives.

Resources for Learning Design

Disclaimer: These resources have been curated to provide information to educators and are not intended as an endorsement of any particular organization, process or product.

Design Thinking For Educators

This project aims to empower educators to use the process and methods of design to tackle challenges in classrooms and schools. Sign up to download a free toolkit of instructions and exercises for putting design thinking into practice in the K-12 educational context.

<https://designthinkingforeducators.com>

Interaction Design Foundation

IDF provides an overview of design thinking as well as over 40 articles outlining different strategies that can be used during the design process. (Scroll down for the full list of articles.)

<https://www.interaction-design.org/literature/topics/design-thinking>

University of Waterloo Centre for Teaching Excellence

Amidst their teaching resources for university faculty, the CTE has excellent, in-depth guides on [Writing Intended Learning Outcomes](#) (learning objectives) and [Bloom's Taxonomy](#).

<https://uwaterloo.ca/centre-for-teaching-excellence/resources>

The Exploratorium: Tools For Teaching & Learning

This exploratory science, technology and art museum has created a wide variety of original, digitally-accessible tools for teaching and learning, for all ages, in both formal and informal learning settings. Find educational media, classroom activities, free learning apps and more.

<https://www.exploratorium.edu/education/teaching-resources>

Making + Learning

Especially for informal educators, the Making + Learning project has developed a framework and a series of tools to support maker-centered learning in library and museum makerspaces.

<https://makingandlearning.space.com>

Maker Ed Online Learning Modules

A series of free, self-paced online learning modules on a variety of topics, including budgeting, assessment tools and integrating maker-centered learning in curriculum.

<https://makered.org/resources/online-learning-modules/>

Agency by Design

AbD offers a framework for maker-centered learning as well as a variety of tools for activity design, assessment and building student skills for participating in hands-on/making projects.

<http://www.agencybydesign.org>

Idaho STEM Action Center Resource Portal

Access an enormous collection of STEM activities and resources all in one place, on topics including at-home STEM learning, early STEM, computer science, mentorship & more.

<https://resources.stem.idaho.gov>