Project design and facilitation

Maker learning projects have unique characteristics in terms of both project design and facilitation. Use this tool to better understand a maker project that is currently in progress or to aid in designing a new project.

# Project Design Guide

Maker learning is grounded in three core values: [agency](http://digitalpromise.org/2016/11/18/a-primer-on-maker-learning-agency/), [authenticity](http://digitalpromise.org/2016/12/20/primer-maker-learning-authenticity/), and [audience](http://digitalpromise.org/2017/02/14/primer-maker-learning-audience/). Use these core values to identify areas of strength and opportunities for improving the design of a maker learning project.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Beginning** | **Differentiating** | **Personalized** |
| **Agency** Where do students have voice, choice, and decision-making power in this project? | Students have choices, but they do not impact the overall learning experience or project outcomes | Students are allowed meaningful control over how they approach or progress through a given challenge | Students are responsible for framing the problem and/or goals, not just the solution, of their project |
| **Authenticity** How does this project honor the diverse interests and lived experiences of the students? | Teacher can explain a connection between the project and the interests/experiences of the students in a way that the students understand | Students are invited to bring their own interests and talents to the project, in specific areas as determined by the teacher | The project is collaboratively designed in response to the students’ interests and experiences, and engages students in tasks they find meaningful |
| **Audience** In what ways does this project connect with other people inside or outside of the class? | Students share their work with each other through class presentations or displays | Students use their work as a way to engage in dialogue with interested peers and adults in the school community | The project connects a real-world community to the students’ work in a way that is meaningful to both the students and the community |

## Questions for students

|  |  |
| --- | --- |
| **What to ask** | **What to assess** |
| Agency: “What are you making?” | How do students describe the way they have made the project their own? Does their narrative describe their own choices or the directions they were given? |
| Authenticity: “Why are you making it?” | Can students articulate the context and purpose for their project? Do they express how this context is important to them without simply repeating the goals of the teacher? |
| Audience: “Who is it for?” | Are the students working towards a public goal beyond the satisfaction of a teacher or a grade? Do they share discussions they have had about this project with peers and others in the community? |

# Project design conversation starters

## Agency

**I see…**

**I appreciate…**

**I wonder…**

## Authenticity

**I see…**

**I appreciate…**

**I wonder…**

## Audience

**I see…**

**I appreciate…**

**I wonder…**

# Project Facilitation Guide

Teaching in a maker learning environment, which is typically materials-rich, collaborative,  
and student-centered, requires attention to a broad set of factors in addition to the teacher’s direct interactions with students.

### Facilitation attends to multiple dimensions of student engagement:

* **Material:** the teacher curates information, tools, resources, and physical space to engage students in learning
* **Social:** the teacher connects students to others — both peers and adults, both locally and globally
* **Personal:** the teacher provides opportunities for metacognition, reflection, and positive identity development

### In each dimension, facilitation is:

* **Safe:** facilitation prioritizes physical and psychological safety; students engage with an understanding of tolerable limits of risk and how to maintain safety
* **Responsive:** facilitation is grounded in an informed awareness of the students, adapting to their needs equitably and engaging each of the dimensions
* **Instructive:** facilitation aligns student engagement in each dimension with the learning goals
* **Empowering:** facilitation yields transparent, actionable feedback that supports students furthering their own learning

## Examples of effective facilitation may include:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Safe** | **Responsive** | **Instructive** | **Empowering** |
| **Material** | Teacher only makes age- and skill-appropriate tools and resources independently accessible to students | Teacher changes what resources are available in order to adapt to students’ needs and misconceptions | Teacher selects and presents resources in a way that is accessible to students and does not distract from learning goals | Instead of answering every question, teacher redirects students to learning materials when appropriate |
| **Social** | Teacher attends to social dynamics, keeping students safe and promoting intellectual and personal growth | Teacher identifies diverse student-leaders and connects them with peers when appropriate | Teacher removes barriers that would needlessly interrupt sustained group engagement | Teacher helps adults (e.g., content experts, mentors) provide constructive feedback to students |
| **Personal** | Teacher celebrates opportunities to learn from mistakes | Teacher attends to students equitably according to their level of understanding and sense of self-efficacy | Teacher dedicates time and space for students to reflect on progress and iterate on challenges | Teacher allows students to make and correct some mistakes without adult intervention |

## Questions for students

### What to ask

* “What have you done when feeling stuck with this project?”
* “What have you learned while working on this project? How did you learn that?”
* “If you had more time to work on this project, what would you improve next? Why?”

### Listen for facilitation across dimensions

* **Material:** Do students navigate materials (both physical and virtual) as inspiration and tools for learning?
* **Social:** Do students value and seek out others as potential teachers and mentors to support their learning?
* **Personal:** Do students see themselves as capable learners, and they are responsive to constructive critique?

### Listen for principles of facilitation

* **Safe:** Do students share in promoting a safe learning environment for all?
* **Responsive:** Do different students’ responses point to equitable learning and growth?
* **Instructive:** Do students’ responses align with the project’s learning goals?
* **Empowering:** Do students indicate that they feel in control of their own learning?

# Project facilitation conversation starters

## Material

**I see…**

**I appreciate…**

**I wonder…**

## Social

**I see…**

**I appreciate…**

**I wonder…**

## Personal

**I see…**

**I appreciate…**

**I wonder…**