



LEARNING FROM EACH OTHER:

Intergenerational Learning with Storytelling and STEM

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Participatory Design Qualities

Everyone holds knowledge



Participatory Design Qualities



Everyone holds knowledge

Trust takes time

Participatory Design Qualities



Everyone holds knowledge

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Clear the way

Participatory Design Qualities



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We're in this together

Participatory Design Qualities



Everyone holds knowledge

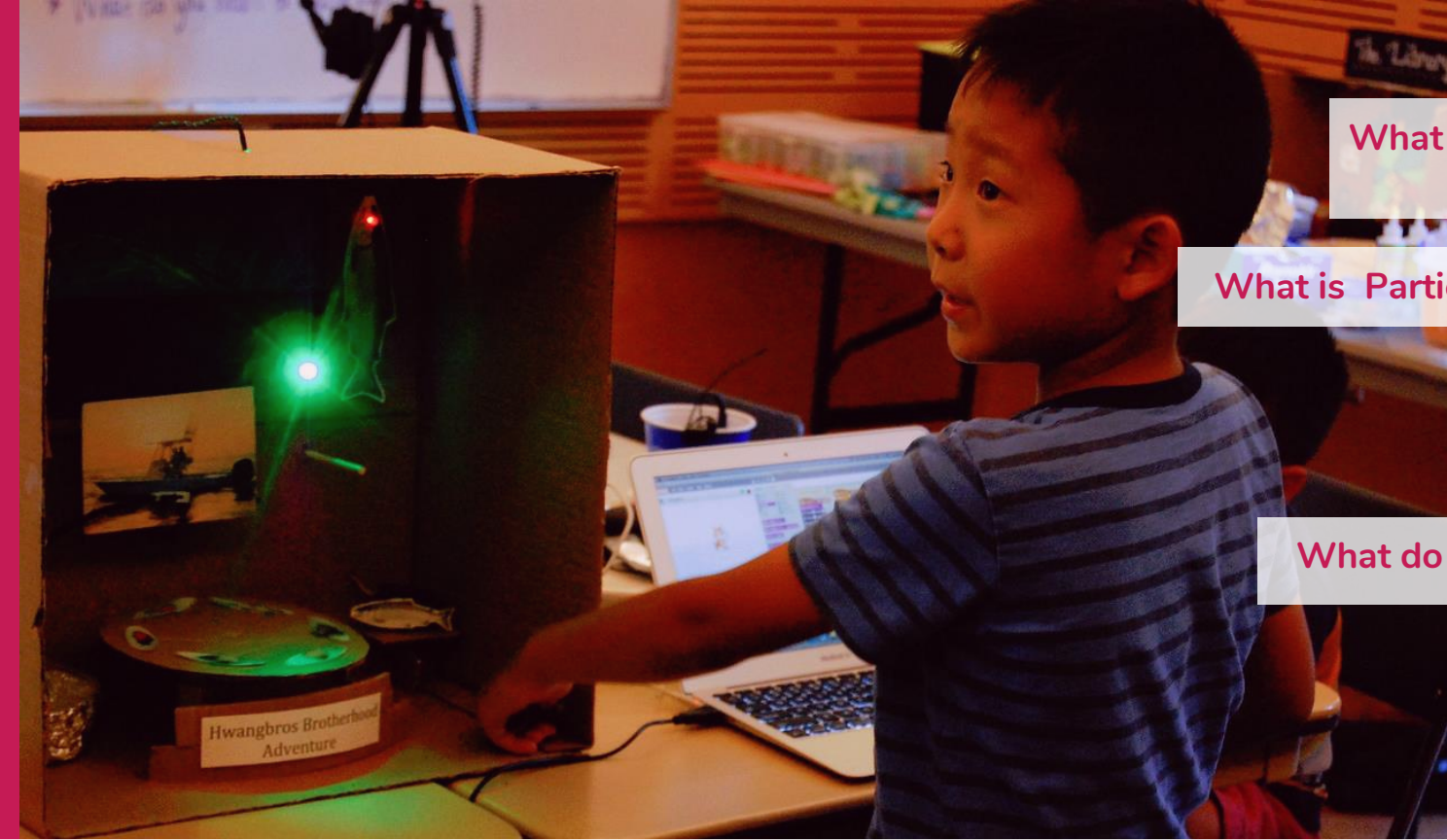
Trust takes time

Clear the way

We're in this together

There's more than one way

Participatory Design Qualities



What is the NSF grant project
“Robot Backpacks”

What is Participatory Design & Why?

Five Qualities of
Participatory Design

What do these qualities look like:

in partnerships

in programs

Presentation Scope

Who We Are:

National Science Foundation

University of Washington, Seattle & Bothell

The Seattle Public Library

Pacific Science Center

Highline Public Schools Native Education Program



Our Story: What is Robot Backpacks?



What We Do:

Professional Development



Deep Family Learning Workshops



Home Play Family Backpack Activities



Booster Day Family Events

robotics, e-textiles & storytelling

Our Story: What is Robot Backpacks?

Integral Frameworks

**Race &
Social
Justice
Initiative**

*The City of
Seattle*

**Community
Listening
Framework**

The Seattle Public Library

**Youth &
Family
Learning
Priorities**

**“Learning is
Cultural”
Design
Principles**

*University of
Washington*

Our Story: What is Robot Backpacks?





Stakeholders
actively
participate in
the design
process

Participatory Design Qualities

Everyone holds knowledge: Centering Strengths

what it looks like: In the Partnership

- Involve multidisciplinary partners
- Acknowledge & disrupt traditional power dynamics
- Make time for reflection
- Value community-based knowledge and expertise which are always present

what it looks like: In the Program

- Avoid prioritizing certain forms of engagement
- Provide moments of authentic choice in project-work
- Infuse storytelling as a practice in the program
- Value expertise in all its forms



Trust takes time: Committing to Relationship-Building

what it looks like: In the Partnership

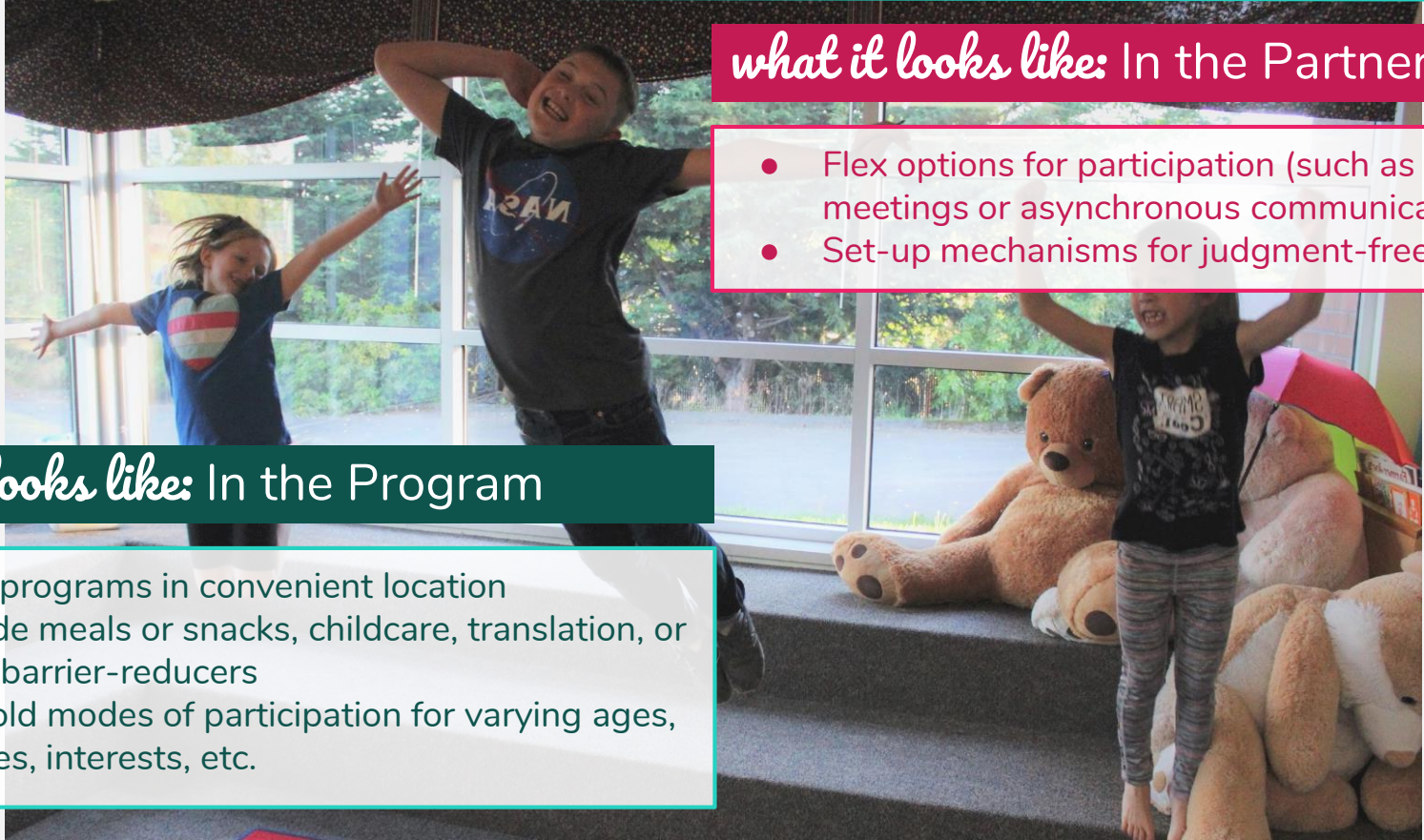
- Invite stakeholders early & consistently
- Establish group norms
- Meet regularly face-to-face

what it looks like: In the Program

- Include unstructured time in the program
- Offer multi-session programs
- Talk with adults & youth separately about goals
- Participate in all of the activities fully



Clear the way: Making It Possible to Show Up



what it looks like: In the Partnership

- Flex options for participation (such as web meetings or asynchronous communication)
- Set-up mechanisms for judgment-free feedback

what it looks like: In the Program

- Offer programs in convenient location
- Provide meals or snacks, childcare, translation, or other barrier-reducers
- Scaffold modes of participation for varying ages, abilities, interests, etc.

We're in this together: Developing Mutual Responsibility

what it looks like: In the Partnership

- Establish clear lines of communication
- Co-construct a shared vocabulary & understanding
- Understand where, when & how to contribute
- Abandon the need to know everything

what it looks like: In the Program

- Model your own learning
- Facilitate skill-sharing between participants
- Ask: How do we learn together?
- Establish group norms



There's more than one way: Embracing Fluid Roles

what it looks like: In the Partnership

- Maintain porous roles from a place of trust & understanding
- Customize support levels & styles

what it looks like: In the Program

- Reflect on identities and skills in development
- Think through how role fluidity can emerge in age-banded vs. intergenerational programming

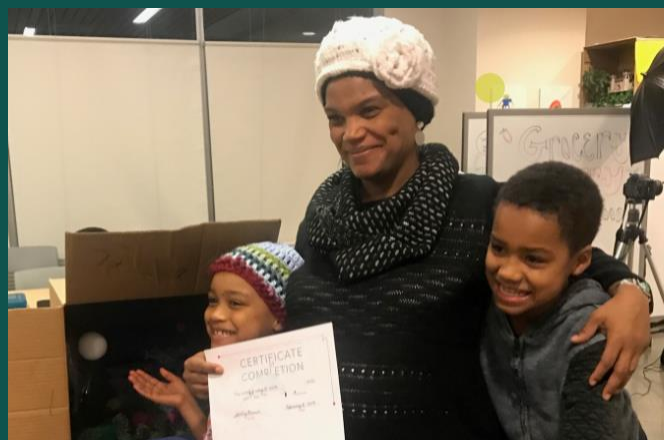


Tell the story of an important event that happened in your family

Tell a story of a place that is important to your family



Family Storytelling: Participatory Design in Action



Family Storytelling: Participatory Design in Action

Learn More & Reach Out:

TechTales Website:

<https://techtails.online/>

Reconceptualizing Libraries: Perspectives from the Information and Learning Sciences

Chapter 4: Building Expansive STEAM Programming Through Participatory Design Research

Carrie Tzou, Philip Bell, Megan Bang, Rekha Kuver, Amy Twito & Ashley Braun | Published 2019

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*Thank
you!*

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Appendix A:

Learning is Cultural Design Principles,
[NSF Backpacks for Family Science Learning](#)
University of Washington, 2016

