

Co-Designing Media to Foster Joint Peer-to-Peer Engagement, Promote Engineering Learning, and Expand Reach to Young Children

Award # 2314195

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<https://pbskids.org/hamster>

Key Achievements

Our project started in September 2023, so we are just beginning to make progress towards our two main goals:

1. iteratively co-design with children three new digital engineering games, enhanced by supporting videos, that foster joint peer-to-peer engagement and learning among diverse, economically disadvantaged 5- to 7-year-old children; and
2. investigate how design features that are built into these games and videos influence how children play, share, and learn about engineering with their peers in family homes.

Audience & Settings

Audience: Diverse, economically disadvantaged 5- to 7-year-old children

Disciplinary area: Engineering

Learning environment: Family homes

Access and Inclusion

Exposure to engineering is critical for racially and ethnically diverse children from economically disadvantaged backgrounds, as they are less likely to enter STEM fields as adults. This project will work with children who represent the eventual users of the media to create games that reflect the interests, habits, and lived experiences of the children it aims to serve. Media will be distributed via PBS KIDS platforms, which serve a broad and diverse audience.

Project Description

Over a period of two years, this project will develop, test, and refine three new digital engineering games and supporting videos, which will ultimately be distributed to millions of children via PBS KIDS platforms and will represent the first PBS KIDS games to be co-designed with children. Although specific ideas will be surfaced during the participatory co-design process, promising areas to explore include features that allow kids to personalize and share their digital game play with others, integrate real-world exploration into their digital gaming, and view and create “Let’s Play” videos that convey how children make sense of engineering content in digital games. Research produced will include design principles for how to co-create engineering media with children, use cases that profile various ways in which children engage in peer-to-peer learning and exploration, and data on how co-designed game features and supporting videos can expand the reach of engineering games.

The project is a collaboration of GBH (a leading producer of educational STEM media) and KidsTeam UW (a group of University of Washington researchers who partner with children to design new technology for children). It builds on **Team Hamster!**, a national PBS KIDS series that is designed to teach engineering concepts to 5- to 7-year-old children.



This material is based upon work supported by the National Science Foundation under grant 2314195. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

