Odd Squad: Learning Math with PBS KIDS Transmedia Content at School and Home

A Report to the CPB-PBS Ready To Learn Initiative

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Highlights of the Findings

In spring 2015, WestEd conducted a study for the CPB-PBS Ready to Learn Initiative of a school- and home-based transmedia mathematics intervention based on the resources in the PBS KIDS Odd Squad transmedia suite. The transmedia mathematics intervention, called “Odd Squad Math” for purposes of the study, included a wide variety of Odd Squad transmedia assets, including episodes from the television series, educational online games, interstitials (short video clips), and hands-on activities. The intervention was used in the first grade classroom and in participants’ homes. The current study explores the effectiveness of using Odd Squad Math to improve elementary-age students’ mathematics learning, specifically in the domains of Algebraic Thinking and Numbers and Operations.

Findings Around Students’ Knowledge and Skills in Mathematics

- Over the course of the Odd Squad intervention, students’ overall knowledge of mathematics in the domains of Number and Operations and Algebraic Thinking increased significantly (Pre M = 42.80, Post M = 48.70, p<0.001).

- In sub-categories of mathematical knowledge, students showed significant and positive pre- and post-changes on their knowledge of skip counting (Pre M = 10.92, Post M = 13.61, p<0.001), pattern recognition (Pre M = 9.49, Post M = 10.12, p<0.01), and simple addition and subtraction (Pre M = 18.72, Post M = 20.95, p<0.01).

Affordances of Using the OSM Transmedia Intervention in the Classroom and Home

- Analyses suggest that OSM supported student’s mathematics learning. Teachers mentioned that OSM supported mathematics learning for their grade level, especially in the areas of patterns and skip counting. Approximately one third of the parents who took part in OSM home activities mentioned that OSM supported their children’s learning of patterns, skip counting, addition, subtraction, and mathematics vocabulary.

- Three out of four teachers mentioned that Odd Squad’s plot device of showing children constructing and testing arguments, listening and responding to the theories and perspectives of others, and persevering to solve complex problems could be framed to support teaching around the Standards of Mathematical Practice.

- Parents participating in focus groups at the end of the study mentioned they noticed their child practicing and improving in mathematics during the study. Domains of mathematics most often mentioned by parents were addition, subtraction and mathematics vocabulary.

- A subset of parents who used OSM materials took ideas from the Odd Squad materials to create their own ways to support their child’s learning.

- Teachers and parents often mentioned that the fast-paced, playful narrative domain of OSM and the Odd Squad plot device of making viewers and players part of the Odd Squad problem-solving team brought a strong motivational factor to mathematics learning during the intervention.

- Teachers reported that the intervention’s transmedia content, including a storyline with academic content connected across multiple platforms and environments, allowed their students to make useful connections and reinforce their mathematics learning through different media.

- Data suggest that parents had positive experiences with their children when engaging with the OSM activities at home, and that teachers felt the home component of the intervention was useful.