

UMiGO

you make it go

Assessing The Effectiveness of the UMiGO Transmedia Educational Intervention on Young Students' Acquisition of Math Skills and Knowledge



BACKGROUND
and **OBJECTIVES**



PROJECT UMIGO

BACKGROUND AND OBJECTIVES

- UMIGO (yoU-Make-It-Go) Appisodes provide early math and numeracy learning utilizing digital technology and content.
- UMIGO is an online interactive intervention utilizing a full range of media formats (e.g., video, interactive gaming, music videos, etc.)
- Online educational interventions scale easily and are widely used by children in underserved and disadvantaged families.
- UMIGO is designed and distributed with the explicit goal of significantly raising young students' early math skills and academic achievement.
- UMIGO is available, free of charge, at www.umigo.com.



PROJECT UMIGO

SUMMATIVE EVALUATIONS

- Objective: Assess UMIGO educational effectiveness on young children's learning and performance in both in-classroom settings and at home.
- Two randomized controlled trial (RCT) experiments were designed and conducted to assess both a classroom-based and a home-based UMIGO intervention.



METHODOLOGY



EXPERIMENT 1: A NON-MEDIATED SCHOOL-BASED UMIGO INTERVENTION

- A Cluster-Randomized Controlled Trial with 514 first- and second-grade children in 31 classrooms in five Title One schools in CT, TN, and WA
 - UMIGO condition: 256 children
 - Control condition: 258 children
- The intervention consisted of media product and content including:
 - UMIGO Condition: interactive online games, music videos, and iPad apps. Curricular/content included: early arithmetic; concepts of inequality (i.e., greater, equal and/or less than); measures of capacity; and measures of height and length.
 - Control Condition: a comparable commercially available transmedia product.



- Participating children interacted with UMIGO and/or the control product following a schedule totaling 8 hours of exposure over a 19-day intervention period.
- The intervention was conducted during January – March, 2013.
- Participant retention rate = 94%

EXPERIMENT 2: A NON-MEDIATED UMIGO HOME-BASED INTERVENTION

- An RCT with ~700 kindergarten, first- and second-grade children in NY and IL. Participating children were recruited meeting socio-economic evaluative criteria.
 - UMIGO condition: ~350 children +
 - Control condition: ~340 children +
- The intervention consists of media product and content including:
 - UMIGO condition: full-length Appisodes, including narrative video, multi-level interactive games, and music video. Curricular content varies by Appisode and includes: measurement; addition; skip counting; and 2D shapes.
 - Control condition: 'business as usual'
- The RCT is designed and conducted in two waves. A total of four UMIGO Appisodes are evaluated (two Appisodes per wave).
- Participating children in the experimental condition interact with UMIGO for a range of 3-5 hours over a 1-2 week intervention period.
- The two wave randomized control trial is currently in progress. Fielding began in October 2014 and will be completed by April 26, 2015. Final retention expected ~ 95%.



ASSESSMENT MEASURES AND INSTRUMENTS

- Pre- and post-test instruments for both randomized control trials are comprised of a combination of standardized math and customized assessments measures.



FINDINGS

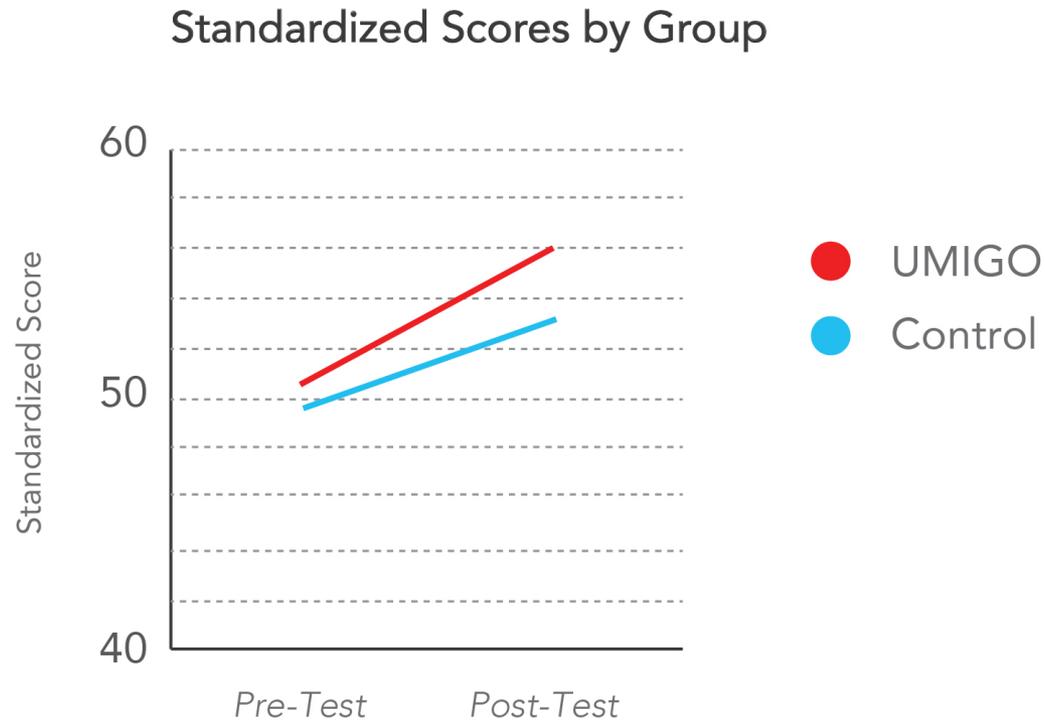


FINDINGS: OVERALL

1. Findings indicate that children's interaction with UMIGO results in a positive trend in the acquisition of overall math content and skills.
2. Findings indicate that children's interaction with UMIGO results in significantly higher gains in the acquisition of specific math content and skills.
3. Findings support the overall literature that educational media positively contributes to math learning.



FINDINGS: SCHOOL-BASED INTERVENTION

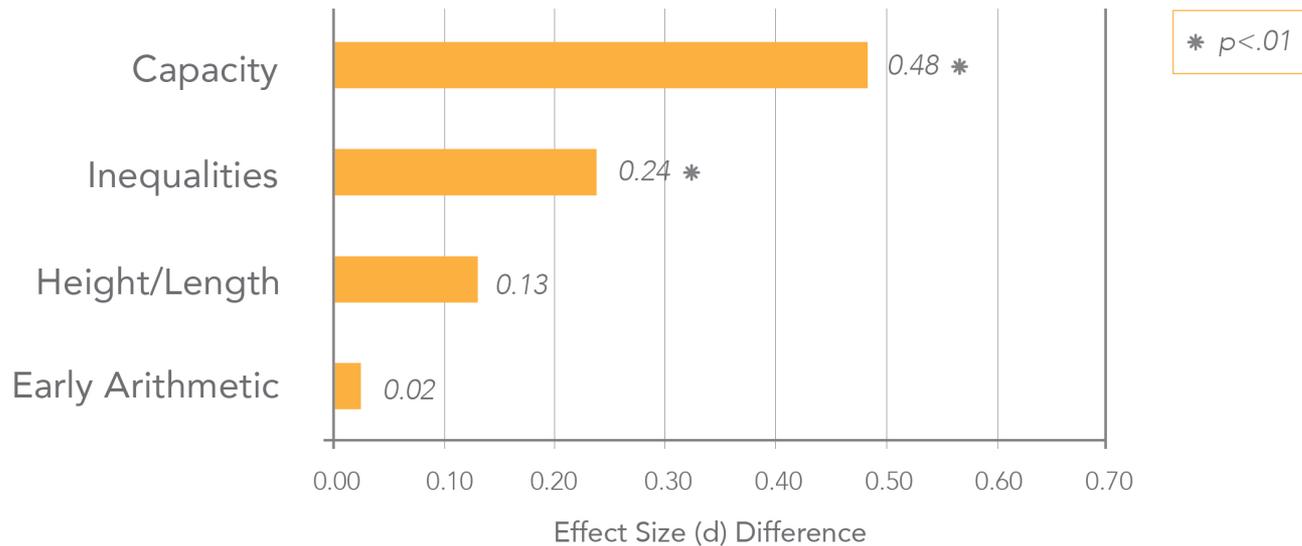


Overall, children in the UMIGO condition showed a trend toward greater gains relative to the control condition.



FINDINGS: SCHOOL-BASED INTERVENTION

Effect Size (d) for Difference Between UMIGO and Control



Children in the UMIGO condition gained significantly in the curriculum areas of Capacity and Inequalities.

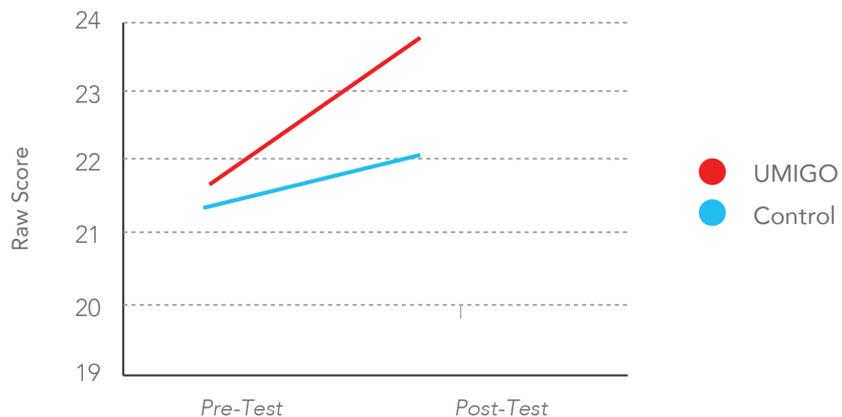


EXPERIMENT 2
PRELIMINARY FINDINGS

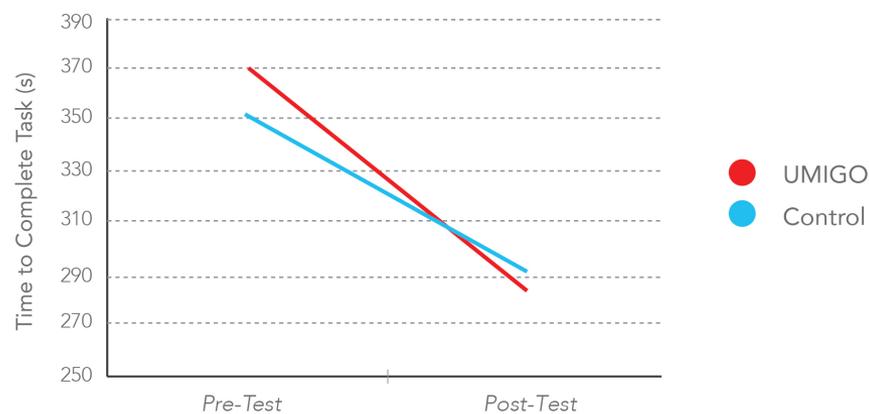


PRELIMINARY FINDINGS: HOME-BASED INTERVENTION – SHAPES ASSESSMENT

Shapes Assessment Measure



Time to Complete Shapes Assessment Measure



*Data collection will be complete by the end of April 2015.



DISCUSSION



DISCUSSION

1. Evolving definition and discussion of transmedia
2. Methodological challenges
3. Non-mediated interventions in formal and informal settings
4. Media usage and trends in the social environment
5. Future research



HOME VERSUS SCHOOL INTERVENTIONS:

Anecdotal observations

- Hardware technology in schools tends to be older (less compatible) than in homes. There are also difficulties in software installation (computer permissions).
- School schedules are already full; children have more available time at home.
- Teachers may tend to supervise children more frequently than parents. Unmediated use may lead to frustration if children fail to progress/solve a problem.





UMiGO
you make it go

THANK YOU!

Katherine Yoshida, Michael Cohen, Katie Potter, & Mafe Perez