

Movies & Mobiles: Empowering Parents to Improve Educational and Learning Outcomes of 6-9 y.o. children

[Victor Orozco](#) PhD, Senior Economist, World Bank

January 13, 2022



Home Learning formula



Motivated parent and student

Learning Materials

Home Learning in northern Nigeria

- <10% parents read to their children
- >50% children don't attend primary school
- >35% girls get married before turning 15



Instruction language rarely the one spoken at home.

Home Learning in northern Nigeria

- <10% parents read to their children
- >50% children don't attend primary school
- >35% girls get married before turning 15



Instruction language rarely the one spoken at home.

Books are **boring.**

1st generation of EdTech research

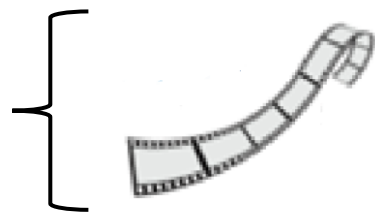
“Investing in hardware alone is a bad buy when not accompanied by well-thought-out complementary measures”

(Global Education Evidence Advisory Panel, Oct 2020).

“Investing in hardware alone is a bad buy when not accompanied by well-thought-out complementary measures”

(Global Education Evidence Advisory Panel, Oct 2020).

Movies & Mobiles: Cluster RCT (n=9,000) in NW Nigeria



T1. Persuasive messaging to reshape parents' educational and gender attitudes.



T1+T2 add-on (Digital libraries and gamified apps to increase the number of “study hours”).

Testing Complementary Measures for Offline Populations

Study location

- Rural NW Nigeria, >95% Muslim, Sharia law implemented.
- >40% adults lack formal education. Scoring zero in literacy tests by Grade 3 pupils is common (44-83% for different EGRA modules).

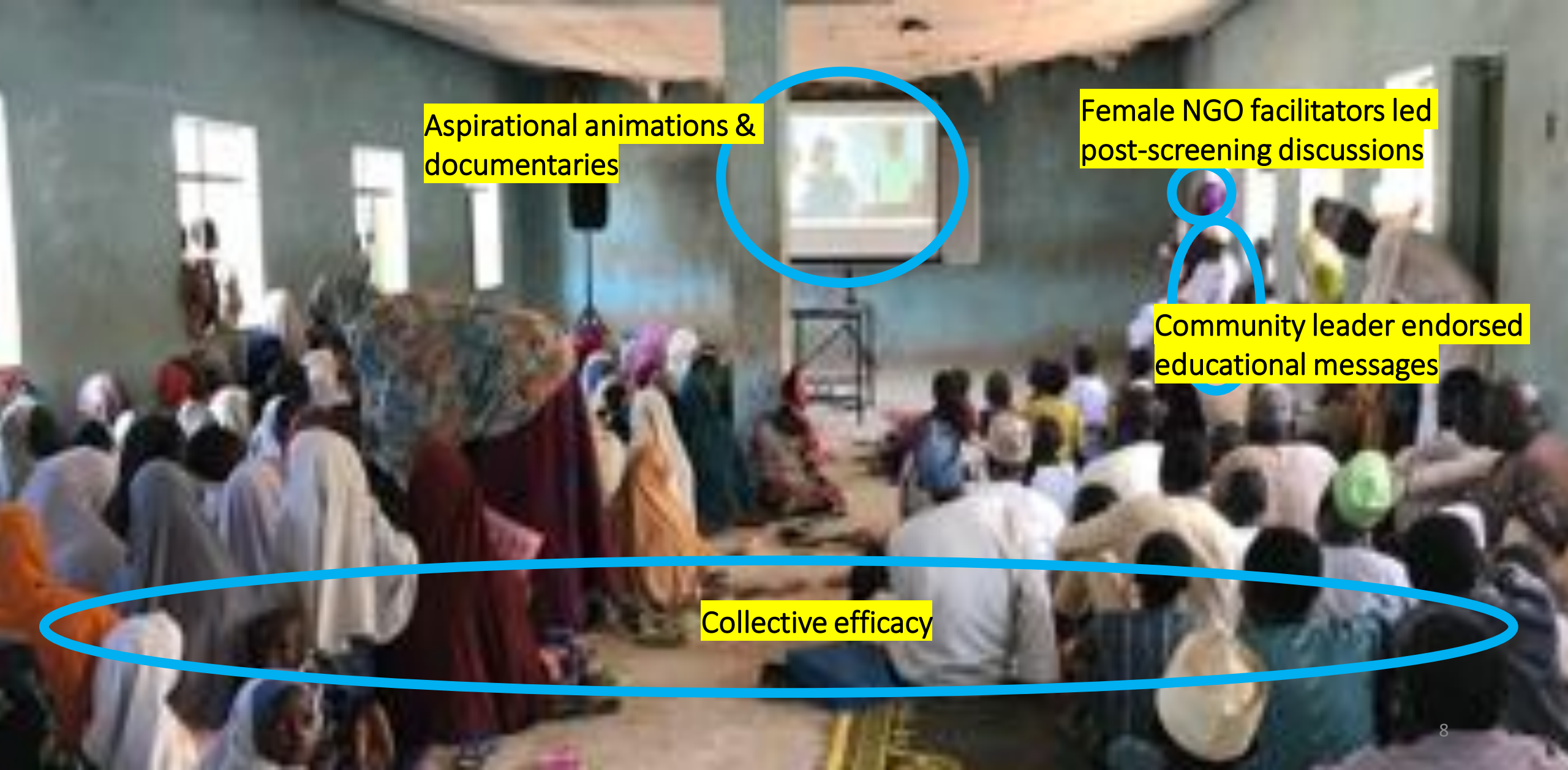
“Light” Interventions:

- **T1: Aspirational movie sessions (3 days).** Households with 6–9-year-old-children (in and out of school) invited to schools over two subsequent weekends.
- **T2: T1 + mLearning add-on (5 days).** Provision of smartphones preloaded with literacy apps.

Study design

- Cluster RCT: 128 school catchment areas, n=9,300 household panel
- Data: Parent surveys and Learning tests for main child (6-9 yo) and older sibling (6-12)

T1. Aspirational Movies : 3 days



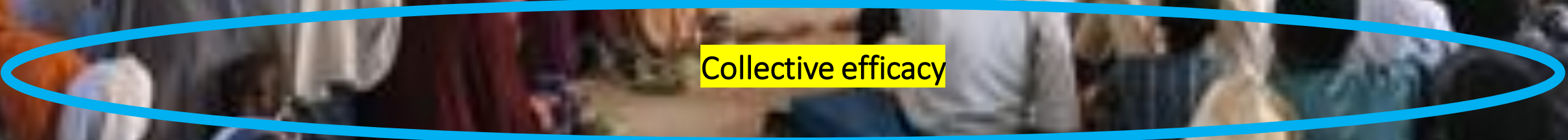
Aspirational animations & documentaries



Female NGO facilitators led post-screening discussions



Community leader endorsed educational messages



Collective efficacy

T1+ T2 (Mobile-Learning *add-on*) : 2 extra days

- Through a public lottery, 1/3 of T1 attendees won a smartphone in T2 locations.
- Winners picked the device in digital literacy sessions.
- Feed The Monster (FTM) and Global Digital Library (GDL) developed through multi-donor initiatives co-led by Norad and USAID.



**CURIOUS
LEARNING**



Study setting

- **Rural and conservative**

- NW Nigeria, >95% Muslim, Sharia law

- **Low literacy among parents and children**

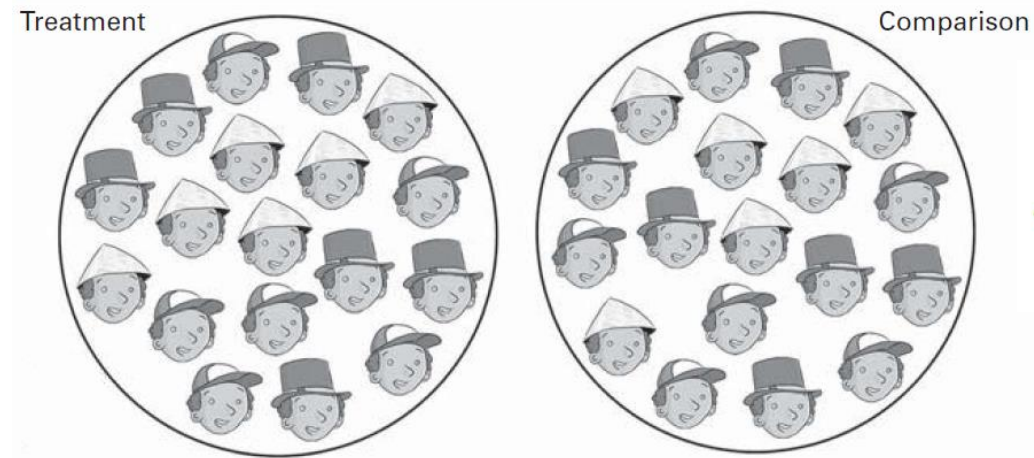
- >40% adults lack formal education.
- Scoring *zero* in literacy tests by Grade 3 pupils is common (44-83% for different EGRA modules).

- **Linking with school infrastructure**

- Households living near schools were invited to nearby schools for community screenings, which took place over weekends

Medium-term effects (8-18 months)*

- Baseline balance.
- At follow up, we tracked 98% of families interviewed and 95% of children tested at baseline.
- Regressions with and without control **X** variables are qualitatively similar.



* T1 (8-18 months) and T2 (12-16 months). The time differences was due to COVID-19 disruptions in field data activities.

Results (8-18 months)



High take up

- >90% households attended aspirational movie sessions (T1)
- 100% of HH that won smartphones picked it up at digital literacy sessions (T2)



Engaging Parents (T1+T2)

- ↑ 6.1%, Parents' aspirations girls to attend school at 15
- ↑ 9.5% - 16.6%, Parents' preference to delay daughters' marriage age
- ↑ 34%, school attendance



Engaging Parents (T1+T2)

- ↑ 6.1%, Parents' aspirations girls to attend school at 15
- ↑ 9.5% - 16.6%, Parents' preference to delay daughters' age of marriage
- ↑ 34%, school attendance

Aspirational movies drove these results.

However, only smartphones impacted learning outcomes.

T2 vs C. Literacy Skills

- Children in T2 communities* had higher EGRA test scores for a series of modules, including Listening Comprehension (0.25 standard deviations) and Letter Dictation (0.31 SDs).
- Aggregating eight modules, we observe literacy impacts of **0.18 SDs**.



* *Not* those who received smartphones, which only represent a third of children in T2 communities.

T2 vs C. Numeracy Skills

- Despite the interventions lacking numeracy components, children in T2 communities had higher EGMA test scores for Number recognition (0.25 SD), Number discrimination (0.34 SD), Missing number (0.24SD), Additions (0.18 SD), and Subtractions (0.18 SD).
- Aggregating five numeracy modules, we observe numeracy impacts of **0.29 SDs**.



T2 vs C. Super Parents as mechanisms

↑ 22%, Parents reading to their children

↑ 4%, Self-efficacy beliefs for helping their children to learn at home


↓ 25%, Belief that parental education is an obstacle for helping their children to learn



Responsible heroes: Smartphones did not reduce school attendance

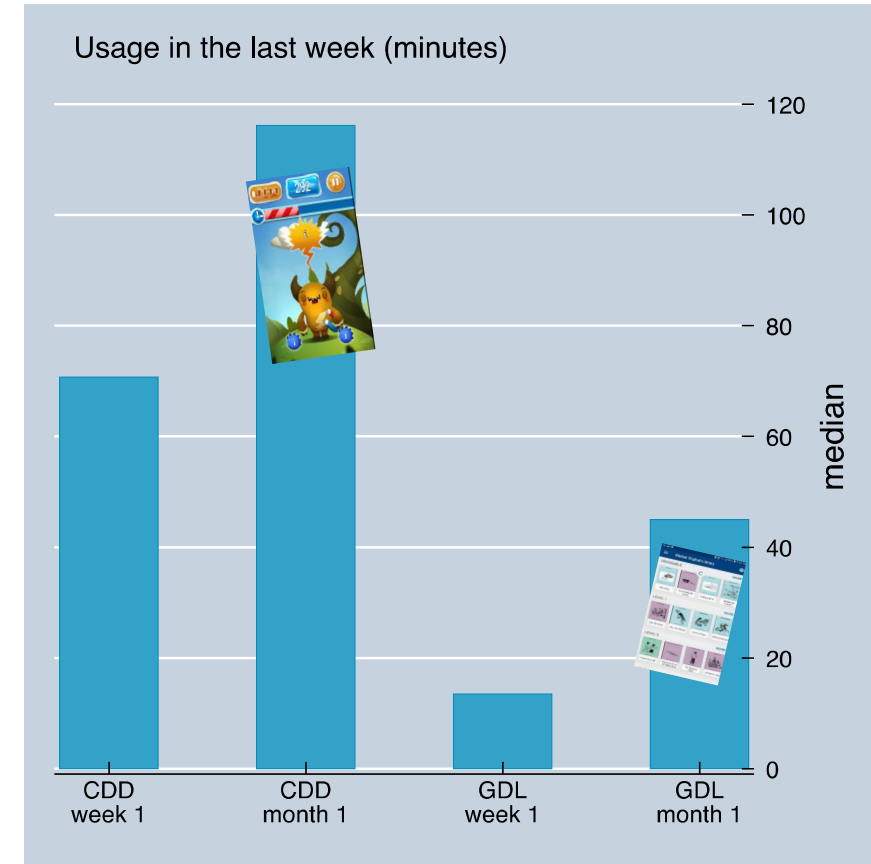
M&M, in perspective



- Improving learning outcomes is very hard. Our **“light” intervention (5 days)** is effective compared with most literacy interventions targeting primary-school age children.
 - Learning camps with volunteers in rural India proved to be more effective but that intervention lasted **50 days** (Banerjee et al 2016).
- 

Home learning, an important learning factor

- **>8 hours**, apps use in first month (per device).
 - The median number of hours was 6.2 hours for FTM and 2.0 hours for GDL.
- **Increased use** in the first month.
 - The median number of hours grew between the 1st and 4th week. FTM (from 1.2 to 1.9 hrs) and GDL (0.2 to 0.8 hrs).





Spillovers on Siblings

Siblings (6-12-year olds):

- 10% decrease, Zero scores in letter recognition (vs 11.3% for main child)
- 0.16-0.23 SD increase in numeracy modules (vs 0.18-0.34 SDs for main child)

Teenage mothers at home:

- 27% decrease for <18-year-olds
- 25% decrease for <20-year-olds

To conclude

1. Complementary measures are needed for EdTech to work.
 - a. Aspirational movies increased parents' aspirations, their self-efficacy beliefs in helping their children to learn, and school attendance.
 - b. The additional provision of preloaded smartphones substantially increased literacy and numeracy test scores of 6-9 y.o.; and had important spillover effects on older siblings.
2. To address 'learning crisis', the COVID-19 crisis should accelerate the testing of mobile-based solutions across different sectors (e.g., mobile-banking, entrepreneurship, gender-based violence) for offline and online populations.



Thank you!

Government and WB counterparts: Folake David, Aisha Mohammed, Olatunde Adekola

Principal Investigators: Victor Orozco and Ericka Rascon

Donors: Norad and WB NIPEP project

Field Coordinator: Edwin Ikhuoria

Data Managers: Laura Costica and Tomas Koutecky

Survey Firm: Hanovia Limited

Implementing NGO: Breaking Barriers in Development

<https://www.worldbank.org/en/research/dime>

<https://www.worldbank.org/en/research/dime/brief/edu-tainment>

voroazco@worldbank.org