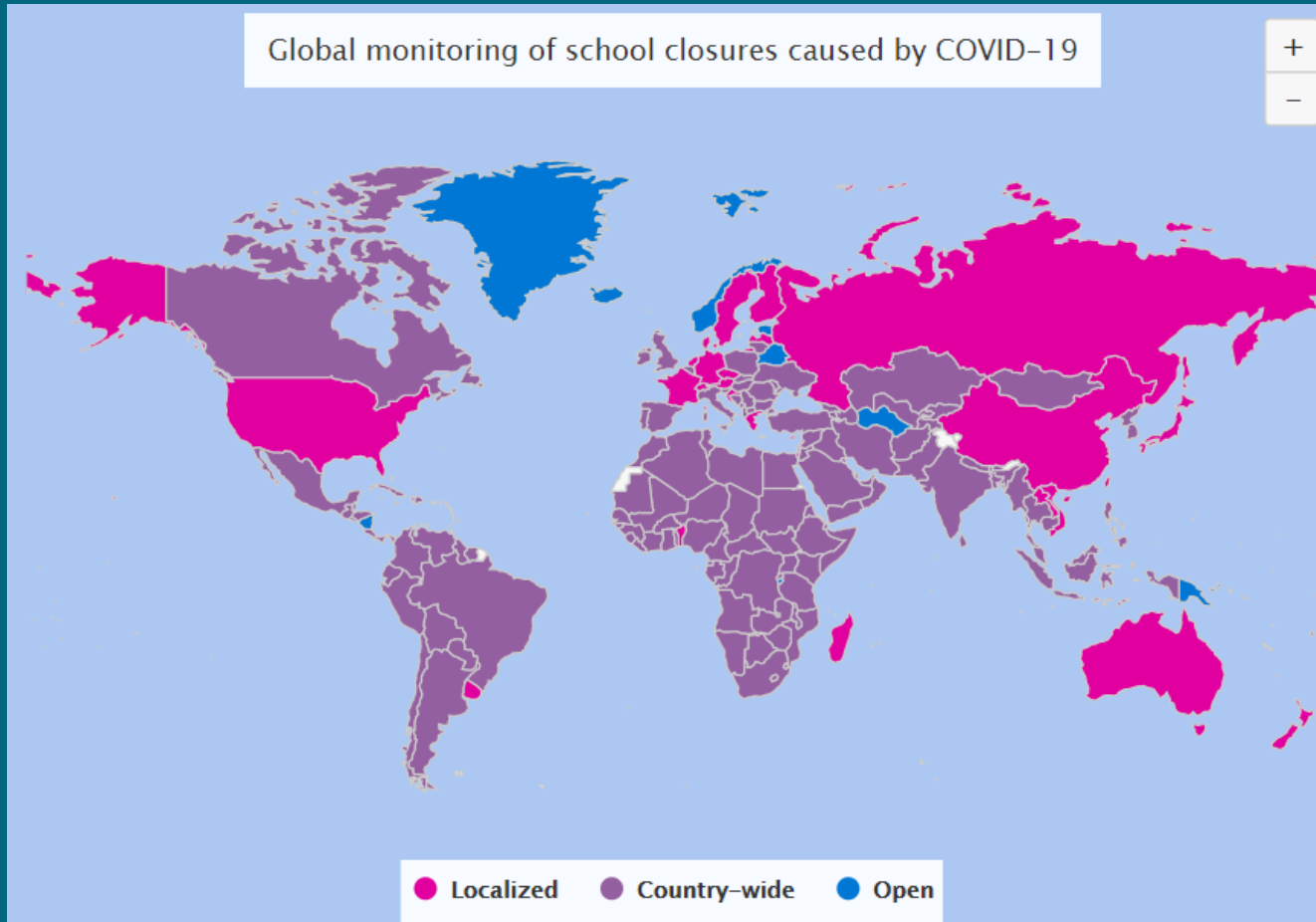


Practical Lessons for Phone-Based Assessments of Learning

by Angrist, Bergman, Evans, Hares, Jukes, and Letsomo

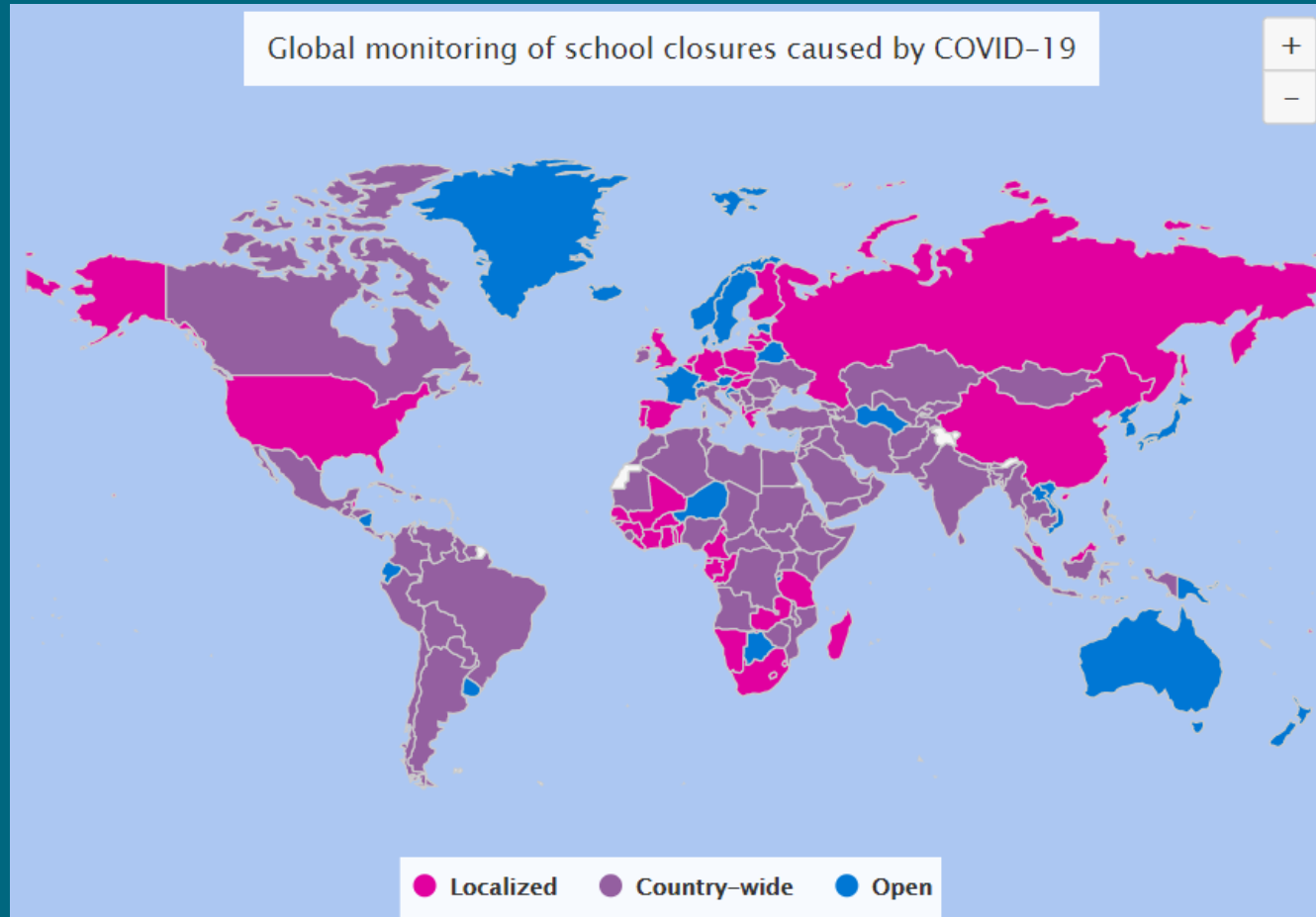
COVID-19 has led to unprecedented school closures.



- At its height, more than 1.5 billion learners affected by school closures.

Source: UNESCO, [“COVID-19 Impact on Education”](#)

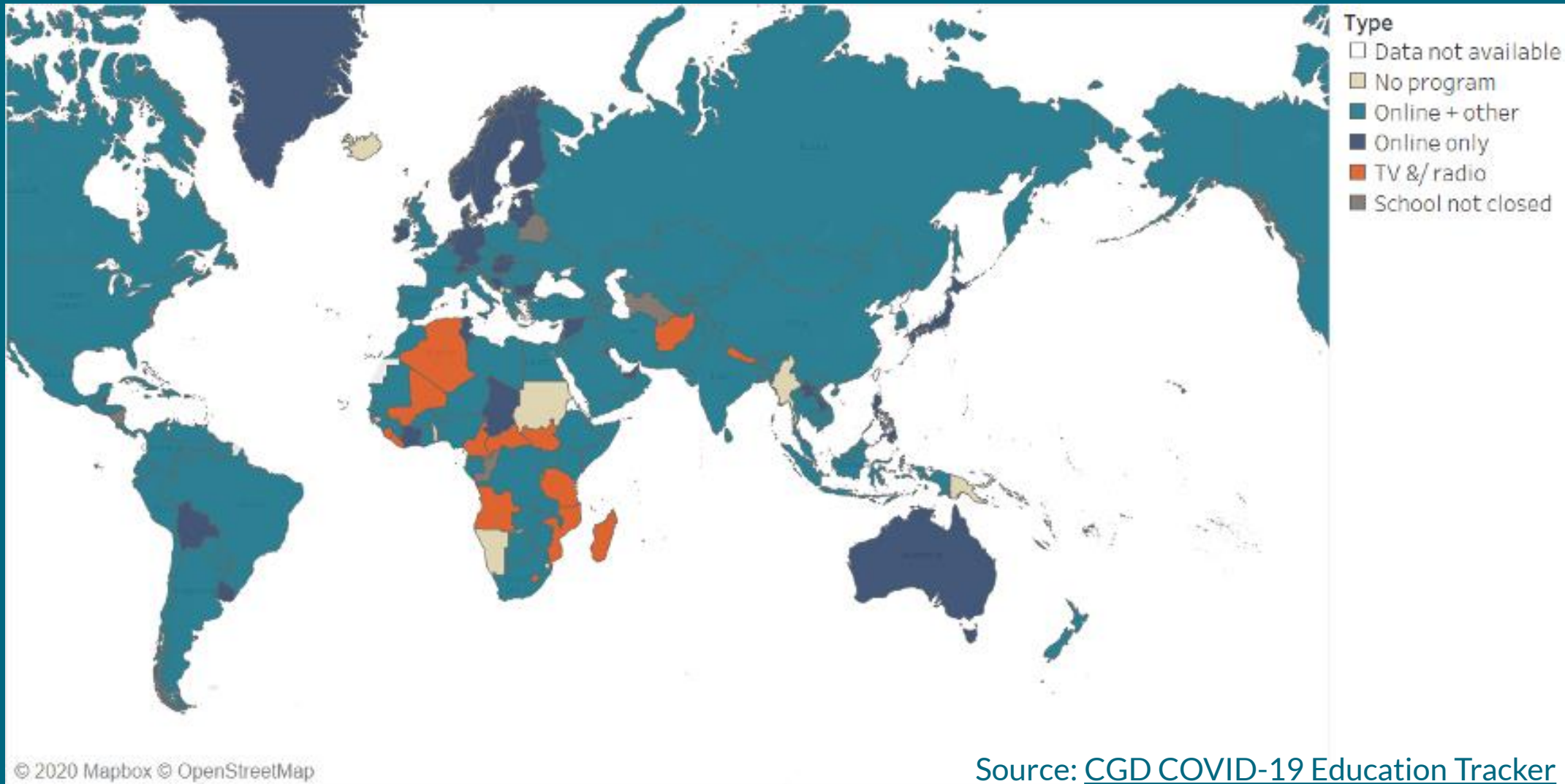
COVID-19 has led to unprecedented school closures.



- At its height, more than 1.5 billion learners affected by school closures.
- Even now, more than 1 billion learners continue out of school.

Source: UNESCO, "[COVID-19 Impact on Education](#)"

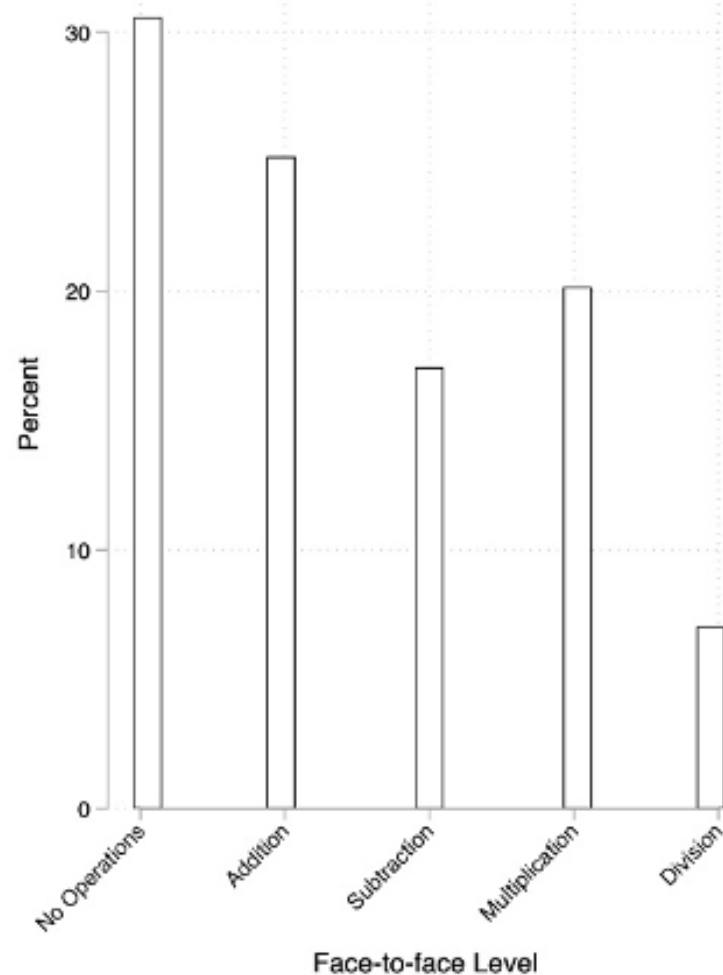
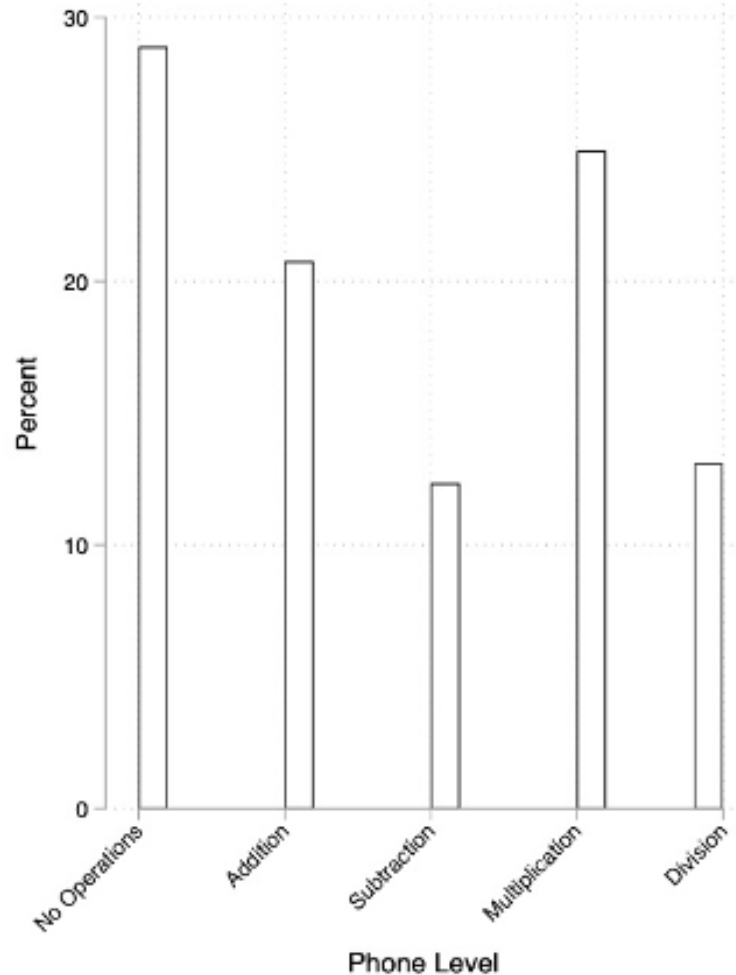
Most countries have rolled out distance education.



Source: [CGD COVID-19 Education Tracker](#)

But how much are children learning?

Phone-based assessments offer promise.



Phone-based learning assessments in Botswana showed a similar distribution of skills to face-to-face assessments a few months earlier.

Our team drew 9 lessons from experience

Piloting phone-based assessments in Botswana

Face-to-face oral assessments in Botswana, the Gambia, Kenya, Sierra Leone, etc.

Household surveys in various countries

9 practical lessons (+ 1 recommendation) for phone-based assessments of learning

1. Protect children.

2. Test the reliability and validity of your measures.

3. Keep instructions simple and use practice items to ensure that respondents understand the exercise.

4. Some assessments will be more conducive to phone assessment than others.

5. Keep it short.

6. Experiment with how to get people to pick up the phone.

7. Establish rapport with adult phone owners and youth respondents.

8. Choose the most cost-effective approach.

9. Account for sample bias.

10. Learn and document

Lesson 1: Protect Children

- Consent
- Low stakes
- Supervise

Lesson 2: Test measures

- Item analysis
- Ideally validate against face-to-face measures

Lesson 3: Simple instructions

- Phone assessments bundle receptive language skills with whatever you want to test
- Keep it simple
- Practice

Lesson 4: Use what has the best chance of working

- Word problems from EGMA have only oral stimuli
- Text something to students

Lesson 5: Keep it short

- Early Grade Reading Assessment: 15 minutes
- Botswana: 15-20 minutes
 - Half of that is logistics

Lesson 6: Get people on the phone

- Text, then call:
Botswana, India,
Liberia

Lesson 7: Establish rapport

- Advance call only with the adult
- Initial instructions through caregiver
- Dependent on age and culture

Lesson 8: Be cost-effective

- Cheaper than face-to-face
- Interactive voice response calls (IVR)?
 - Rapport
 - Logistics

Lesson 9: Beware of sample bias

- Document who responds
- Find non-responders creatively

For the future: Learn and document


- Many are trying phone-based assessment
- This will be a massive waste if we don't learn from it and document it

For more resources...

Practice

BMJ Global Health

Practical lessons for phone-based assessments of learning

Noam Angrist,^{1,2} Peter Bergman,³ David K Evans ,⁴ Susannah Hares,⁵ Matthew C H Jukes,⁶ Thato Letsomo²

ABSTRACT
School closures affecting more than 1.5 billion children are designed to prevent the spread of current public health risks from the COVID-19 pandemic, but they simultaneously introduce new short-term and long-term health risks through lost education. Measuring these effects in real time is critical to inform effective public health responses, and remote phone-based approaches are one of the only viable options with extreme social distancing in place. However, both the health and education literature are sparse on guidance for phone-based assessments. In this article, we draw on our pilot testing of phone-based assessments in Botswana, along with the existing literature on oral testing of reading and mathematics, to propose a series of preliminary practical lessons to guide researchers and service providers as they try phone-based learning assessments. We provide preliminary evidence that phone-based assessments can accurately capture basic numeracy skills. We provide guidance to help teams (1) ensure that children are not put at risk, (2) test the reliability and validity of phone-based measures, (3) use simple instructions and practice items to ensure the assessment is focused on the target skill, not general language and test-taking skills, (4) adapt the items from oral assessments that will be most effective in phone-based assessments, (5) keep assessments brief while still gathering meaningful learning data, (6) use effective strategies to encourage respondents to pick up the phone, (7) build rapport with adult caregivers and youth respondents, (8) choose the most cost-effective medium and (9) account for potential bias in samples.

Summary box


- ▶ Assessing children and youth remotely is essential to mitigating the adverse short-term and long-term public health and education impacts of the COVID-19 pandemic, as well as future school closures due to health and other crises.
- ▶ There is existing literature on best practice strategies to carry out phone-based surveys of adults, on oral face-to-face testing of learning among children and youth, and on using technology to help community health workers identify ill or at-risk children. However, there is little evidence on assessing learning among children and youth over the phone.
- ▶ Pilot experience with phone-based testing among our team, together with experience with oral assessments and phone-based surveys, provides preliminary guidance to orient those who would assess learning for out-of-school children when face-to-face assessments pose a public health risk.

and others.⁴ Existing studies have measured how much children are engaging with educational content.^{5,6} But how much are they actually learning? Students commonly fall behind during school closures^{7,8} and that can also increase dropout rates.⁹ Children do not lose learning equally: children from high-income


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Stemming Learning Loss During the Pandemic: A Rapid Randomized Trial of a Low-Tech Intervention in Botswana


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Abstract

The COVID-19 pandemic has closed schools for over 1.6 billion children, with potentially long-term consequences. This paper provides some of the first experimental evidence on strategies to minimize the fallout of the pandemic on education outcomes. We evaluate two low-technology interventions to substitute schooling during this period: SMS text messages and direct phone calls. We conduct a rapid trial in Botswana to inform real-time policy responses collecting data at four- to six-week intervals. We present results from the first wave. We find early evidence that both interventions result in cost-effective learning gains of 0.16 to 0.29 standard deviations. This translates to a reduction in innumeracy of up to 52 percent. We find increased parental engagement in their child's education and more accurate parent perceptions of their child's learning. In a second wave of the trial, we provide targeted instruction, customizing text messages to the child's learning level using data from the first wave. The low-tech interventions tested have immediate policy relevance and could have long-run implications for the role of technology and parents as substitutes or complements to the traditional education system.

^{*} Correspondence to: noam.angrist@ox.ac.uk. We thank Jesse Aker, Jim Berry, Abin Ekh, Michael Kossler, Chen Luern, Susanna Luch, Todd Rogers, Anna Rudge and participants of the University of Oxford development economics workshop for helpful comments on the study design and early results. The intervention and rapid trial were the product of a collaboration between the Botswana Ministry of Basic Education and staff at Young Lives who timely adapted during school closures to collect phone numbers and deliver low-tech interventions. There are nearly a hundred staff who deserve mention and are named on the Young Lives website. Particular gratitude to Eliza Batsire, Oduh Crodley, Thato Letsomo, and Ramabedi Madzema, who coordinated and designed the low-tech programs, Patricia Demers for carefully compiled cost estimates, Sherryn Maruping and Dorothy Glotch for online communications, and Winnifred Arthur, Bessie Bolepe, Amy Jiang, George Mawete, Bogadi Mkhokholo, Julia Rodriguez and Karabo Sengadi who provided research and implementation support. We thank Mathias Clavier, Samyaka Lakhani, Eeyana Pookool, Maura Tumbuller, Udo Boser and Prakash staff for their guidance on the design of the low-tech interventions. We thank Emily Caputo and Ashleigh Marshall for sharing relevant evidence links to inform the low-tech interventions. We thank Dave Evans, Susannah Hares and Matthew Jukes for collaboration on measuring learning via the phone. We thank flexible funders and partners who enabled a rapid COVID-19 response, including the Milgrom Foundation, the Marshall Foundation, and TaRL Africa. We thank Northwestern University's "economics of nonprofits" class led by Dean Karlan which provided a generous donation. This trial builds on a prior effort to scale up an education intervention called "Teaching at the Right Level" in over 15 percent of schools in Botswana. The enabling supporting scale-up of Teaching at the Right Level in Botswana includes the Botswana Ministry of Basic Education, the Botswana Ministry of Youth Sports and Culture Development, Young Lives, UNICEF, USAID, Pratham, the Journal Poverty Action Lab (J-PAL), TaRL Africa, the Brookings Institution, and the People's Action for Learning (PAL) network. The infrastructure built by this coalition prior to COVID-19 enabled this rapid trial and response.

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