Practical Knowledge Tools to Build Resilient Education Systems

The COVID-19 pandemic caused massive disruption in education systems around the world. Countries were forced to swiftly implement remote learning approaches at scale. Can the lessons learned from the response to the pandemic serve as a launching pad to the new post-COVID-19 world? How can countries use this knowledge to build resilient systems that remain equitable, effective, and efficient amid future shocks?

This interactive PDF contributes to answering these questions. It showcases the body of knowledge developed by the Continuous and Accelerated Learning (CAL) program to support policymakers, researchers, and national and international organizations in the design and implementation of plans to ensure learning continuity and acceleration. The PDF highlights knowledge tools developed under five lines of work: Education Technology (EdTech), Remote Formative Assessment Solutions, Read@Home, Structured Lesson Plans, and Technology for Teaching (T4T).

These knowledge tools were developed on an ongoing basis between 2020 and 2022. As the pandemic evolves and continues to cause strain in education systems, it is evident that the tools remain relevant two years into the crisis and will be essential to build resilient education systems in the future.
ABOUT THE CONTINUOUS AND ACCELERATED LEARNING PROGRAM

The World Bank’s Education Global Practice launched the Continuous and Accelerated Learning (CAL) program at the onset of the COVID-19 pandemic to develop and pilot knowledge tools to enable education systems to continue delivering learning and to accelerate the recovery of lost learning as schools re-opened.

CAL has been developed with financial support from the Global Partnership for Education (GPE) and in partnership with UNESCO and UNICEF.

CAL’s main goal is to keep children learning by supporting the development, dissemination, and delivery at scale of new and existing global and regional learning continuity approaches.

1.6 billion students affected by school closures due to COVID-19

70% of 10-year olds globally could experience learning poverty

$17 trillion earnings that could be lost by this generation due to learning losses
CAL’s knowledge tools will continue to be relevant beyond the COVID-19 pandemic

Since the pandemic started in 2020, CAL’s knowledge tools have been helping policymakers manage learning continuity, and design and implement education programs that can help improve and accelerate learning.

- Delivering remote and hybrid learning
- Assessing students’ learning remotely
- Reaching students with no access to technology
- Preventing learning poverty from increasing
- Supporting teachers’ professional development

The knowledge tools can help countries address key needs during the recovery phase and their efforts to build resilient, effective, equitable education systems equipped to face future shocks.
KNOWLEDGE TOOLS

The knowledge tools address five of the most pressing challenge areas in education systems.

Through five lines of work, CAL is supporting learning continuity and acceleration, and contributing to building resilient education systems.

EdTech
How to deliver remote and hybrid learning effectively?

Remote Formative Assessment
How to assess whether students are learning remotely?

Read@Home
How to reach students with no access to technology?

Structured Lesson Plans
How to accelerate learning to reduce learning poverty?

Technology for Teaching (T4T)
How to use technology to support teachers’ development?
Remote learning is becoming the new normal as a result of the pandemic. **Delivering remote learning effectively**, especially to those students with poor access to broadband or digital devices is a priority. The EdTech team under the CAL program designed knowledge tools to help policymakers plan and design remote/hybrid learning strategies that:

- Effectively use EdTech remote and hybrid learning solutions, including TV, radio, online platforms, mobile.
- Help policymakers apply the **five principles** of the World Bank’s EdTech approach when developing solutions: Ask Why, Design and Act at Scale For All, Empower Teachers, Engage the Ecosystem, and Be Data-Driven.
- Combine and integrate the solutions optimally and seamlessly.
- Ensure holistic implementation.
- Procure solutions cost-efficiently.
Knowledge Packs

- Assistive Technologies
- Cloud for Education
- Devices for Education
- Digital Teaching and Learning Content
- Edu Radio
- Edu TV
- EMIS 2.0
- Innovation Ecosystems
- LMS for Education
- Mobile Distance & Hybrid Solutions
- Personalized and Adaptive Learning
- Phone-based Formative Assessment
- Procurement
- Remote Learning Responses to COVID-19
- Teachers’ Skills Framework
- Technology for Literacy

Resource Packs

World Bank-UNICEF resource packs to support remote learning:

- Introduction
- Assessment
- Digital
- Edu TV
- Edu Radio
- Mobile
- Print

Studies

- Remote Learning During the Global School Lockdown: Multi-country Lessons
- Multi-Country Lessons: Interactive Document
Remote Formative Assessment

How to assess whether students are learning remotely?

Assessing what and whether students are learning is one of the top challenges related to remote learning, especially in low-resource contexts. Basic mobile phone features such as short message services (SMS), phone calls, and interactive voice response (IVR) technologies can be effective to assess students, particularly where technology is scarce.

The Learning Assessment Platform (LeAP) team under the CAL program developed and piloted phone-based remote formative assessment tools to help policymakers design and implement plans to evaluate students’ learning remotely. The tools:

» Provide elements for the feasibility of implementation and scale-up of phone-based assessment solutions.

» Present existing experiences and their key features.

» Give psychometric considerations for implementing phone-based assessment solutions.

» Provide a template to evaluate the enabling conditions for each solution.

Knowledge Tools

- Global Package of Remote Formative Assessment Tools
- Pilot Evaluation Report
- Toolkit on Remote Formative Assessment Using Basic Mobile Technologies. Includes:
  - Landscape Review Database
  - Phone-Based Formative Assessment Feasibility Template
  - Guidance Note on Phone-based Formative Assessment
  - Psychometric Considerations for Implementing Phone-based Learning Assessment
How to reach students with no access to technology?

The pandemic disrupted learning for millions of students in hard-to-reach homes with limited or no access to technology. Expanding access to books for low-resource families helps ensure learning continuity and encourages parents and caregivers to support children’s learning at home.

The Read@Home team under the CAL program developed knowledge tools to help policymakers:

- Identify and contextualize quality reading materials for use in homes.
- Design interventions to provide support to parents and caregivers to engage with children’s learning.
- Design cost-efficient book supply chains.
- Use innovative procurement approaches.
- Learn from other countries’ experiences and replicate success factors.

Knowledge Tools

- Book Supply Chain Analysis: Republic of Marshall Islands
- Guidance Note on the Production of Reading Materials
- Guidance Note on Using the Bidding Document for Books
- Incoterms and Insurance. Guidance for World Bank Procurement of Textbooks and Reading Books
- Mozambique: 10 Success Factors in the Procurement of Teaching and Learning Materials
- Read@Home Materials Guidance
Structured Lesson Plans

How to accelerate learning to reduce learning poverty?

School closures resulting from the pandemic are likely to worsen learning poverty and deepen the pre-existing learning crisis. One way to address this issue and accelerate learning is by developing lesson plans for teachers — structured pedagogy — to strengthen Early Grade Reading (EGR) curricular and instructional practices.

The Curriculum, Instruction, and Learning (CIL) team under the CAL program developed knowledge tools that operationalize the evidence on structured pedagogy and can help policy makers:

» Revise and improve their models of EGR instruction in the first three years of schooling.

» Develop lesson plans whose scope, sequence, and pedagogical practices are aligned with the science of reading.

» Design EGR lesson plans that build teachers’ skills through structured guidance.

Knowledge Tools

- Early Grade Reading Rainbow: A Quick Guide for Reducing Learning Poverty
- Handbook for Literacy Lesson Planning
- How Children Learn to Read: Toward Evidence Aligned Lesson Planning
- How to Provide Effective Reading Instruction
- Structured Lesson Plans for Literacy Instruction: A Compendium of Global Resources
- The Science of Reading: An Analysis of Instructional Materials for Literacy in Brazil

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How to use technology to support teachers’ development?

In most countries, the pandemic caught teachers unprepared to teach remotely using technology. As education systems evolve due to COVID-19, strategies must be put in place to support teachers’ professional development and equip them for shocks. A future of remote or hybrid learning calls for high- and low-tech resources to support teachers’ development.

The T4T team under the CAL program developed various knowledge tools to help policymakers:

- Effectively utilize technology to train teachers and equip teachers.
- Assess and compare contextual and technical factors for successful implementation of teacher professional development (TPD) programs using technology.
- Learn from experiences of TPD that can be scalable and replicated in other countries.

Knowledge Tools

- Implementing Effective Teacher Professional Development Using Technology: A Guidance Note on Technology-Based Strategies to Enhance Teaching Practices from across the Globe
- Technology for Teacher Professional Development Navigation Guide: A Summary of Methods
- Technology for Teaching: Evidence Matrix
RESOURCES

EdTech
Remote learning during COVID-19 pandemic: How countries have faced the challenge of implementing multichannel education delivery strategies.
Five lessons from remote learning during COVID-19.
Thinking Inside the ‘Box’: Pakistan Turns to Education TV During COVID-19.
How can countries implement low tech remote learning? Using the experiences from Edu Radio and Edu TV in Sierra Leone and Pakistan to develop knowledge packs.
School hits the airwaves: Sierra Leone turns to education radio as a response to COVID-19.
What is Hybrid Learning? How can countries get it right?
The changing role of teachers and technologies amidst the COVID 19 pandemic: key findings from a cross-country study.
Remote learning solutions for resilient education systems: Seven resource packs to guide governments and policymakers.

Remote Formative Assessment
Assessing outside of the "classroom box" while schools are closed: The potential of phone-based formative assessments to support learning continuity.
Are students still learning during COVID-19? Formative assessment can provide the answer.

Read@Home
Storybooks in Ethiopia: a "Flashlight Beam" of Hope.
Three steps to get every child reading.
How to get children to Read@Home? We have a manual that can help.

T4T
How to enhance teacher professional development through technology: Takeaways from innovations across the globe.
Supporting teachers using technology: 400 Solutions from 80 Countries.
How can education systems enhance and scale teacher professional development through the integration of tech-based solutions?

Podcasts
EdTech
Understanding the effectiveness of remote and remedial learning programs: Two new reports.
Understanding the perceived effectiveness of remote learning solutions: Lessons from 18 countries.
Mitigating learning losses and accelerating learning through adaptive learning
Exploring the potential of digital infrastructure in education
Selecting, evaluating, and adapting open learning management systems: the case of ProFuturo
Leveraging educational radio for continued teaching and learning during COVID-19: a conversation with Sierra Leone Teaching Service Commission
Rolling out Taleem Ghar (education TV at home) during COVID-19: A conversation with the provincial government of Punjab, Pakistan
World Bank EduTech Podcast

Remote Formative Assessment
Adapting assessments to remote education.

Read@Home
Expanding Opportunities to Read@Home.

T4T
Crowdsourcing tech-based solutions to teacher professional development: a conversation with two innovators.
Supporting Teachers’ Continuous Professional Development in an Ever-Changing Classroom: a Conversation with HundrED.

Events/Videos
EdTech
Webinar: Remote learning for resilient education systems.

Remote Formative Assessment
Event: Innovations in phone-based assessments to support learning.

Lesson Plans
How children learn to read: toward evidence-aligned lesson planning.

T4T
T4T: Adapting teacher professional development programs to low-resource contexts.
T4T: Supporting teachers through blended teacher professional development programs.
T4T: Innovative teacher professional development facilitated through technology.
Key Takeaways from T4T Champions: Technology to facilitate Teacher Professional Development.
Panel discussion: how education systems can harness tech-based solutions to enhance and scale teacher professional development.
T4T YouTube Playlist