

Remote Learning response to COVID-19 Knowledge Pack

With a focus on Least Developed Countries (LDCs) and Fragility, Conflict and Violence (FCV)

Last Updated version: October 30, 2020

Overview: *What does the World Bank and its Global EdTech team do? How does this Knowledge Pack fit in?*

Background

- World Bank's [goals](#)
- World Bank Education Technology team's [vision](#)
- World Bank's [5 EdTech Principles](#)
- World Bank's [EdTech Approach](#)
- **Overview of [this Knowledge Pack](#) on Remote Learning response to COVID-19**



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What are the World Bank's goals?

The World Bank Group has two goals:

To end extreme poverty and promote shared prosperity in a sustainable way.



What is the World Bank's Education Technology team's vision?

The World Bank's Education Technology (EdTech) team's vision is to:
Reimagine Human Connections to Transform Teaching and Learning for All



What are the World Bank's 5 EdTech principles?



1 **ASK WHY:**

EdTech policies and projects need to be developed with a clear purpose, strategy and vision of the desired educational change.



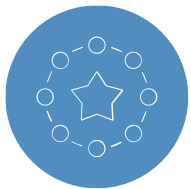
2 **DESIGN AND ACT AT SCALE FOR ALL:**

The design of EdTech initiatives should be flexible and user-centered, with an emphasis on equity and inclusion, in order to realize scale and sustainability *for all*.



3 **EMPOWER TEACHERS:**

Technology should enhance teacher engagement with students through improved access to content, data and networks, helping teachers better support student learning.



4 **ENGAGE THE ECOSYSTEM:**

Education systems should take a whole-of-government and multi-stakeholder approach to engage a broad set of actors to support student learning.



5 **BE DATA DRIVEN:**

Evidence-based decision making within cultures of learning and experimentation, enabled by EdTech, leads to more impactful, responsible and equitable uses of data.

What is the World Bank's 5 EdTech approach?

To operationalize the 5 EdTech principles, the World Bank focuses on:
discovery, deployment and diffusion of new technologies.

Discover, document, generate and analyze evidence-based technology solutions in education relevant to developing countries.



Deploy solutions, at the pilot level and at scale, tackling adoption barriers (including in procurement) and in ways that are informed by evidence and which allow for efficient course correction.



Diffuse related knowledge widely across policy makers in our client countries and support capacity development to better use this new knowledge.



1. WHO?

- Main target [audience & purpose](#)
- What is a [Knowledge Pack](#)?

2. WHY?

- Background [context](#) during COVID-19
- World Bank's [5 EdTech Principles applied to Remote Learning](#) during COVID-19

3. WHAT?

- What can [policy makers do](#)? 5 Key Messages
- EdTech [Decision Tree](#) for Ministries of Education (K-12 focus)
- Mass Broadcast Technologies: (1) [Education Radio](#) (2) [Education Television](#)
- [Costs](#) for Education Radio and Education Television

4. HOW?

- [Printed](#) Materials
- [Online Learning](#) (Higher Education and K-12 in Middle-Income contexts) - 5 key components
- Supporting and Leveraging [Teachers](#)
- Supporting [Parents](#)

5. Additional Resources

- What to [read next](#)?
- How can I [stay in touch](#) with the World Bank's EdTech team?



Click on any [hyperlink](#) to jump directly to the section.

Overview: *Who is this Remote Learning response to COVID-19 Knowledge Pack aimed at serving?*

1. WHO?

- Main target audience & purpose
- What is a Knowledge Pack?



Click on any [hyperlink](#) to jump directly to the section.

[Back to main overview](#)



What is a Knowledge Pack?

A series of short, pragmatic guides on individual topics within EdTech that supports the target audience to make informed yet quick decisions about EdTech interventions in their work, especially with education ministries.



Main Target Audience

This Knowledge Pack aims to serve as a resource for Ministries of Education to use remote learning to respond to COVID-19 based school closures. Hence, the audience for this Knowledge Pack is primarily World Bank Education staff as well as other non-World Bank decision-makers who are supporting Ministries of Education with this.



Purpose

Knowledge Packs are resources developed by the **World Bank's EdTech team** to serve as short, practical guides on individual topics within education technology. Given the need of countries to support out-of-school students with more than 80% of countries facing school closures, this Knowledge Pack focuses on **remote learning in response to COVID-19 with a focus on K-12 (primary and secondary education) in low resource environments**. The advice is as useful for better resourced environments across countries. There is also a section on **online learning for higher education**.

Overview: *Why use Remote Learning as a response to COVID-19 ?*

2. WHY?

- Background [context](#) during COVID-19
- World Bank's [5 EdTech Principles applied to Remote Learning](#) during COVID-19



Click on any [hyperlink](#) to jump directly to the section.

Background context during COVID-19

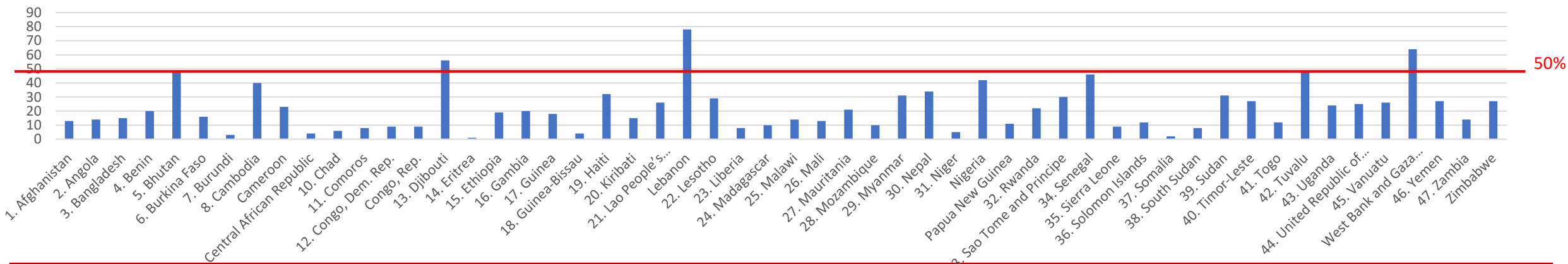


Click [HERE](#) for country examples of using EdTech to support teachers and learners during COVID-19.



- The COVID-19 crisis has left more than 1.5 billion children out of school with **more than 85% countries mandating school closures**, as per [World Bank data](#) as of April 3, 2020.
- With the length of school closures uncertain, countries are attempting to support learning of students out-of-school and in almost all cases, are turning to the use of educational technology (**EdTech**) to deliver and support remote learning.
- Middle- and high-income environments are mostly **deploying online learning systems** (Learning Management Systems, Video Conferencing) with some also **using broadcast media like television** as a supplementary channel of delivery. However the demand for remote learning has also exposed stark digital divides within countries.
- Low-income and Fragile, Conflict and Violence (FCV) affected environments often lack wide-spread connectivity and are **deploying alternative EdTech solutions such as radio**.

%age people using internet* 2017 WB Data (situation hasn't changed much since)



Only 3 of 54 Low Income and FCV countries have Internet penetration rates above 50%. Online learning is not the first option. Alternative edtech options should be considered

Internet data- WB Statistics- <https://data.worldbank.org/indicator/IT.NET.USER.ZS> . * Countries are LDCs as per UN <https://www.un.org/development/desa/dpad/least-developed-country-category/ldcs-at-a-glance.html> and #FCV as per WB- <https://data.worldbank.org/indicator/UY.LT.ZS>

First: Consider World Bank's 5 EdTech Principles applied to remote learning during COVID-19



Principle 1



ASK WHY: In this case, the use of EdTech is to support remote learning at home for students during COVID-19 based school closures.

Principle 2



DESIGN AND ACT AT SCALE FOR ALL: EdTech interventions must be designed for scale for all children. This means (a) using technology that already exists and widely used in the country (b) considering non-technology and low technology solutions and (c) combining technologies for multi-modal delivery such as radio with text messaging.

Principle 3



EMPOWER TEACHERS: Technology should enhance teachers' access to content, data and expertise to improve teaching and learning. **In most cases of COVID-19 based remote learning, the parent is also now a "teacher."**

Principle 4



ENGAGE THE ECOSYSTEM: Education systems should take a whole-of-government and multi-stakeholder approach, both inside and outside the system. They must bring together stakeholders like telecom companies, publishers, local EdTech startups, radio and TV stations.

Principle 5



DATA DRIVEN: Set up feedback mechanisms to collect, analyze and respond to feedback. Data on student learning will need to be collected when schools open to identify learning losses during the crisis.

Overview: *What is required for a Remote Learning response to COVID-19?*

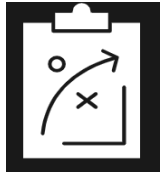
3. WHAT?

- What can policy makers do? 5 Key Messages
- EdTech Decision Tree for Ministries of Education (K-12 focus)
- Mass Broadcast Technologies:
 - (1) Education Radio
 - (2) Education Television
- Costs for Education Radio and Education Television



Click on any hyperlink to jump directly to the section.

What can policy makers do? 5 Key Messages



1. Develop both a **short-term and medium-long term plan**. The short-term plans must focus on emergency responses to keep students learning. The medium-long term plans must prepare for school-reopening, building resilience and transformation to teaching and learning using EdTech.

- ✓ Remember that we can't replicate everything that happens in school while at home, but we should take the opportunity to rethink lifelong learning and how to reach out-of-school children and youth as part of a medium-long term plan.



2. Use the **most widely used existing technology** in the country – For FCV or LICs, most likely, Radio, TV, Mobile Phones.

- ✓ In the short term, it is not prudent to start buying lots of devices or trying e-learning with no prior experience. This can instead be part of a medium-term plan for resilience and reform.



3. Consider using a **combination of multiple technologies** to reach as many children as possible.

- ✓ Multi-pronged approach could include: Radio, TV, Mobile Phones/SMS/[WhatsApp](#), Facebook, e-Books, online learning delivery, and print materials.



4. For online learning, focus on **curating existing (open) content rather than developing content**.

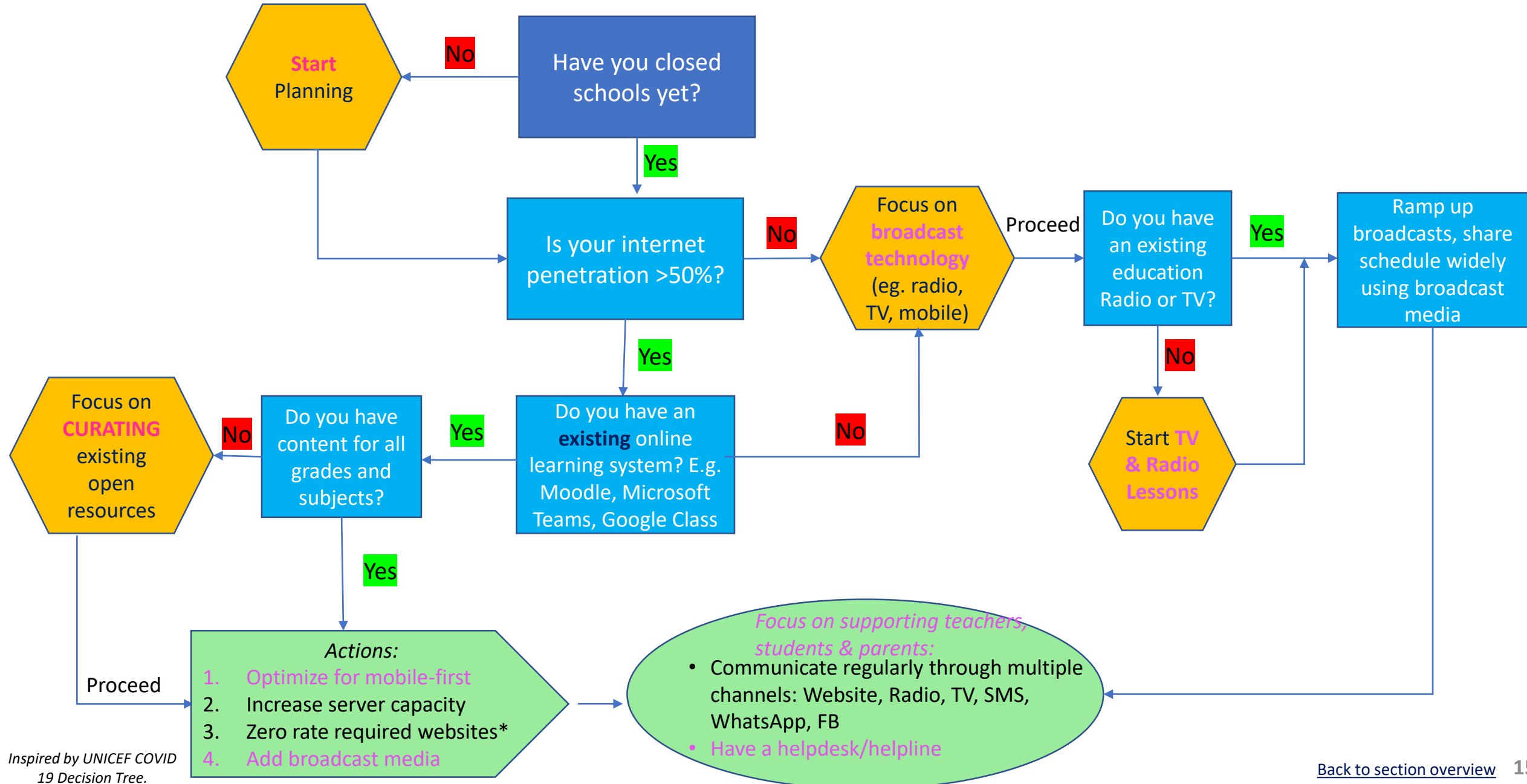
- ✓ Developing good content takes time and expertise. Instead, in the short-term, focus on on existing local and international ([open education resources](#)) content and align these to your curriculum.



5. **Parents and caregivers are critical** pieces of the puzzle - they are now also the teachers.

- ✓ Providing **regular guidance and support** to parents via Radio, TV, SMS, Facebook. This helps provide them with direction and helps boost morale.

EdTech Decision Tree for Ministries of Education (K-12 focus)





Mass Broadcast Technologies – (1) Education Radio

- **Over 30 countries have deployed some form of Interactive Radio Instruction (IRI)** including:
 - **LAC** - Bolivia, Costa Rica, El Salvador, Dominican Republic, Guatemala, Honduras, Guyana, Haiti, Nicaragua, Venezuela.
 - **Asia** - Bangladesh, India, Indonesia, Nepal, Pakistan, Papua New Guinea, Thailand.
 - **Africa** - Democratic Republic of the Congo, Ethiopia, Guinea,, Kenya, Lesotho, Madagascar, Malawi, Mali, Nigeria, Somalia, South Africa, Sudan, Tanzania and Zambia.
- IRI has been shown **to improve learning outcomes by “between 10% and 20%”** when compared with control classrooms not using IRI. – [WB IRI toolkit](#)
- IRI has been used to teach **mostly all basic primary subjects** to **audiences of all ages**, as well as **hard-to-reach and out-of-school populations**. Most IRI programs have targeted **lower primary and pre-school students**.
- IRI has **often targeted improving quality in school** but **some projects target remote learners**.
 - Designs for *in-school use with low teacher skills can be ideal for at home use with parents acting as teacher.*
- Can be **rapidly deployed for countries with existing education radio programs**. May not be a rapid option for countries without existing programs. But **radio is effective in all cases for communication** with parents and teachers e.g. providing daily tips and schedules that support learning.


Pros: Can reach wide audience, no prior skills needed by students/parents, can be done in local languages.

Cons: Need to develop good scripts to have impact; requires scheduling; can take time to develop scripts for countries without radio programs.

Recommendation for enhanced use of Radio - Set up [SMS Short-Codes](#)*/ Toll-free lines for student/parent queries, use SMS to distribute schedules + use Radio to communicate.

- “Because radio is a one-way broadcast medium, IRI programs are not truly interactive in the sense of two-way communication. *Short pauses* provided throughout the lessons allow teachers and learners to stop and react to questions and exercises through verbal and physical responses to radio characters, group work, experiments, and other physical and intellectual activities while the program is on the air.”
– [WB IRI Toolkit](#)

World Bank funded projects using Radio programs:

- [Burundi Education Sector Reconstruction Project](#) (FY 2007-12) 
- [Burkina Faso Education Access and Quality Improvement Project](#) – Active project

Mass Broadcast Technologies – (2) Education Television



- TV is being **currently used by 60+ countries*** for remote learning during the COVID-19 crisis. TV broadcasts can be terrestrial or by satellite as well as streamed online.
- **Possibly the fastest tool to deploy** especially for lecture-based classes (can record good teachers teaching without much training).
- **More than one channel is recommended to reach multiple grades and subjects** (negotiate with commercial TV providers for [more channels](#) during the day).
- **Edutainment programs already exist** in some countries (e.g. [Ubongo](#), [Sesame Street](#)) and can be used as part of the broadcast to support student learning and engagement.
- Essential to **have and communicate schedules** for learning well in advance.
- **Consider synchronous (real-time*) and asynchronous (on-demand*) sessions.**

Pros: Fastest deployment for lecture style, TV Video can be recorded/ re-transmitted providing opportunity for students to go back and review or catch up if missed lesson

- Cons:**
- Engaging TV lessons/edutainment requires scripts and good production which takes time.
 - Only useful for areas with TV penetration (missing in some parts of low-income countries).
 - Competition with news/entertainment for children's attention.

Recommendation for enhanced use of TV: [Stream TV online](#) (e.g. [via YouTube](#)) if bandwidth permits, distribute schedules by SMS/social media, set up SMS/Toll-free lines for student/parent queries.

KENYA INSTITUTE OF CURRICULUM DEVELOPMENT MEDIA AND EXTENSION BROADCAST TO SCHOOLS TIME TABLE - MARCH 2020					
TIME/DAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
9.10 – 9.30	English Std 8	Maths Std 7	English Std 6	English Std 7	IRE GRADE 3
9.30 – 9.35	EDUCATIONAL NEWS AND ANNOUNCEMENTS				
9.35 – 9.55	Maths Std 6	Science Std 5	Kiswahili std 8	Science Std 8	IRE std 6
9.55 – 10.05	EDUCATIONAL NEWS AND ANNOUNCEMENTS				
10.05 – 10.25	Maths std 8	Hygiene grade 2	Eng std 8 (next programme)	CRE Grade 1	IRE std 7
10.25 – 10.30	EDUCATIONAL NEWS AND ANNOUNCEMENTS				
10.30 – 10.50	CRE Std 7	CRE Std 8	Hygiene and Nutrition grade 3	Life skills Std 8	I.R.E Std 8
10.50 – 11.05	NEWS AND OR ANNOUNCEMENTS				
11.05 – 11.25	Social Studies Std 5	Kiswahili Std 6	CRE Grade 2	Kiswahili Std 7	Social studies std 8
11.25– 11.30	LUNCH/EDUCATIONAL NEWS AND ANNOUNCEMENTS				

Source: [Kenya Institute of Curriculum Development](#)

ТУСГАЙ ХЭРЭГЦЭЭТ БОЛОВСРОЛЫН ТЕЛЕ ХИЧЭЭЛ						
	ДАВАА 3-р сарын 16	МЯГМАР 3-р сарын 17	БХАГАВА 3-р сарын 18	ПҮРЭВ 3-р сарын 19	БААСАН 3-р сарын 20	БЯМБА 3-р сарын 21
1-дүнх	Монгол хэл		Монгол хэл	Монгол хэл	Монгол хэл	Монгол хэл
2-дүнх	Математик		Математик	Математик	Математик	Математик
3-дүнх	Нягтны ахуйн баримжаа		Нягтны ахуйн баримжаа	Нягтны ахуйн баримжаа	Нягтны ахуйн баримжаа	Нягтны ахуйн баримжаа
4-дүнх	Монгол хэл		Монгол хэл	Монгол хэл	Монгол хэл	Монгол хэл
5-дүнх	Математик		Математик	Математик	Математик	Математик
6-дүнх	Нягтны ахуйн баримжаа		Нягтны ахуйн баримжаа	Нягтны ахуйн баримжаа	Нягтны ахуйн баримжаа	Нягтны ахуйн баримжаа
7-дүнх						
8-дүнх						
9-дүнх						

Source: [Ministry of Education, Culture, Science and Sports of Morocco](#)

Click [HERE](#) for more resources on education TV including (1) [country examples](#) of using TV to respond to COVID-19 (2) practical guidance note on starting TV lessons (3) [curation of education TV resources](#) across the world.

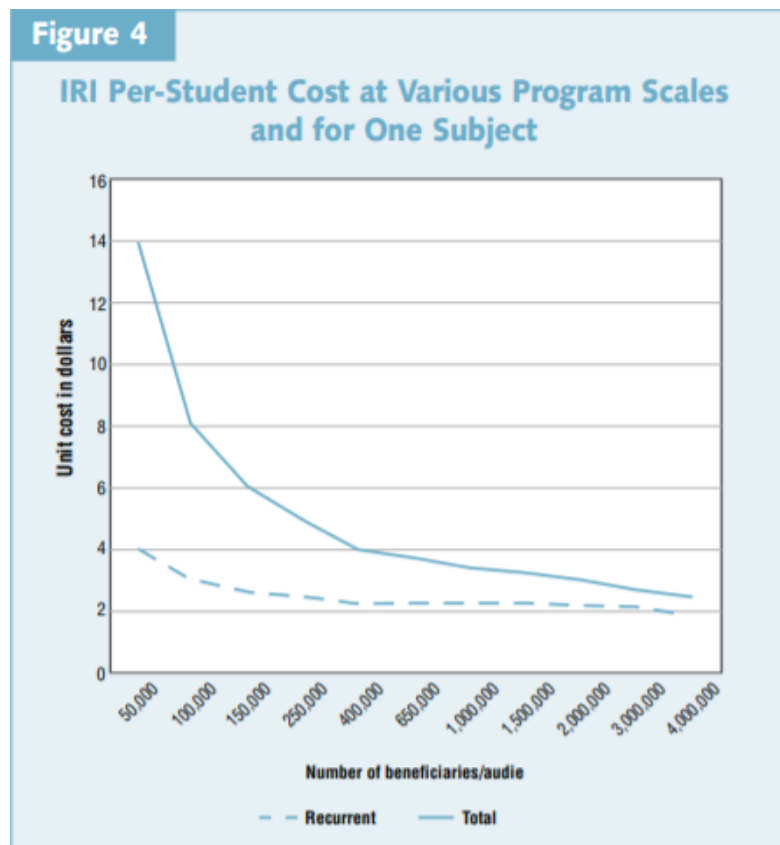


Costs for Education Radio and Television

Radio Costs

- Costs are in the range of \$3-\$8 per student per year.
- Costs are front loaded with heavy start up costs that include studio and transmission equipment, developing curriculum and scripts, production costs as well as training.
- Recurrent costs include airtime, distribution of printed materials, improvement of materials.
- Radio benefits from economies of scale – costs per student reduce as more are reached.

Source: [World Bank Toolkit](#)
“Improving Education
Quality through Interactive
Radio Instruction (IRI)- A
Toolkit for Policy Makers
and Planners”



Source: Dock and Helwig (1999: 38).

Source: Extract from World Bank IRI Toolkit

Television Costs

- The [World Bank IRI toolkit](#) quoting other studies notes that “cost of using television is usually higher than that for radio—typically, more than 10 times as high per student reached”.
- Educational Television cost components (if starting a new educational television channel) include:
 - transmission equipment
 - camera equipment
 - studio equipment
 - hiring and training of studio and production staff
 - recurring costs include renting airtime as well as salaries for studio crew and master teachers.
- Costs will be lower for countries with existing educational TV although upgrades of studio or transmission equipment may be required in some cases.

Overview: *How can a Remote Learning response to COVID-19 be implemented?*

4. HOW?

- [Printed](#) Materials
- [Online Learning](#) (Higher Education and K-12 in Middle-Income contexts) - 5 key components
- Supporting and Leveraging [Teachers](#)
- Supporting [Parents](#)



Click on any [hyperlink](#) to jump directly to the section.

Printed Materials



- Textbooks and printed [study guides](#) can be useful resources for students and parents. However, **developing and physically distributing print materials during school closure can be challenging** and may not be the best use of resources.
 - Distribution is challenging even during non-crisis periods.
- Instead:
 - If schools have not closed yet, **plan for students to take existing textbooks home**.
 - Where Ministries have Intellectual Property Rights (IPR) on print materials, **make electronic copies widely available online** (eg. can be shared via WhatsApp).
 - **Negotiate with publishers** to provide [electronic copies of book](#).
 - **Develop simple [study guides](#)** (in multiple languages) **and share [electronically](#)** (eg. social media, [WhatsApp](#)).
 - **Use newspaper as a medium** – Have a daily education supplement/section with simple study guides.



Many textbooks in India have QR codes. When students scan them, it connects them to further study material and practise assessments. Source: [Diksha](#)

Pros: Can reach everyone, no additional skills needed (except literacy skills).

Cons: Requires literacy skills, illiterate parents will feel challenged to support their children, takes time to develop and distribute printed material, distribution is a major challenge for many countries.

Online Learning (Higher Education and K-12 in middle-income contexts) – 5 key components



Platforms

- Platforms are “containers” of content and used to facilitate communication, collaboration and assessment.
- Learning Management Systems - “traditional” course management systems (e.g. [Moodle](#), [Kolibri](#)) + ‘enhanced’ collaboration & document management-based system (e.g. Microsoft Teams, Google Classroom)
 - Video Conference System for synchronous* interactions (eg. Zoom, [BigBlueButton](#), [Jitsi](#))



Content

- Digital content includes text, images, videos, audio packaged in various formats such as PDF, e-Pubs, podcasts, GIFs, videos, animations and can be static or interactive.
- Use own existing national content, if it exists
 - If none exists, supplement with or curate international content/free Open Education Resources
 - Align to the curriculum structure



Hosting

- Hosting refers to technologies to store the platform and content on a computer system and make them available over the internet. Examples:
- Local university/private cloud
 - NREN hosting/private cloud
 - Public Cloud (eg. Amazon Web Services, Microsoft Azure, Google Cloud)



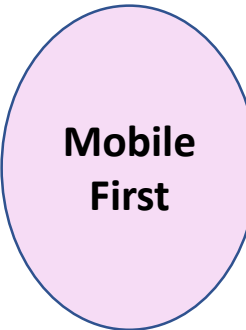
Connectivity

- Students in many low/middle-resource contexts connect to online learning with limited internet (eg. mobile internet). Equity (lack of connectivity and/or devices) and affordability are critical issues. For affordability:
- [Zero rating](#) LMS sites- working with local Telcos & Ministries of ICT/Telco regulators
 - Negotiating reduced data costs with Telcos
 - Explore [Universal Service Funds](#) (USF) with the Telco Regulator



Training & Support

- It is critical to support students and teachers during this transition to remote online learning:
- Organize online- training for teachers
 - Set up a Help Desk – leverage cloud-based help desk (eg. Amazon Connect)
 - Use of SMS/Social Media to reach ALL learners - work with Telcos to set up [SMS short-codes](#)



Supporting and leveraging Teachers



- 1) Ensure **regular continuous communication** with teachers.
 - Provide updates and guidance on how to support themselves and students during school closure.
 - Provide helpdesk for teachers to ask questions and seek guidance.



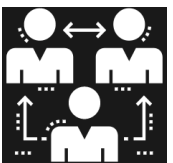
- 2) Leverage teachers who can **deliver Radio and TV broadcast lessons** or create short electronic student and parent guides. Many countries are finding innovative teachers on YouTube for instance.



- 3) Leverage time during school closure for **teacher professional development** using online tools.
 - Provide training for teachers using simple online tools.



- 4) Identify **master teachers to provide guidance for teachers** regarding daily short lessons/tips that all teachers can, in turn, be tasked to communicate directly over SMS to parents of their students or directly with students.



- 5) Ensure **school leaders support teachers** as they in turn, support parents and students.
 - Schools can create [WhatsApp](#) groups for parents and teachers.
 - Create regular SMS communication from school leaders and teachers to parents.



Click [HERE](#) for country examples of using EdTech to support teachers and learners during COVID-19.

Click [HERE](#) to access a curation of resources from across the world being used to support teachers and learners with remote learning.



It is critical to support parents at home through:

(1) Pedagogical Support: Provide guidance to parents on how to manage home schooling.

- Provide guidance on [scheduling](#) for home schooling including schedules of Radio, TV, Online lessons.
- Provide simple tips on [how to structure](#) student learning
- Provide simple lesson plans.
- Provide daily/weekly activities that students can engage in.
- Provide means for parents to ask questions/seek guidance (eg. set up a helpline).
- Provide daily simple assessments/activities.



(2) Socio-emotional support: Parents need to know they are not alone and require support with structure.

- Provide regular messages of support and [encouragement](#).
- Important for parents to hear directly from leadership (e.g. Minister) through a weekly broadcast (eg. SMS, Facebook, etc.)
- Encourage peer support (eg. host parents on radio programs to share experiences and advice on what to do (e.g. parent phone-in program).



Tools

- Radio, TV broadcasts .
- SMS (Work with Telcom companies to setup [SMS Short Codes](#) for parents to subscribe to get messages/ask questions.)
- Social media - [WhatsApp](#), Facebook.
- Setup virtual helpline / virtual call center - with Toll Free numbers, SMS, Email, Social Media.
- Host all resources (eg. schedules, tips, study guides) for parents in one place (eg. Ministry website).



REMEMBER TO:
Communicate regularly and consistently in local languages.



Click [HERE](#) for a guidance note on education TV with examples of scheduling and other support for parents.

Overview: *In this section, find additional resources.*

5. Additional Resources

- What to [read next](#)?
- How can I [stay in touch](#) with the resources and work of the World Bank's EdTech team?



Click on any [hyperlink](#) to jump directly to the section.



What to read next?

Resource	Overview
1 Rapid response reference note: Remote Learning and COVID-19	A 12-page World Bank rapid response reference note to brief policymakers on general rules of thumb of potential relevance when quickly exploring and rolling out the use of remote learning, distance education and online learning at scale.
2 (Short) Guidance Note on Remote Learning & COVID-19	A short 3-page World Bank guidance note offers principles to maximize countries' effectiveness in designing and executing remote learning during COVID-19 based school closures.
3 Education Television Programming as a response to Remote Learning: Guidance Note	A short World Bank guidance (6 pages) on using educational TV as a form of remote learning. 5 practical things to do are suggested for countries wanting to start this. 5 things to consider are suggested to enhance this programming. 30+ current examples are used to make the case.
4 Country Responses to remote learning during COVID-19	A World Bank catalogue of how countries are using EdTech (including online learning, radio, television, texting) to support access to remote learning during COVID-19
5 Remote Learning and Distance Education during COVID-19: A Resource List	A curation of resources by the World Bank's EdTech team organised by 'Content and Repositories', 'National Learning Platforms', 'Other Platform and Software' (eg. LMS, Training, Video conference, etc.) and 'Radio and TV'.
6 Academic Paper on Education Television in Mexico - Telesecundaria	A study about the secondary school expansion through televised lessons through the labor market returns of the Mexican Telesecundaria over the period of 1968 – 2019.
7 (i) WB toolkit on Interactive Radion Instruction (ii) Academic note on Interactive Radio instruction	(i) A World Bank toolkit for Policy Makers and Planners on 'Improving Educational Quality through Interactive Radio Instruction'. (ii) An academic study on 23 Years of improving educational quality through interactive radio instruction.
8 Broadcast Media in Distance Education: A Self-Instructional manual for Staff Development	A UNESCO manual for training people who coordinate courses in distance education institutions and wrote scripts for their TV and radio programs. It is also aimed at producers involved in such broadcast programs.



Connect with World Bank's EdTech team



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[World Bank EdTech webpage and resources](#)



[Medium Posts](#) *(Weekly/Monthly mailers)*



[Blogs](#)



Podcast: [Apple Podcasts](#) | [Spotify](#) | [Anchor](#)



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