In support of
COVID-19
Global Education Coalition
Launched by UNESCO

COVID-19 response – hybrid learning

Hybrid learning as a key element in ensuring continued learning

Version 2 as of July 2020

READ MORE

01

Introduction

GO TO CHAPTER

02

The problem

Why it is important

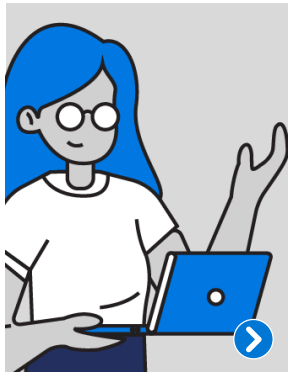
GO TO CHAPTER

03

The response

Framework and practices

GO TO CHAPTER



04

The checklist

Summary of actions

GO TO CHAPTER

05

Case studies

Lessons learned

GO TO CHAPTER

06

Appendix

GO TO CHAPTER

01

Introduction

READ MORE

- Context, objectives, structure of this document
- The focus of this chapter is on hybrid learning
- How can this chapter be used?
- Hybrid learning strategy key considerations
- Remote learning considerations are also relevant to hybrid learning, but are addressed in a separate chapter

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Context, objectives, structure of this document

Context

In the context of the **Global Education Coalition**, formed by UNESCO to support governments in their educational response to COVID-19, UNESCO has collaborated with partners to develop a **COVID-19 Response Toolkit in Education**. This toolkit contains 9 chapters,
5 of which are being developed
in collaboration with McKinsey & Company

Objective

The goal of these chapters is to support countries in their K–12 educational response to COVID-19 by providing practices and examples, concrete steps for intervention, and tactical action checklists. This particular chapter focuses on the topic of hybrid learning.

Structure

This chapter contains the following sections:

- **The problem – why it is important:** *Defining the chapter's topic and providing context on the challenge at stake*
- **The response – framework and practices:** *Providing a framework of response including practices from other country responses in previous crises or during COVID-19*
- **The checklist – summary of actions:** *Synthesizing the framework into a series of tactical actions that a country can take to prepare and implement its response*
- **Case studies – lessons learnt:** *Providing case examples from other countries' response during COVID-19 or other crises, including context, approach, impact and key learnings*

While treated as a standalone topic in this chapter, hybrid learning is intricately related to other parts of the response. In particular:

- **1. Remote learning strategy and 2. Remote learning platforms:** Hybrid learning offering is dependent on the remote learning strategy and solutions that exist
- **3. Planning to reopen safely (health and safety):** School opening timetables and health safeguards determine the amount of in-person learning that can be offered, thereby defining the hybrid learning possibilities
- **4. Re-enrollment:** Hybrid learning strategy is dependent on the number of students that re-enroll and can help be a factor in succeeding in re-enrolling students
- **5. Remediation:** If students have additional needs, the hybrid learning strategy can be part of the remediation solution
- **6. Resurgence planning:** The ability to seamlessly switch between in-person, remote, and hybrid learning approach is a critical part of resurgence planning
- **8. Recommitment and reform:** Elements of hybrid learning may be desirable in the longer term even after the initial crisis is over
- **9. Organizing for the response:** The organization of hybrid learning should take place along with other aspects of the response through a coordination response team

In collaboration with
McKinsey & Company

The focus of this chapter is on hybrid learning

1

Remote learning strategy

Defining and continuously improving remote learning measures

Supporting key stakeholders (students, parents, teachers) for effective use of these solutions

Monitoring and quality assurance

In collaboration with
McKinsey & Company

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2

Remote learning platforms

Compendium of remote learning solutions, tools, and platforms

Developing an evaluation framework to help identify which solutions, tools, and platforms are most relevant to the local context

3

Planning to reopen safely (health and safety)

Evaluating the trade-offs to school reopening

Defining health and safety measures to put in place before reopening

4

Re-enrolment

Identifying students at risk of dropout

Engaging students, parents and communities to ensure all students are back to school

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5

Remediation

Bringing students to learning competency level , and catching up lost learning deriving from school closures and pre-existing learning gaps

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6

Resurgence planning

Preparing for potential resurgence by setting up the infrastructure to anticipate it and effectively respond to it

7

Hybrid learning

Defining a learning approach combining remote and in classroom learning during school reopening and in preparation for potential resurgence

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8

Recommitment and reform

Identifying longer-term implications of the crisis

Rethinking the new education system and reforming accordingly

9

Organizing for the response

Defining a new architecture to plan, coordinate, and manage stakeholders and external partnerships

Developing the required capabilities for an effective response

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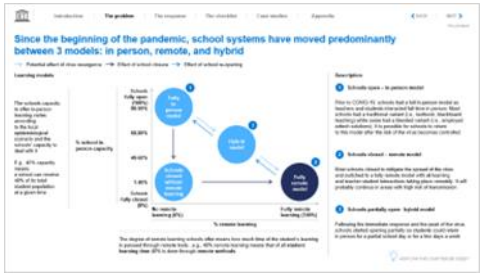
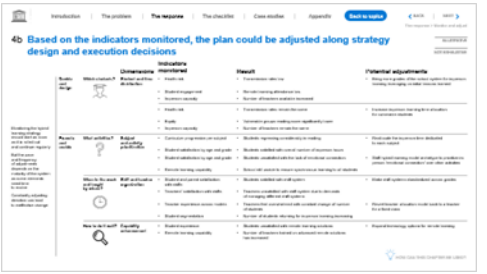
How can this chapter be used?

If you are a ...	You can use the chapter by ...
Policy-maker or advisor	• Reading the problem statement to validate that the chapter is relevant to your context and to support a case for organizing hybrid learning strategies in your school system • Reviewing the framework of response to test which areas are currently covered in your response and where the gaps are • Jumping to the relevant sections to deep dive on the specific gaps that you identified • Testing your plan against the checklist to understand which actions can be taken to address the gaps and how to organize for hybrid learning
Teacher or school principal	• Reading the problem statement to validate that the chapter is relevant to your school system • Reviewing the framework of response from the perspective of the local level, focusing on strategies that can be implemented in your context and locally • Testing your local plan against the checklist or using it for inspiration to draft your own school or class checklist, keeping in mind the guidance issued by the higher administrative levels in your area • Checking additional resources in the appendix for more information
Other	• Reading the problem statement to get an overview of the topic and its importance • Reviewing the framework of response to inform yourself on the key steps that school systems take for hybrid learning • Looking through relevant case studies to understand how countries tactically put in place hybrid learning models

In a rush? Check out these key selected pages for a quick look





Hybrid learning strategy key considerations (1/2)

This chapter addresses how systems can set up **hybrid-learning systems** that **combine both remote** and **in-person learning** to ensure learning continuity and improve the student experience. It includes an overview of the imperative for a hybrid-learning approach in the face of increased physical distancing requirements in schools, an approach for systems to develop and execute a robust hybrid-learning strategy, and a checklist of actions to take.

The problem

Schools are gradually transitioning from full-time remote learning back into the classroom, though continued physical distancing requirements and other health safeguards make it challenging to return to full-time in-person instruction. Furthermore, the threat of resurgence requires systems to be ready to switch between in-person and remote learning to ensure learning continuity.

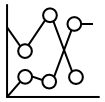
Developing resilient hybrid-learning models combines many of the challenges of remote learning (student adoption, engagement, and equity) with new challenges such as allocating **scarce teacher and infrastructure capacity** equitably among students, managing increasing **operational complexity**, and switching from remote to in-person instruction models.

The response

Creating an **effective hybrid-learning strategy** involves an iterative approach with four steps: understand and envision, decide and design, enable and execute, and monitor and adjust.

Understand and envision

1



This step involves setting the parameters of the hybrid-learning strategy. System leaders can align on the **guiding principles** for the hybrid-learning strategy and the trade-offs in scope, boldness and students' pacing. The other critical component is assessing the system's current state—across **student and family needs and preferences**, the **effectiveness of remote-learning** options, and the **teacher's capacity for providing in-person learning—**by measure of teachers and staff, physical space, transportation, and budget availability.

Hybrid learning strategy key considerations (2/2)

2

Decide and design

- Once the strategy's parameters are set, the next step is to determine the allocation of scarce capacity:
- **By grade:** Decide how much in-person learning can be provided to each grade-level based on its impact on student and community health, economic activity, and learning outcomes. Should certain ages (e.g. early elementary, graduating, or transition classes) be prioritized to receive full-time learning while other grades are provided hybrid or remote learning?
- **By specific populations within grades:** How much in-person learning should we provide to vulnerable at-risk students, to children of essential workers, or other groups?

3

Enable and execute

- Once student groups have been prioritized, the next step is to prioritize in-classroom time for each group:
  - **By subject:** Which subjects are priorities for in-person learning and which should be studied remotely?
  - **By learning activity:** Which parts of the teaching and learning process should be reserved for in-person learning? Several models are possible to answer this question: homework model (instruction at school, asynchronous practice at home); flipped classroom (video instruction at home, practice at school); synchronous live (remote and in-person simultaneously by videoconference); and asynchronous hybrid (mix of learning activities in-person and through asynchronous platform at home)
- Once systems have chosen a hybrid-learning model, they can choose the optimal shift system (staggered hours, days, weeks) for in-person learning and allocate staff accordingly. This may require filling capability or resource gaps (e.g., expanding teaching capacity through hiring additional teachers, aides, and coaches).

4

Monitor and adjust

- Hybrid-learning models are an experiment by nature. Systems will need to evaluate and adjust their approach based upon changing circumstances, student engagement and learning outcomes, and feedback from students, parents, and teachers.

Remote learning considerations are also relevant to hybrid learning, but are addressed in a separate chapter

Hybrid learning consists of in-person and remote learning …

Hybrid learning

In-person learning

Remote learning

… so it will be impacted by remote learning considerations …

- Remote learning challenges
- Infrastructure and connectivity constraints
- Remote learning solutions options
- Remote learning solutions rollout
- Teacher training to teach remotely
- Parent support to accompany student learning at home
- Closer accompaniment of vulnerable students

… which are only explored in the remote learning chapter

This chapter focuses on the integration of in-person and remote learning (assuming strategies for both already exist)

It can be seen as an extension of the remote learning chapter that addresses a series of considerations that though crucial for hybrid learning are not treated in this chapter

02

The problem

Why it is important

- Definition of hybrid learning
- Many countries are beginning to fully or partially reopen K-12 schools
- Since the beginning of the pandemic, school systems have moved predominantly between three models: in person, remote, and hybrid
- To become truly resilient, all school systems can develop capacity to switch easily from in-person learning to remote learning …
- … but educational systems and schools face significant challenges in setting up hybrid learning systems, and in preparing to switch between models

READ MORE

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Definition of **hybrid learning**

Hybrid learning can be defined as a learning approach that combines both remote learning and in-person learning to improve student experience and ensure learning continuity - it is of particular relevance during school partial reopening and in preparation for potential virus resurgence

Many countries are beginning to fully or partially reopen K-12 schools

AS OF JUNE 15TH 2020

Country-wide school r(e)open | Localized school closure/reopen | Country-wide school closure

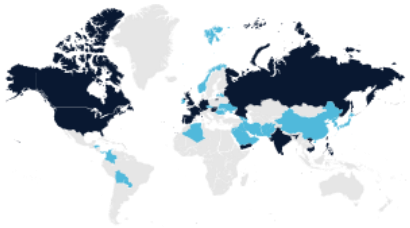
Status of K-12 schools in countries around the world[1]

2/15/2020

Country-wide closures: 1

3/15/2020

Country-wide closures: 53

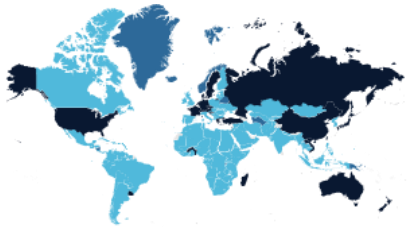


4/15/2020

Country-wide closures: 190

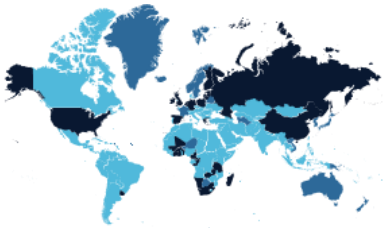
5/15/2020

Country-wide closures: 162



6/15/2020

Country-wide closures: 119



Schools have begun to reopen in …

- Sweden[2]
- Japan (Localized from 1st wk of April)
- Cook Islands (April 2)
- Marshall Islands (Apr 6)
- Tonga (April 14)
- Vanuatu (April 14-20)
- Denmark (Primary from Apr 15)
- Norway (Primary Apr 20)
- Vietnam[8] (April 20)
- Madagascar (April 22)
- China[4] – (April 27)
- Germany (Last wk. of April)
- New Zealand (Apr end)
- Israel[5] (1st week of May)
- Austria[6] (May 4)
- Papua New Guinea (May 5)
- Australia (May 11)
- France (May 11)
- Iceland (May 11)
- Netherlands (May 11)
- Seychelles (May 11)
- Switzerland (May 11)
- South Korea (May 20)
- Cyprus (May 21)
- United Kingdom (June 1)

1 As of 6/15/2020; 2 Primary/secondary schools opened as of April 16; yet, closed for students >16 years of age; 3 At least one level at the national scale; 4 Although very few schools in selected regions opened March end
5 Special education schools reopened on April 21; 6 For graduating classes only, all compulsory classes May 18

Source: UNESCO; UNICEF

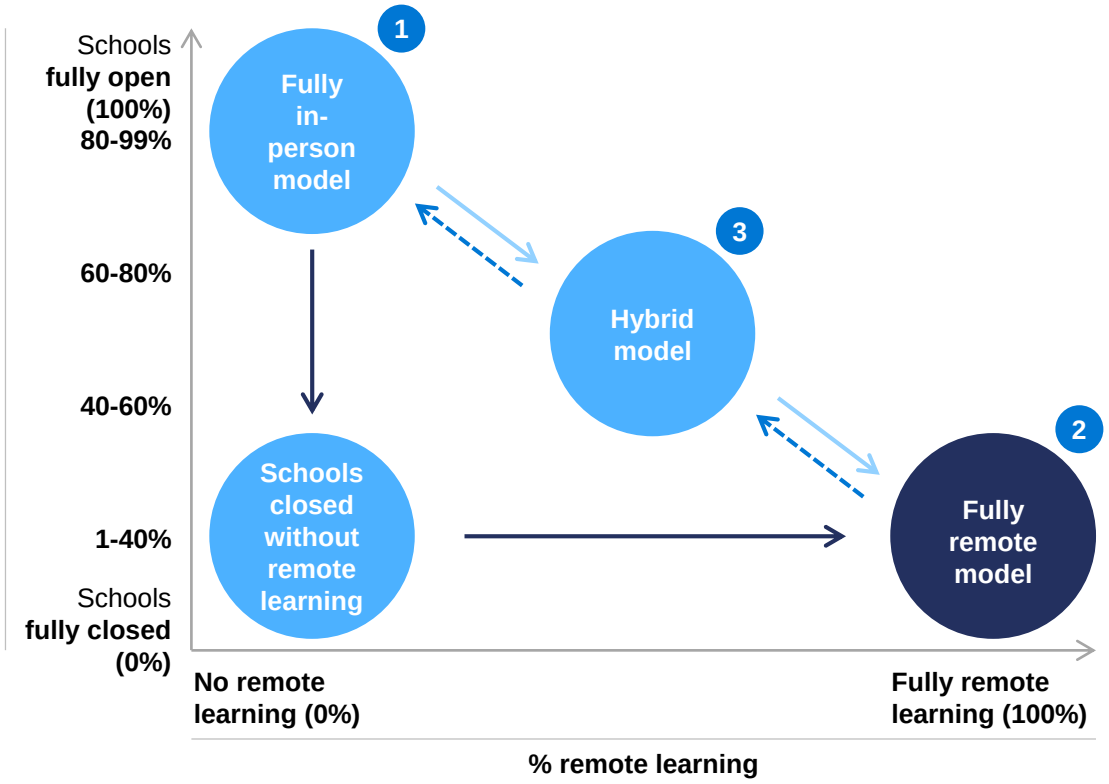
Since the beginning of the pandemic, school systems have moved predominantly between three models: in-person, remote, and hybrid

→ Potential effect of virus resurgence → Effect of school closure --> Effect of school re-opening

Learning models

The schools capacity to offer in-person learning varies according to the local epidemiological scenario and the schools' capacity to deal with it

E.g., 40% capacity means a school can receive 40% of its total student population at a given time



The degree of remote learning schools offer means how much time of the student's learning is pursued through remote tools, .e.g., 40% remote learning means that of all **student learning time** 40% is done through **remote methods**

Description

1 Schools open – in-person model

Prior to COVID-19, schools had a full in-person model as teachers and students interacted full-time in person. Most schools had a traditional variant (i.e., textbook, blackboard teaching) while some had a blended variant (i.e., employed Edtech solutions). It is possible for schools to return to this model after the risk of the virus becomes controlled

2 Schools closed – remote model

Most schools closed to mitigate the spread of the virus and switched to a fully remote model with all learning and teacher-student interactions taking place remotely. It will probably continue in areas with high risk of transmission

3 Schools partially open– hybrid model

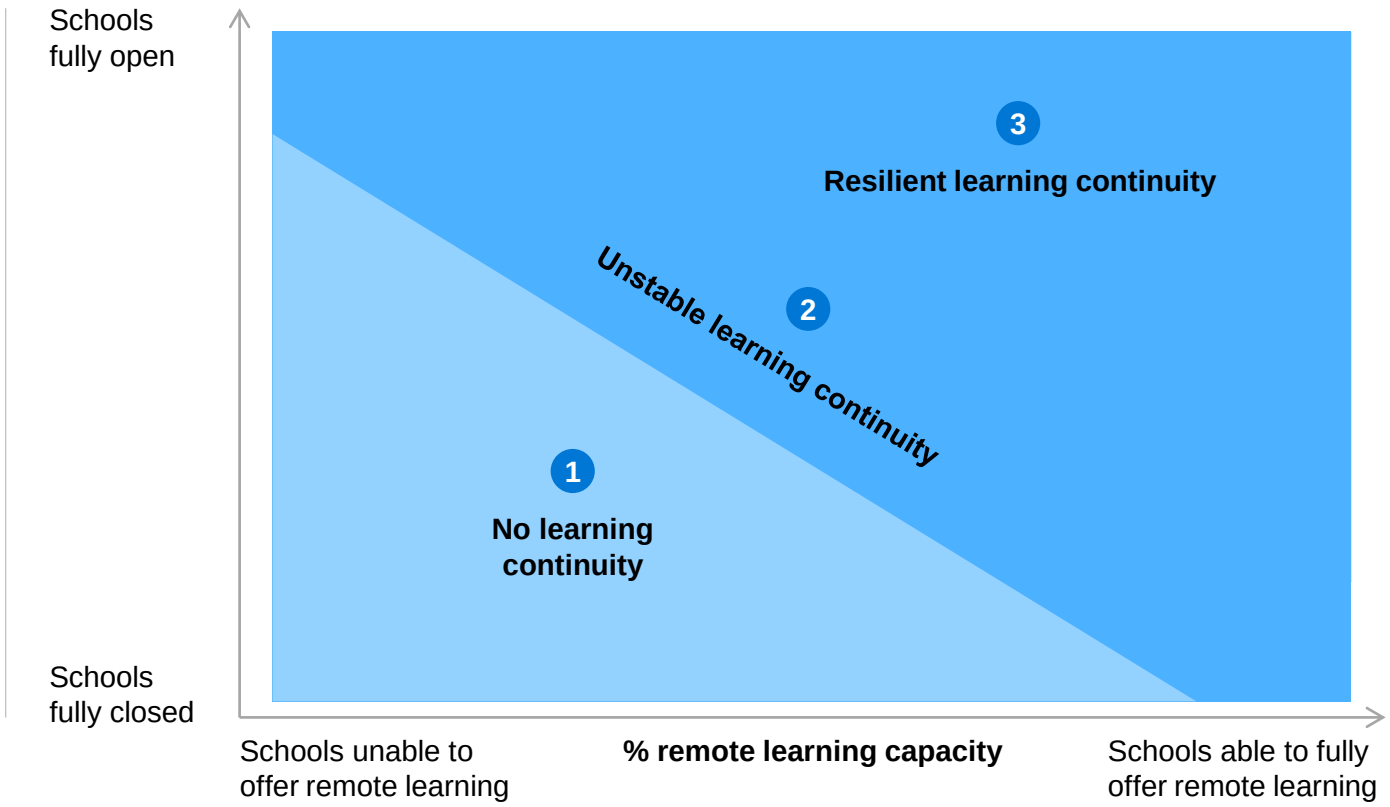
Following the immediate response and the peak of the virus, schools started opening partially so students could return in person for a partial school day or for a few days a week

HOW CAN THIS CHAPTER BE USED?

To become truly resilient, all school systems can develop capacity to switch easily from in-person learning to remote learning …

ILLUSTRATIVE

Learning models



Description

As school systems navigate school reopening and prepare for future virus resurgence, they can be found to be in one of three states:

1. **No learning continuity:** schools are at risk of not ensuring learning continuity given that in-person and remote learning capacities are not sufficient to address the full learning needs
2. **Unstable learning continuity:** schools are vulnerable to falling into "no learning continuity" if they experience a shock into their remote learning capacity (e.g., platform malfunctions) or if do not increase capacity in their in-person capacity
3. **Resilient learning continuity:** schools have capacity to ensure learning continuity as it has "extra" remote learning capacity to quickly switch to remote learning in case in-person learning is disrupted

School systems need to **channel** their **budgets** to **enable** enough **capacity** for both in-person and remote learning, the **operational agility** to be in a state of "resilient learning continuity" and allow for an **easy shift** between adequate mixes of in-person and remote learning methods

… but educational systems and schools face significant challenges in setting up hybrid learning systems, and in preparing to switch between models

NOT EXHAUSTIVE

Type

Remote learning

Challenge

Difficulties across **student adoption**, **teacher training**, choosing **right technological solutions,** and **school system constraints**

Difficulty in **achieving the same learning outcomes** through remote learning as in-person learning with the current level of system prepared-ness across the **majority of student population**

In-person learning

Safety concerns and related constraints **of social distancing measures,limited teacher availability** and **functioning of handwashing facilities**

Difficulty in dealing with the increased complexity of **operationalizing diverse in-person schedules and segmentation** to adapt to the circumstances

Integration and switching

Limited capacity deciding which **students** and which **parts of the curriculum** are **prioritized** between **each method of learning or both**

Limited experience in designing integrated students' journeys across both learning methods

Unfamiliarity with alternative **staffing models** that distribute capacity between learning methods and allocate students to teaching teams that deliver remote and in-person learning in an integrated way

Increased operational complexity to **adjust to** a **remote** and **in-person mix** and **switch between** both learning methods

Source: UNESCO; World Bank; Africa4tech

03

The response

Framework and practices

READ MORE

- Hybrid learning involves a 3-step approach supported by continuous monitoring and adjustment
  - Understand and envision
  - Decide and design
  - Enable and execute
  - Monitor and adjust

CLICK EACH TOPIC TO VIEW CONTENT

Hybrid learning involves a three-step approach supported by continuous monitoring and adjustment

01 **Understand and Envision:** Assess the needs and capabilities

- 1A Define **guiding principles** for hybrid learning strategy
- 1B Assess **students' needs** for **remote** and **in-person learning**
- 1C Assess the **accessibility** and **effectiveness** of current remote learning solutions
- 1D Assess **teacher capacity** (e.g., ability to return to school or teach remotely)
- 1E Assess **availability of physical space** for in-person learning
- 1F Assess **availability** and **flexibility of support levers** (e.g., transportation, cleaning, and budget)

02 **Decide and Design:** Determine the hybrid learning model

- 2A Decide whether to **distribute capacity evenly** or **prioritize certain segments**
- 2B Decide which **grades to prioritize** for in-person learning
- 2C Decide whether certain **vulnerable groups** should be **brought back irrespective of grade**
- 2D Define **hybrid model combination** considering school system context
- 2E Decide how to **phase in more students** over time as epidemiological conditions improve

03 **Enable and Execute:** Operationalize the hybrid learning method for each grade level

- 3A Decide which **subjects** should be **studied remotely** and which ones **prioritized** for **in-person learning**
- 3B Determine which **learning activities** should be **prioritized** for **in-person learning**
- 3C Determine **optimal distribution** of **hybrid model** across **age** and **subjects**
- 3D Organize a **shift system** that distributes access to in-person learning amongst students (e.g., half days)
- 3E Define the **teacher allocation model** between learning methods
- 3F Fill **capability gaps** to enable delivery of quality hybrid learning

04 **Monitor and Adjust:** evaluate hybrid learning experience

- 4A Monitor key indicators of hybrid learning processes and outcomes
- 4B Set up an **adjustment mechanism** to continuously adapt the hybrid learning strategy to emerging needs

HOW CAN THIS CHAPTER BE USED?

Hybrid learning involves a three-step approach supported by continuous monitoring and adjustment

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04 Monitor and Adjust: evaluate hybrid learning experience

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1A When setting a vision, leaders can consider balancing between key trade-offs

NOT EXHAUSTIVE

Balancing between …

Limited scope to "now"	Creating a hybrid learning strategy simply to mitigate immediate disruptions of COVID-19			**Expanded scope to future**	Rethinking the learning strategy to optimize remote and in-person learning methods fully
Light curriculum	Reducing the curriculum that has to be covered to reduce pressure on students and teachers			**Full curriculum**	Maintaining full curriculum coverage expectations to prevent learning losses and disruption of future academic years
Class pace	Having students follow the pace of the teacher and the class to keep everyone at same level	←		**Self-paced**	Allowing students to study at their own pace to tailor expectations to their situation
Prioritize vulnerable students	Prioritizing in-person learning for a subset of students who have a higher learning and well-being risk	→		**Standardized allocation**	Distribute the same mix of remote and in-person learning across all students
Play safe	Changing only incrementally from the traditional educational model starting point			**Experiment boldly**	Innovating radically by leveraging ideas "outside the box"
Pause assessment	Pausing all summative assessment to not impact disproportionally vulnerable students			**Continue assessment**	Keeping summative assessment to incentivize students to study and facilitate academic progression

1B-G To understand the needs and capacities for hybrid learning, it is necessary to carry out key assessments

Assessing the need for in-person learning

Following government lockdowns, most schools switched to remote learning – now that restrictions are partially lifting, schools need to assess how their current remote learning is catering for its students' needs

- **1B** Assess **students' needs** for **remote** and **in-person learning** ☑
- **1C** Assess the **accessibility** and **effectiveness** of current remote learning solutions ☑

Assessing system in-person capacity

Several factors will influence a school's capacity to return to in-person learning, resulting in the hybrid learning alternatives

- **1D** Assess **teacher capacity** (e.g., ability to return to school or teach remotely) ☑
- **1E** Assess **availability of physical space** for in-person learning ☑
- **1F** Assess **availability** and **flexibility of support levers** (e.g., transportation, cleaning, and budget) ☑

Assessments of capacity to be based upon the latest health advice from global and local sources and local epidemiological context

1B There are student segments whose needs and circumstances need to be considered when crafting a hybrid learning strategy

ILLUSTRATIVE
NOT EXHAUSTIVE

		1	2	3	4	5	6	7
		Vulnerable student at risk by being away from school Students at risk of having their learning or well-being impacted while away from in-person learning (e.g., second language, at-risk home, special education students, parents unable to support, at-risk of dropping out, girls in many LMIC[1] countries)	**Students without access to remote learning** Students who would not have their learning and well-being at risk if had access to remote learning solutions (e.g., advanced device or broadband)	**Students without childcare** Students whose parents cannot provide childcare (e.g., essential workers)	**Transition students** Students who are in the last grade of their education system (e.g., grade 12) and who have more to lose academically from the disruption	**General student population** Students who have no particular risks and that can either study remotely or in person	**Students whose parents may not be comfortable with a return** Students who do not have any particular risk and could study remotely or in person but whose parents will not allow to return	**Students at high risk if infected by the virus** Students who due to intrinsic health factors, living with people of high-risk or another factor cannot attend in-person learning until vaccine
Learning method considerations	**Primary school**	• Lack of conditions for successful remote learning • Urgent need to mitigate learning and well-being risks from being remote	• Lack of access to remote learning solutions	• Less effective remote learning • Urgent need of childcare	• Less effective remote learning • Need for stability and in-person assessments for academic progression	• Less effective remote learning	• Need to continue using remote learning solutions • Need to show the safety measures for in-person learning	
	Secondary school	• Lack of conditions for successful remote learning • Urgent need to mitigate learning and well-being risks from being remote	• Lack of access to remote learning solutions	• Less need for childcare • Remote learning more effective, therefore flexibility to stay remote or return to in-person learning	• Need for stability and in-person assessments to determine academic progression	• Remote learning more effective, therefore flexibility to stay remote or return to in-person learning	• Might need to be quickly accommodated into segment 3	• Need to continue using remote learning solutions until the virus threat becomes negligible
	Urgency to return	High				Low		Low
	Need to stay remote	**School systems can have different segments or prioritize them differently according to their local circumstances**						

1 Low- and lower-middle income countries

1C As part of their remote learning strategy, school systems will have already determined a solution mix that will now influence their hybrid learning alternatives

ILLUSTRATIVE
NOT EXHAUSTIVE

Solution mix

Comprehensiveness of the solution, addresses …		Core learning activities: Communicating how remote learning works	Teaching new concepts remotely	Enabling student practice	Profeedbackviding formative and coaching
… all learning activities	Paper-based materials	Teachers deliver physical notes with instructions	Students read textbooks	Students complete paper-based worksheet	Teachers deliver physical notes with feedback
	Live video-conference (VC)	Teachers explain assignments through VC ●	Teachers deliver class through VC ●	Students work in small groups through VC ●	Teachers coach small groups or 1-on-1 through VCs ●
	Adaptive software programme	Program guides students to current assignments	Program shares new content with student ●	Students complete assignments in the programme ●	Students receive feedback from the programme
… communication learning activities	Online platform	Teachers upload instructions and assignments			Teachers upload feedback
	E-mail	Teachers send e-mails with instructions			Teachers send email with feedback
… content learning activities	Recorded video created		Teachers share video ●		
	Recorded video leveraged		Teachers share video ●		
	Nonadaptive software program			Students complete nonadaptive assignments	
	Offline devices		Students access content through offline device		
… partially both communication & content activities	TV and radio programmes	Teachers describe assignments	Teachers describe concepts		

Type of learning activities

- Communication activities
- Content activities
- ● Remote learning mix being illustrated across the document

- To offer a complete remote learning strategy, schools had to cover each learning activity with at least one solution
- Certain solutions have high technological requirements and end up only being suitable for systems with high digital maturity (high tech penetration in general population + high user capability + high tech in school)
- The remote solution mix which schools have adopted will influence the hybrid learning possibilities

1C Schools need to assess the access, quality, and equity outcomes of their remote learning solutions to evaluate their overall effectiveness

ILLUSTRATIVE
NOT EXHAUSTIVE

Educational outcomes

	Remote learning access	Remote learning quality	Remote learning equity
Goal	Ensure all students fulfill the necessary prerequisites to participate in remote learning solutions	Ensure learning outcomes in remote learning are as close to in-person expectations as possible	Ensure remote learning solutions do not create or worsen inequities between student groups
Assessment question	How many students have access to the remote learning solutions and the content covered?	How well are students achieving learning outcomes?	Are any groups in particular being left behind?
Assessment elements	Stakeholders' access to digital tools (e.g., students access to advanced devices) Stakeholders' capabilities to use devices (e.g., parents ability to use advanced devices) Students' attendance and participation	Summative exams scores Formative exams scores Samples of key documents and students' work Stakeholders' experience (e.g., teachers satisfaction)	Variations of access and quality indicators across: • Gender • Geography • Ethnic background • Family education • Economic status • Disability

- The urgency to return to in-person learning is dependent on a number of factors among which is the level of **effectiveness of remote learning**
- The effectiveness of remote learning can be assessed through 3 key **educational outcomes – access, quality,** and **equity**
- This assessment should be segmented per **school grades** and **geographies** and focused on the **latest state** of remote learning

1D-F School capacity to offer in-person learning can be distributed between the amount of time it can offer and the number of students it can cover

High capacity | Medium capacity | Low capacity

ILLUSTRATIVE

School in-person learning capacity matrix; Assuming standard of quality remains constant

% in-person time school can offer their students

The school can ensure **complete in-person learning time** to a **small portion of its students**	The school can ensure **complete in-person learning time** to **some of its students**	The school can ensure **complete in-person learning time** to **all of its students**
The school can ensure **some in-person learning time** to a **small portion of its students**	The school can ensure **some in-person learning time** to **some of its students**	The school can ensure **some in-person learning time** to **all of its students**
The school can ensure **low in-person learning time** to a **small portion of its students**	The school can ensure **low in-person learning time** to **some of its students**	The school can ensure **low in-person learning time** to **all of its students**

% student population it can offer in-person learning

A school's in-person capacity is distributed by:

- How **much time** it can offer its students
- How **many students** it can offer in-person learning to

For example, if a school has **40% of capacity** to offer in-person learning it can mean it can be **full-time for 40% of its students or** have **all of the students 40% of their time** in person

The **quality of in-person learning** is a factor to consider that will change depending on **how many students** are in school and for **how long they attend school** (assumed constant in the matrix)

1D Availability of current pool of teachers can be affected by different factors and can be segmented between grades and subjects

ILLUSTRATIVE

Context

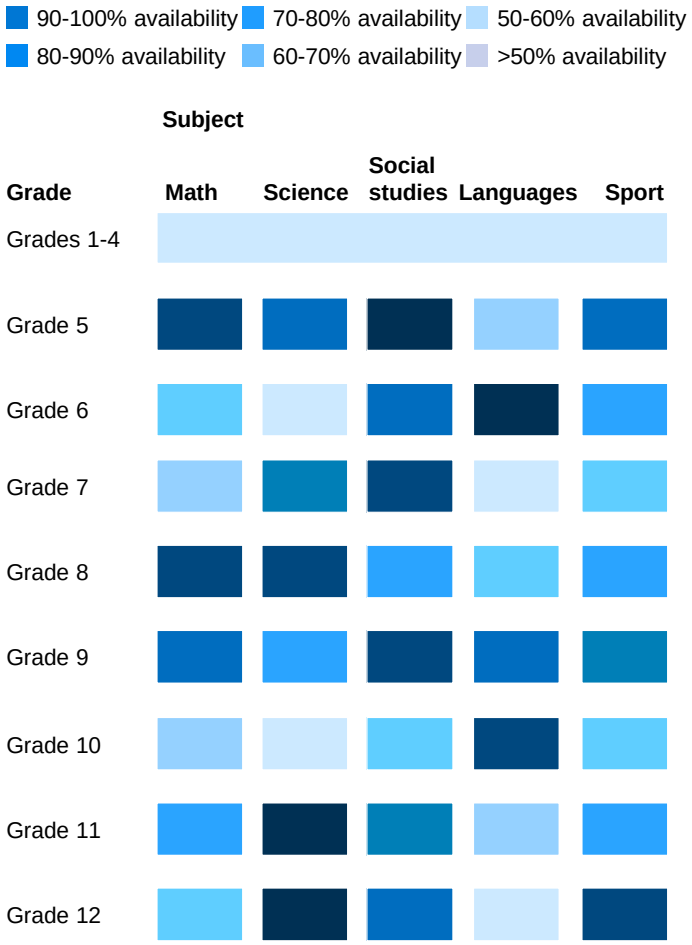
- Schools need to assess their teacher availability to work in person
- Schools have several pools of teachers and due to specificities across grade and subject this segmentation needs to be done for each
- This can help indicate which grades can be held in-person learning, and for students in hybrid learning which subjects to study in person
- Teachers who are less familiar with teaching remotely can be prioritized to return for in-person learning if they are not in high risk groups and are comfortable with a return

Teacher segmentation

Factor	Vulnerable teachers	Suspected case	Uncomfortable with return to in-person	Compromised logistically	Available to work in person
Description	Teachers that are part of the vulnerable group to the virus, due to age, health conditions, or other reasons	Teachers that have had contact with a suspected case and are unable to come to school due to the risk they pose to infecting other staff or the children	Teachers who live with someone who is vulnerable or are simply afraid and unwilling to return to work in person	Teachers might be unable to go to work due to logistical issues (e.g., their children's school is still not open, the transport they use to get to school is unavailable)	Teachers who do not have any factors that constrain their return to in-person classes
Challenge	Cannot work in person	Cannot work in person	Uncomfortable with returning in-person	Needs support to be able to reach school	n/a
Action	Assign to remote teaching and further develop capabilities for remote learning		Engage teachers and communicate about health and safety measures and allow them to make decision based on circumstances if they are comfortable	Take constraints into consideration and find ways to support (e.g. enable to bring children to work or create a customized schedule)	Engage to ensure teachers remain available
Segment	Unavailable for in-person learning		May become available for in-person learning		Available

Assessment of teacher capacity by grade and subject

90-100% availability | 70-80% availability | 50-60% availability
80-90% availability | 60-70% availability | >50% availability



1E Safety measures define how many students can share the physical space available

AS OF JUNE 15TH 2020

-xx% Lost classroom capacity

Among example safety measures schools need to implement, some are related to classroom layout …

Health and behavioral norms

- Use masks
- Ensure increase of circulation of outdoor air
- Post signs in highly visible locations that promote everyday protective measures
- Clean and disinfect frequently touched surfaces
- Avoid and discourage sharing objects

Physical infrastructure

- Adjust space seating either 1m or 2m metres apart
- Turn desks to face in the same direction or students sit only one side of tables
- Install physical barriers when difficult for physical distancing

… which can reduce physical space availability …

Pre-COVID-19 classroom size and class size

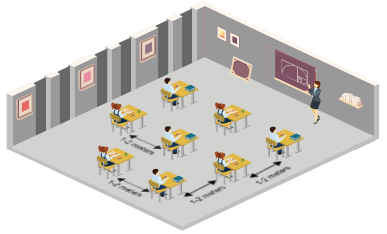
Classroom size m²	Class size No. pupils	Av. space per person (students + 1 teacher)	
52m²	30	~1.7m²	Costa Rica
50m2[1]	24	~2.0m²	France

Post-COVID-19, as classrooms remain the same, governments are issuing guidelines to limit number of students

Classroom size m²	Class size No. pupils	Av. space per person (students + 1 teacher)	
52m2[2]	10	~5m²	Costa Rica
	-66.0%		
50m2[2]	15[2]	~3m²	France
	-37,5%		

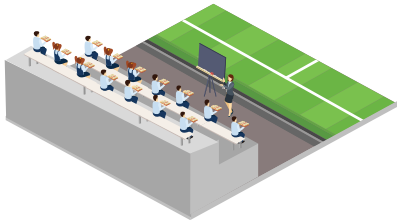
… but can be mitigated by 3 levers

Hiring new spaces or not yet used



Repurposing other functional spaces like a hall

Leveraging outside spaces



It is necessary to consider the availability of basic hygiene services at schools (e.g., WASH standards)
There will be additional steps of preparation for locations that used schools as COVID-19 quarantine facilities during school closure

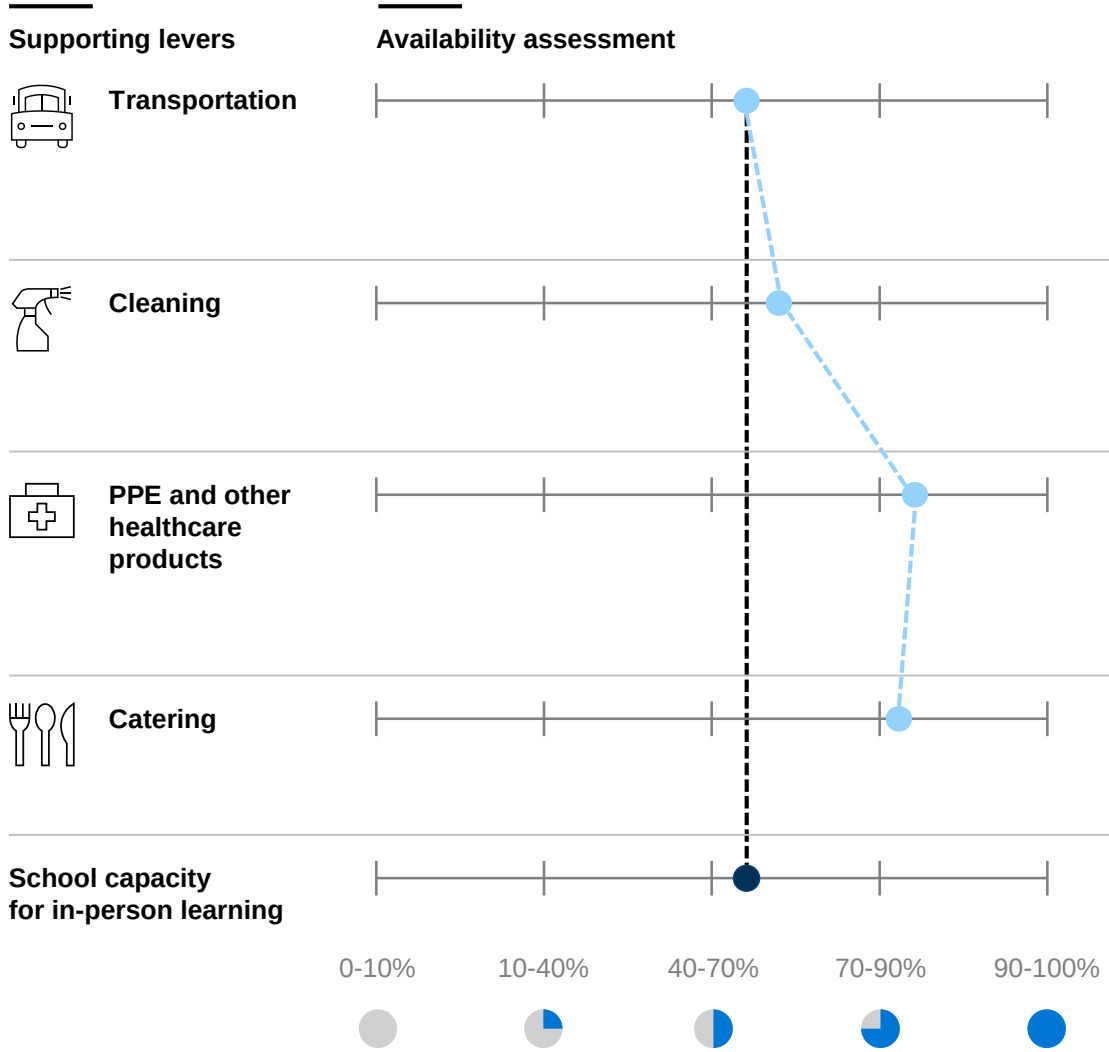
1 Minimum classroom size; 2 Reference value from the government Note: to be determined with and in accordance with public health authorities

Source: CDC; OECD Stat

1F Supporting levers will influence schools' capacity to receive students for in-person learning and need to be assessed

Level of capacity at school re-opening

NOT EXHAUSTIVE



What to assess?

How many students can one support safe transport to school for?

- School buses and public transportation capacity
- Switching to individual transportation (e,g., walking, biking or cars)

With the current cleaning schedule, how many students would it potentially be safe to receive?

- Frequency and rigorousness of cleaning rosters that ensure common areas and objects are frequently cleaned

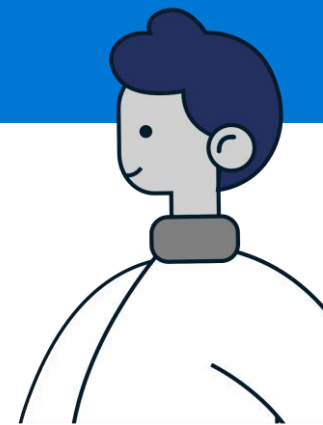
How many students can one safely receive given the expected supply of PPE?

- Volume of masks, hand sanitizer, and other equipment that can be necessary to ensure students and staff safety on premises

How many students can one offer food to?

- Interventions in the kitchen to abide by food production safety regulations or other external alternatives

- The budget is the enabler of all the capacity levers (teacher and space availability and supporting levers) as it sustains increased payroll hours for teachers, admin staff, supervisors, janitors, extended infrastructure use, transportation of students, extra PPE, and healthcare products, etc.
- A school's potential to offer in-person learning will most likely be limited by staff, physical space or transportation, thus most attention could be channeled to expanding capacity in these areas
- Transportation can be limited up to 25% of normal capacity in any given day if the 2 meters distancing is required on buses



Hybrid learning involves a three-step approach supported by continuous monitoring and adjustment

01 Understand and Envision: Assess the needs and capabilities

- 1A Define **guiding principles** for hybrid learning strategy
- 1B Assess **students' needs** for **remote** and **in-person learning**
- 1C Assess the **accessibility** and **effectiveness** of current remote learning solutions
- 1D Assess **teacher capacity** (e.g., ability to return to school or teach remotely)
- 1E Assess **availability of physical space** for in-person learning
- 1F Assess **availability** and **flexibility of support levers** (e.g., transportation, cleaning, and budget)

02 Decide and Design: Determine the hybrid learning model

- 2A Decide whether to **distribute capacity evenly** or **prioritize certain segments**
- 2B Decide which **grades to prioritize** for in-person learning
- 2C Decide whether certain **vulnerable groups** should be **brought back irrespective of grade**
- 2D Define **hybrid model combination** considering school system context
- 2E Decide how to **phase in more students** over time as epidemiological conditions improve

03 Enable and Execute: Operationalize the hybrid learning method for each grade level

- 3A Decide which **subjects** should be **studied remotely** and which ones **prioritized** for **in-person learning**
- 3B Determine which **learning activities** should be **prioritized** for **in-person learning**
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- 3F Fill **capability gaps** to enable delivery of quality hybrid learning

04 Monitor and Adjust: evaluate hybrid learning experience

- 4A Monitor key indicators of hybrid learning processes and outcomes
- 4B Set up an **adjustment mechanism** to continuously adapt the hybrid learning strategy to emerging needs

2A Decide whether to spread in-person capacity evenly across all students, or prioritize certain segments

	Remote allocation for all students	Same allocation of in-person capacity across all students	Prioritizing some students for in-person, leaving others remote	Mixed model of allocation
				
Description	The education system offers either in-person or remote learning and all students are allocated to the same learning method	The education system offers each student both in-person and remote learning methods, so that the students have a hybrid experience	The education system operates both in-person and remote learning methods but students only experience one or the other by being permanently allocated to it	The education system allocates some students to a specific learning method, while it offers other groups of students both methods of learning
When to use it	When there are constraints in offering in-person learning, or in-person learning is impossible	When all students' needs exceed the limited in-person learning capacity	When the limited in-person learning capacity is sufficient to address priority segments needs full-time	When priority segments in-person learning needs can be fully met and there is still capacity to rotate among other students
Pros	Simpler with everyone in the same system	Every student has a portion of in-person learning	Attends to immediate needs of vulnerable segments	Optimize learning for every student segment
Cons	Certain student segments needs' might not be met	Difficult to integrate learning across both methods	Has a portion of students permanently in remote lessons full-time	Complex to operationalize

2B Decide which grades to prioritize for in-person learning

AS OF AUG 25th 2020

Current evidence leads us to … Return in person | Inconclusive | Stay remote

Considerations

	Early elementary	Late elementary	Secondary	Secondary graduating class
Student age	**4-8**	**8-12**	**12-17**	**17-18**
Criticality of remoteness for public safety[1]	Children may face less intrinsic risk of contracting the virus but face higher risk of failing at implementing physical distance measures	Children may face less intrinsic risk of contracting the virus but face higher risk of failing at implementing physical distance measures	Students may face more intrinsic risk of contracting the virus but face lower risk of failing at implementing physical distance measures	Students may face more intrinsic risk of contracting the virus but face lower risk of failing at implementing physical distance measures
Criticality of school reopening for economic activity	Students have high need of childcare to free up parents	Students have a medium need of childcare to free up parents	Students have a low need of childcare to free up parents	Students have a low need of childcare to free up parents
Stakes of losing learning during school closure	High risk of disruption of academic progression to initial literacy and cognitive development	Medium risk of disruption of academic progression to initial literacy and for some groups to drop-out or not transition	Medium risk of disruption of academic progression at the stage of decisions of academic paths to follow and for some groups to drop-out or not transition	High risk of disruption to academic progression to university
Effectiveness of remote learning	Very low effectiveness due to social learning and basic literacy and need of supervision	Low effectiveness due to social learning and need for teacher in-person coaching	Medium effectiveness due to nature of learning and existing remote learning options	High effectiveness in comparison to other age groups due to autonomy of students and what they are learning
Logistics of scheduling safely in-person	Simple as can segment student cohorts per single teacher	Simple as can segment student cohorts per single teacher	Complex as students have different combinations of subjects, teachers and groups of colleagues	Complex as students have different combinations of subjects, teachers and groups of colleagues

Systems need to prioritize between considerations and look at how pressures maybe look different in different contexts

Note: This is an indicative prioritization system and should be adapted based on context and new research

1. US CDC statistics of COVID-19 deaths (as per 6th of June) suggest mortality of virus is inferior to the seasonal flu for children between 1-14 years old but superior from 15 years old onwards; The National Institute for Public Health and the Environment of the Netherlands suggest “children play a small role in the spread of the new coronavirus” (as per 18th of June)

2C Decide whether certain vulnerable groups should be brought back irrespective of grade

Options of prioritization	Vulnerable groups	Essential workers' children
Rationale	Schools open or remain open for **specific segments that are disproportionately impacted by school closures** (e.g., special education schools, vulnerable population)	Schools prioritize opening for **children of essential workers** to enable them to continue working
Examples[1]	Estonia, United Kingdom, Israel	Norway, Denmark, United Kingdom

There are two main ways to prioritize these groups

- Bringing **prioritized groups full time** while the majority of the student population remains mostly remote
- Allocating a **higher portion of in-person time** for **prioritized groups** than for the general student population within a hybrid model

School systems might identify other prioritized segments within their particular context

Source: UNESCO; WHO; Reuters; BBC; UNICEF; public government websites

2D Different countries have combined this grade-level and vulnerable population prioritization in different ways

AS OF AUG 25th 2020
ILLUSTRATIVE
NOT EXHAUSTIVE

In-person method | Hybrid experience | Remote method

Types of hybrid models

	All students	Youngest students	Targeted crosscutting student population(s)	Mixed approach	Older students in important transition years
Illustrative representation	Primary / Secondary + Crosscutting population	Primary / Secondary + Crosscutting population	Primary / Secondary + Crosscutting population	Primary / Secondary + Crosscutting population	Primary / Secondary + Crosscutting population
Rationale	In contexts where there is limited COVID-19 transmission, full school return offers logistical simplicity, and equal access to the benefits of in-person instruction	Younger students may be harder to engage in a remote environment and their return to campus may enable their parents to return to work	Specific crosscutting student segments may be disproportionally negatively impacted by remote instruction (e.g., special education students, those with limited internet bandwidth)	Taking a nuanced approach allows at least some in-person instruction to be offered to all student groups who are likely to benefit most	Older students may benefit from in-person instruction as they prepare for high-stakes exams and may be more likely than younger students to adhere to health protocols
Example	New Zealand	Denmark	United Kingdom	Israel	South Africa
	Due to the highly limited community spread of COVID-19, New Zealand fully resumed in-person instruction for all students at the same time	Denmark was the first country in Europe to begin to reopen schools and began by resuming instruction for students in grades 5 and below	The U.K. prioritized maintaining in-person instruction for students enrolled in alternative provision (AP) programmes, which educate several categories of at-risk students	Israel first resumed in-person instruction for grades 1-3 and 11-12 as well as for special education and select groups of at-risk students	South Africa resumed in-person instruction for its 7th and 12th grade students first to help them prepare for important examinations

Source: UNESCO; WHO; Reuters; BBC; UNICEF; public government websites

HOW CAN THIS CHAPTER BE USED?

2E Decide how to phase in more students over time as epidemiological conditions improve, opening up more capacity

Remote learning In-person learning

AS OF AUG 25th 2020

ILLUSTRATIVE

Epidemiological condition	• Large-scale community transmission	• Sustained transmission with possibility for rapid increase	• Isolated cases with limited community transmission	• Long period of time with no cases
Opening phase	• **Phase I:** Remote apart from vulnerable populations	• **Phase 2:** Hybrid with younger and vulnerable students prioritized for in-person	• **Phase 3:** Hybrid with most students having some in-person	• **Phase 4:** In-person with health safeguards
Learning method allocation				
Description of hybrid model	• All school types likely closed except (potentially) for certain narrow segments (e.g. children of critical workers, high-risk students)	• Early elementary full time in-person • Late elementary hybrid • Secondary school remote • All vulnerable populations in-person	• Elementary full time in-person • Secondary hybrid • All vulnerable populations in-person	• All schools open full-time in-person • Remote for populations most at risk from virus

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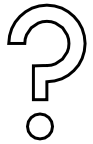
04 **Monitor and Adjust:** evaluate hybrid learning experience

- 4A Monitor key indicators of hybrid learning processes and outcomes
- 4B Set up an **adjustment mechanism** to continuously adapt the hybrid learning strategy to emerging needs

3 The operationalization of the hybrid learning strategy relies on four key questions

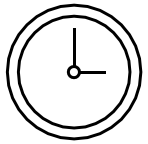


What?

What educational activities and which subjects are prioritized for in-person or remote learning?

3A Decide which **subjects** should be **studied remotely** and which ones to **prioritize** for **in-person learning**

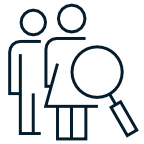
3B Determine which **elements of the learning value chain** should be **prioritized** for **in-person learning**



When?

When does in-person or remote learning take place?

3C Organize a **shift system** that distributes access to in-person learning amongst students (e.g., half days)



Who?

Who are the teachers that support in-person or remote learning?

3D Define **teacher allocation model** between learning methods

How?

How can capacity be built to strengthen hybrid learning?

3E Identify **levers** to **bridge** the **capability gaps** to ensure optimal delivery of the **hybrid learning strategy**

3A Considering there is limited in-person time, some criteria can help prioritize which subjects to pursue in-person if required

Relevant only for high digital maturity systems

ILLUSTRATIVE

NOT EXHAUSTIVE

Prioritization assessment

Subjects

- Mathematics
- Reading and writing
- Sciences
- Social studies
- 2nd language
- Art
- Sport

Criteria

Main question	How **critical** is the subject for the students' schooling journey?	To what extent is **future learning within this subject** dependent upon **current building blocks**?	To what degree does this subject need **dynamic teacher or interaction**?	To what degree does this subject need **in-person equipment**?	To what degree is this subject suitable for **adaptive software** for remote learning?
Sub-questions	Is there a final examination for this subject? Does the content of this subject constitute foundations for the study of other subjects (e.g., numeracy and literacy)? Does it contribute to students emotional connectivity?	Is the learning path for this subject linear? (e.g., if something is not learned today does it impedes future learning process) Is this subject continued in future grades or levels (i.e university)?	Is the students' learning interaction with the teacher (e.g., playing an instrument) and/or peer possible or desirable?	Is it possible to ensure students have access to the necessary in-person equipment remotely? Is it possible for such in-person equipment to be used safely at school premises?	Are there sophisticated remote learning solutions which can ensure high learning outcomes?

Subject prioritization will depend of context, primarily school grade and the reality of each school class

Certain **criteria** might be **weighed differently** depending on the **circumstances,** taking into account, for example, the class environment, the quality of the teachers, the strengths and difficulties of the students

Subjects value can also be **integrated** (e.g, science for the application of mathematics)

It is, however, likely that in-person learning could be prioritized for **numeracy** and **literacy** as well as **emotional connection**

3B Schools need to decide for each subject which learning activities will be carried out in person

ILLUSTRATIVE

Level of pressure for subject to be studied in person — High | Medium high | Medium | Medium low | Low

Core learning activities	Ensuring social connection	Communicating new assignments and information	Teaching new concepts[1]	Enabling student practice				Providing formative feedback and coaching	
				Independent practice	Guided practice	Small group collaboration and class discussion	Experiments	Coaching/ office hours	Formal evaluation and feedback
Level of prioritization for in-person learning	High	Low	Medium low	Medium	Medium low	Medium low	High	Medium	Medium low
Rationale	In-person interaction fundamental for a student to create social connection with his teacher and peers	Information can be shared as effectively remotely or in person	Teacher explanation can benefit from practical demonstrations Teacher can see student understanding and readjust teaching	Teacher can immediately react to difficulties and questions	Activity requires a certain rhythm that is easier for the teacher to set with the students in person	Activity might need in-person physical interaction with colleagues	Activity might need physical equipment	If adaptive software is not available Students can contact teachers with their questions	Teacher can ensure academic integrity

- **The current remote learning platforms are likely to not be effective in fulfilling every element of the learning value chain**
- **But it would be unproductive to occupy the scarce in-person learning time with elements of the value chain that are effectively fulfilled remotely**
- **Schools need to decide which activities for each subject are carried out in person or remotely**

1 This learning activity in particular depends on age, it is more important for this element to take place in-person for younger ages

3B There are several types of possible hybrid learning models

Six types of hybrid models

1 **In-person**
Students go through the entire learning value chain in person

2 **Homework model (instruction at school, practice at home)**
Teachers transmit new concepts to a group of students in person, who then complete exercises and assignments remotely

3 **Flipped classroom (instruction at home, practice at school)**
Students learn about new concepts remotely and then complete their exercises and assignments and review them in person with the teacher

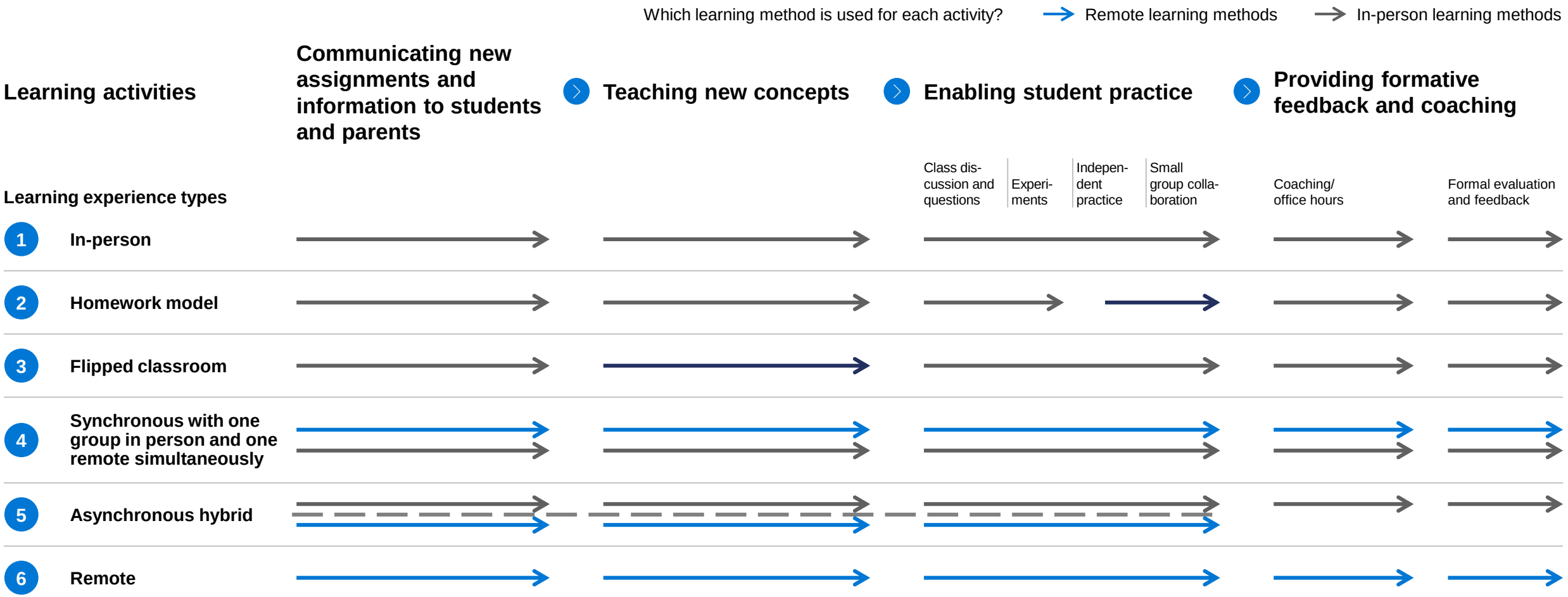
4 **Synchronous live (with one group in person and one remote simultaneously)**
Teachers have a full normal class with a group of students in person while another group follows remotely through video conferencing (VC)

5 **Asynchronous hybrid (mix of learning activities at school and at home)**
Hybrid of flipped classroom and homework model in which the remote element is asynchronous. Teachers provide instruction, practice and feedback at school then provide asynchronous platform for students to do the same at home which is then reviewed again in the classroom

6 **Remote**
Students go through the entire learning value chain remotely

3B … which distribute remote and in-person learning methods across the learning activities differently …

Extreme types of hybrid models



3B … each with their own pros and cons

Models		Pros	Cons
1	**In-person**	• Traditional learning method students are most familiar with • Facilitates teacher interaction and peer collaboration	• Due to physical distancing measures, there is a limited capacity to offer to students • Higher risk of spreading the virus from longer physical interactions
2	**Homework model**	• Teachers can focus on what is happening in the classroom • Remote and in-person learning are integrated • Students can ask questions during instruction phase and benefit from other students' questions	• Students and parents cannot review instruction (as it happened live) which can make it difficult to complete exercises • School is only used for instruction and has no social function • Teachers do not know how students did in their practices and as a result cannot adapt teaching
3	**Flipped classroom**	• Teachers can observe if instruction have been understood and offer additional instruction as needed • Students and parents can view and review instruction at home at their own pace • Possible to focus in-person time to do practical activities with groups of students	• Requires support of the parents for initial instruction • Students can forget previous day instruction by the time they need to complete the respective exercises
4	**Synchronous with video-conference**	• Class does not have to be split • Teachers work synchronously with all students and do not split time	• Teacher cannot see the students at home or students see each other • Students cannot review instruction • Difficult for remote students to follow
5	**Asynchronous hybrid**	• Teacher accompanies students through all core learning activities • Students can complement all in-person learning with self-pace learning remotely • Coherent learning experience	• High investment from the teacher and availability of remote resources are required for students to be able to continue learning remotely • Requires support from parents for remote learning activities in order to be effective
6	**Remote**	• Highest safety from the virus • Enables deployment of certain specialized software	• Not effective for specific ages and subjects • Can require demanding requirements for advanced solutions • Students do not benefit from socialization and interaction at school

3C There is no size one fits all, as each subject and age group can have a different hybrid model

ILLUSTRATIVE

NOT EXHAUSTIVE

Subject	Age group	4-8	8-12	12-17	17-18
	Math Reading and writing Sciences Social studies 2nd language Art Sport	1 **In person** • Remote learning methods for young students are not very effective	1 **In person** • Core subjects for which remote learning is not very effective	3 **Flipped classroom** • Students can learn autonomously at their own pace through asynchronous learning • Students require tailored coaching and complete exercises at school • Learning can be complemented with additional remote learning solutions to practice at home	
				5 **Asynchronous hybrid** • Students require in-person interaction with peers and teachers • Learning can be strengthened with complementary learning activities at home that are reviewed in-person	
			6 **Remote** • Non-core subjects with difficulties to carry out safely in-person • Remote alternatives are available		

- **Hybrid model suitability across subjects and age will depend on the remote learning solution mix and the possibilities it offers for teacher-student interaction, student practice, and adaptive coaching**
- **Schools with several age groups need to consider a mix of hybrid models that is manageable**

3D Shift systems can be an effective way to distribute in-person learning to most students and each model had a set of pros or cons

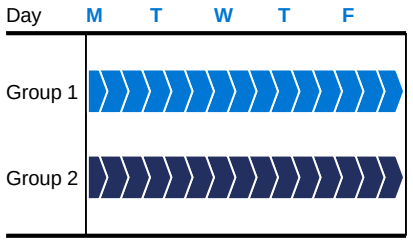
Types of models for distribution of in-person learning

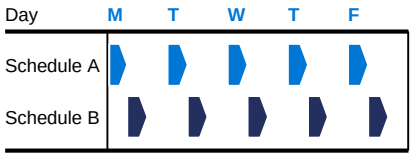
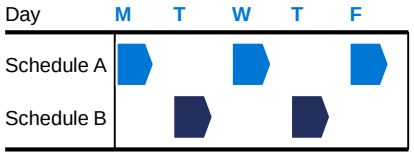
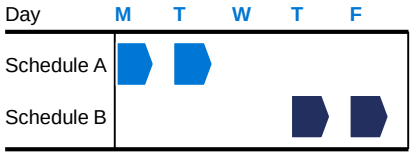
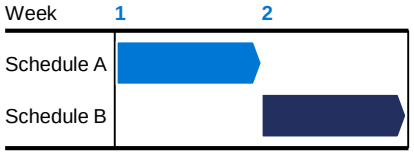
ILLUSTRATIVE

AS OF AUG 25th 2020

Pre-COVID-19

- Full time x 5 day model
- Students from all grades come to school

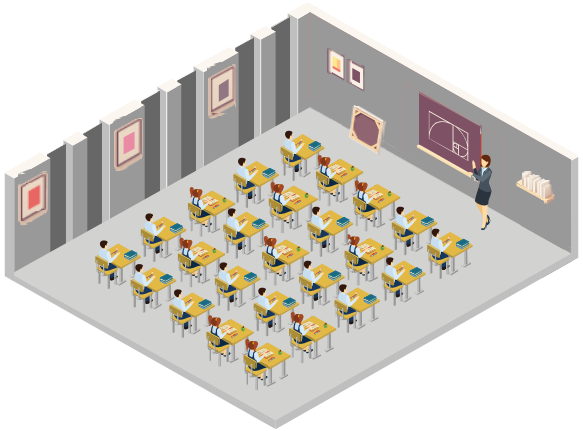


	Risk of infection	Description	Pros	Cons	Considerations
Option 1 – Hours based model 	Higher	• Students have a block of hours per day (e.g., morning and afternoon as 2 blocks)	• Students can go to school every day which reduces their learning and well-being risk • Students can get direct support from teachers if they have questions about online content • Students constantly interact with peers improving their emotional connection	• Parents cannot fully return to work • Logistically demanding for parents Face to face instruction time is short • Hard to schedule if teachers have several classes • Demands cleaning between morning and afternoon sessions	• Schools can **change students on schedule** 1, 2A, and 2B on a **weekly basis** for **fairness** or keep it the same for **stability** • Schools can choose put a **whole grade**, or **part of a grade on schedule rotations** with different advantages and disadvantages • Bringing grades at the same time **facilitates communication** with the parents • Bringing half grades can **reduce the need for teachers to come to school** • Some of the shift **models** might be **more adequate** for **specific grades or ages groups** • However having **different models for different grades** will be a **logistical challenge for school**
Option 2A – Days based model 		• Students go to school every other day • Students can change schedule every week	• Students have classes with their usual teachers, reducing disruption • Students follow a usual day schedule when at school • Students return to in-person learning after one day of remote work to clarify questions	• Students are not in school everyday which puts their learning and well-being at risk • Alternative childcare is needed for off days • Difficult for parents and schools to organize • Students might be impacted by constant change	
Option 2B – Days based model 		• Students allocated between group A and B and go two consecutive days to school • One day of the week can be reserved for remote learning for both groups	• Students have consecutive days of learning with their teachers • Special cleaning needs to take place one day week instead of everyday • Brings more stability to students and school operations • Teachers can use the day all students are in remote for planning and training	• Students are further from school for a longer period than in model 2A	
Option 3 – Weeks based model 	Lower	• Students comes to school full-time for a week (e.g., week 1, grade 1, week 2, grade 2, etc.)	• Students have one week of normal classes • Students have exposure to all subjects • Students follow a usual day schedule when at school	• Long period in which students are not at school • Teachers in-person availability is not maximized	

3E Different teacher allocation models can be deployed, considering factors as flexibility, consistency, and teacher skill maximization

Pre-COVID-19 teacher allocation …

With in-person learning being adjusted into hybrid learning and students potentially being switched between methods across different subjects, the teacher allocation could need to change



… can adjust to hybrid learning	Pros	Cons	Could be an option
Teacher allocation to classes remains the same and **students follow teacher availability** (e.g., if teacher can only teach remotely because of a high risk of contracting the virus, students learn remotely)	Students keep the same teachers Consistency of interaction Familiar method Easy to accommodate switching students	Students study remotely because of teacher situation	For high school electives for which there is one teacher only, and one class that takes the elective
Student **classes are restructured between remote and in person** and teachers are allocated full time between either method	Students study in-person if they can Consistency of learning method	Potentially new classes and new teachers Harder to accommodate switching students	When the numbers of vulnerable teachers and vulnerable students are proportional For early elementary (K-4)
Teachers are part of **collaboration groups** per grade and subject where some become **experts in remote instruction** to **large groups** and others **accompany small groups in person**	Excellent teaching Teacher accompaniment	Different format Harder to accommodate switching students	For subjects where there are multiple classes of the same topic For high school (age 14-18)

Whatever model chosen, it is beneficial for all of the teachers to be trained on both learning methods given the need to be ready to switch seamlessly as epidemiological situation evolves

3F To ensure optimal delivery of hybrid learning, capability gaps need to be bridged

PRELIMINARY

Remote learning

Maximizing remote learning access, quality and equity to reduce the number of students who need to return to in-person learning

In-person learning

Maximize in-person learning capacity to receive the highest possible number of students

Potential initiatives

Technology

Distribute existing devices (fix broken ones) from schools

Enhance access by multiplying remote learning solutions

Partner with companies or foundations to provide access to hardware, software, or broadband for teachers and students

Enhance quality by adopting adaptive software

Teacher training

Create mentorship programs that partner more experienced teachers in remote teaching solutions with less experienced ones

Partner with private companies to train teachers

Leverage existing technical training for remote teaching (e.g., through Zoom, Moodle, school's platforms)

Reserve 1 day per week for teachers to engage in professional development opportunities

Teachers, mentors, tutors, and aides

Reallocate teachers' responsibilities to focus on teaching, leverage aides for supervision and small group interaction

Increase number of hours for teachers (if feasible)

Expand teaching capacity through hiring additional teachers, aides, and coaches

Leverage volunteer capacity (if health risks can be mitigated)

Space

Use own outdoor spaces (e.g., sports areas), cafeterias, meeting rooms (if appropriate)

Extend use of classrooms for additional time beyond current school times

Reallocate classrooms within the same school or between schools within the same urban area

Partner with organizations with a vacancy to alternate space and create designated classrooms (e.g., community centers, community-based organizations, religious centers, universities, town hall)

Examples

France and the Orange Foundation partnered to provide tablets and computers to disadvantaged students to promote remote learning

India partnered with an Edtech provider to offer IT training to primary teachers

Armenia created a database of mentor teachers experienced in distance learning to assist their colleagues

The Education Policy Institute in the UK launched a one-year volunteer scheme for "retired and inactive" teachers, who would return to the profession to help prevent vulnerable pupils from falling behind.

An UK MP called for 200K university graduates from the class of 2020 to support disadvantaged pupils

In Denmark, schools are using outdoor spaces to meet physical distancing criteria but allow most children to come back

Source: Fondation Orange, World Bank; UNESCO, TES.com (link 1, link 2); The Local,

Hybrid learning involves a three-step approach supported by continuous monitoring and adjustment

01 **Understand and Envision:** Assess the needs and capabilities

- 1A Define **guiding principles** for hybrid learning strategy
- 1B Assess **students' needs** for **remote** and **in-person learning**
- 1C Assess the **accessibility** and **effectiveness** of current remote learning solutions
- 1D Assess **teacher capacity** (e.g., ability to return to school or teach remotely)
- 1E Assess **availability of physical space** for in-person learning
- 1F Assess **availability** and **flexibility of support levers** (e.g., transportation, cleaning, and budget)

02 **Decide and Design:** Determine the hybrid learning model

- 2A Decide whether to **distribute capacity evenly** or **prioritize certain segments**
- 2B Decide which **grades to prioritize** for in-person learning
- 2C Decide whether certain **vulnerable groups** should be **brought back irrespective of grade**
- 2D Define **hybrid model combination** considering school system context
- 2E Decide how to **phase in more students** over time as epidemiological conditions improve

03 **Enable and Execute:** Operationalize the hybrid learning method for each grade level

- 3A Decide which **subjects** should be **studied remotely** and which ones **prioritized** for **in-person learning**
- 3B Determine which **learning activities** should be **prioritized** for **in-person learning**
- 3C Determine **optimal distribution** of **hybrid model** across **age** and **subjects**
- 3D Organize a **shift system** that distributes access to in-person learning amongst students (e.g., half days)
- 3E Define the **teacher allocation model** between learning methods
- 3F Fill **capability gaps** to enable delivery of quality hybrid learning

04 **Monitor and Adjust:** evaluate hybrid learning experience

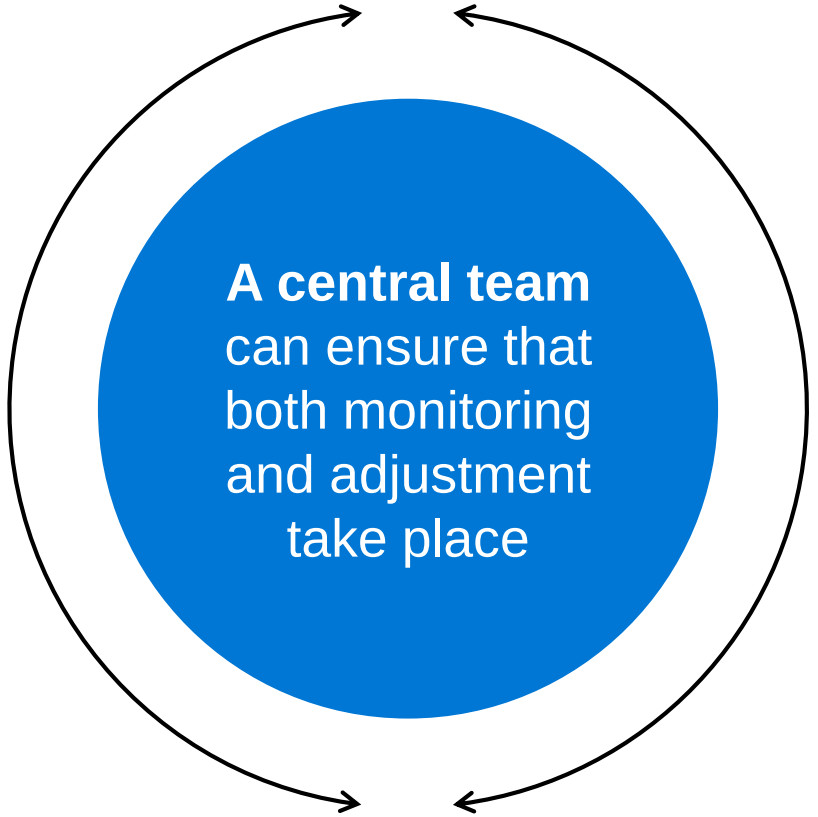
- 4A Monitor key indicators of hybrid learning processes and outcomes
- 4B Set up an **adjustment mechanism** to continuously adapt the hybrid learning strategy to emerging needs

4 Monitoring and adjustment are continuous processes, supporting the relevance of the hybrid learning strategy

Monitor

Both the success of **execution of the strategy** (e.g., shift operationalization) and **the outcome** (e.g., student access) of **hybrid learning** can be assessed continuously based on data

4a



4b

Adjust

Based on **assessments of the execution of hybrid learning strategy and its outcome**, adjustments can be made on a **regular basis**

4a Both the process and outcomes of hybrid learning can be assessed through monitoring a set of indicators

ILLUSTRATIVE

NOT EXHAUSTIVE

Systems can leverage a variety of data sources to monitor hybrid learning execution and outcomes …

- **Platform statistics**
- **Test scores**
- **Healthcare data**
- **Teacher survey**
- **Student survey**
- **Parent survey**
- **Principal survey**

… across seven dimensions …

			… which can be assessed through a set of indicators	
			What to assess	**Example metric**
i	**Evaluate hybrid learning strategy execution**	A **Student and time distribution**	Health risk	Transmission rates
			Economic activity	Percentage of parents able to return to work
			Student segmentation	Number of students per segment
			Student participation	Number of clicks on remote learning platform
		B **Subject and activity prioritization**	Curriculum progression per subject	Student progression by topic Completion rates
			Activities allocation between learning methods	Student satisfaction by age and grade Teacher satisfaction by subject and grade
			Student well-being	Number of hours dedicated to emotional connection
		C **Shift and teacher organization**	Student and parent satisfaction with shifts	Student participation in shifts Number of teacher-student 1-on-1 hours
			Teacher experience across models	Number of hours teachers work Teacher-student ratio
		D **Capability enhancement**	Remote learning capability	Number of students with access to devices Number of teachers trained on remote solutions
			In-person capacity	Number of teachers available Number of students a school can receive in person
ii	**Evaluate hybrid learning solution outcomes**	E **Access**	Student engagement	Adoption rates of remote platforms Attendance (in person and remote)
		F **Quality**	Learning outcomes Student experience	Reading score Student satisfaction
		G **Equity**	Access distribution	Access/progression by gender
			Quality distribution	Scores/satisfaction by economic background

4b Based on the indicators monitored, the plan could be adjusted along strategy design and execution decisions

ILLUSTRATIVE

NOT EXHAUSTIVE

Monitoring the hybrid learning strategy can start as soon as it is rolled out and continue regularly

But the pace and frequency of adjustments depends on the maturity of the system as some elements need time to evolve

Constantly adjusting direction can lead to ineffective change

		Dimensions	Indicators monitored	Result	Potential adjustments
Decide and design	**Which students?** 	**Student and time distribution**	• Health risk	• Transmission rates low	• Bring more grades of the school system for in-person learning leveraging on initial lessons learned
			• Student engagement	• Remote learning attendance low	
			• In-person capacity	• Number of teachers available increased	
			• Health risk	• Transmission rates remain the same	• Increase in-person learning time allocation for vulnerable students
			• Equity	• Vulnerable groups reading score significantly lower	
			• In-person capacity	• Number of teachers remain the same	
Execute and enable	**What activities?** 	**Subject and activity prioritization**	• Curriculum progression per subject	• Students regressing considerably in reading	• Reallocate the in-person time dedicated to each subject
			• Student satisfaction by age and grade	• Students satisfied with overall number of in-person hours	
			• Student satisfaction by age and grade	• Students unsatisfied with the lack of emotional connection	• Shift hybrid learning model archetype to prioritize in-person ‘emotional connection’ over other activities
			• Remote learning capability	• School still unable to ensure synchronous learning to all students	
	When in the week and taught by whom? 	**Shift and teacher organization**	• Student and parent satisfaction with shifts	• Students satisfied with shift system	• Make shift systems standardized across grades
			• Teachers’ satisfaction with shifts	• Teachers unsatisfied with shift system due to demands of managing different shift systems	
			• Teacher experience across models	• Teachers feel overwhelmed with constant change of number of students	• Revert teacher allocation model back to a teacher for a fixed class
			• Student segmentation	• Number of students returning for in-person learning increasing	
	How to do it well? 	**Capability enhancement**	• Student experience	• Students unsatisfied with remote learning solutions	• Expand technology options for remote learning
			• Remote learning capability	• Number of teachers trained on advanced remote solutions has increased	

04

The checklist

Summary of actions

READ MORE

- Based on the framework, countries can tactically implement hybrid learning through four action checklists
  - Identify hybrid learning
  - Define hybrid learning
  - Prepare to operationalize hybrid learning
  - Monitor and adjust

CLICK EACH TOPIC TO VIEW CONTENT

Based on the framework, countries can tactically implement hybrid learning through four action checklists

01

Identify hybrid learning

GO TO CHECKLIST

02

Define hybrid learning

GO TO CHECKLIST

03

Prepare to operationalize hybrid learning

GO TO CHECKLIST

04

Monitor and adjust

GO TO CHECKLIST

1 Identify hybrid learning possibilities through the following actions

To be adapted and populated by the entity concerned

Action	Responsible	Focal point	Time frame
1a Define guiding principles for hybrid learning strategy			
☐ Convene **all stakeholders** relevant for hybrid learning (including health authorities, leaders for finance, IT, infrastructure, principal, teacher and parent representatives, etc.)			
☐ Determine priorities for hybrid learning strategy, and how to handle **critical trade-offs** (e.g., equity, risk and experimentation appetite, curriculum coverage, degree of personalization)			
☐ Determine **level of compliance expected from schools** regarding guidance been issued (e.g., guidelines to be leveraged or mandates to follow)			
1b Assess students' needs for remote and in-person learning			
☐ Define relevant **student segments,** assess **urgency of in-person learning** vs. **need for remote learning** for each, and estimate the **number of students** across each segment			
☐ Define the **standards for learning outcomes** and assess the **effectiveness of remote learning solutions**			
☐ Assess the **public opinion** to understand feasible options and the feeling of teachers, parents, and unions on in-person prioritization			
1dec Assess school in-person capacity drivers			
☐ Segment teachers in pools across grades and subjects, **assess** their **availability** to **return to in-person teaching,** and take action to increase availability for priority pools			
☐ Estimate **space availability** given the implementation of physical distancing measures, identify interventions to expand capacity, and make a plan of action			
☐ Identify **key supporting levers**, estimate capacity constraints and channel budget to de-bottleneck the constrained capacity			
☐ Determine the **overall capacity** for each school within the system given teacher, student, and space constraints			

2 Define hybrid learning allocation through the following actions

To be adapted and populated by the entity concerned

Action	Responsible	Focal point	Time frame
2abc Determine the allocation of hybrid learning by grade and student type			
☐ Determine which **school grades should be prioritized** for in-person learning based upon health data, childcare needs, and learning needs			
☐ Determine the precise **amount of in-person time per grade** (e.g., equivalent of one day per week, two days per week, five days per week)			
☐ Determine if **vulnerable groups** get **additional in-person learning time** (e.g., special education, essential workers' children)			
☐ Determine the precise **amount of additional in-person time for vulnerable students** (e.g., full-time vs. incremental time by grade)			
☐ Determine **progression to increase/decrease in-classroom allocation** as epidemiological situation shifts			

3 Prepare to operationalize hybrid learning model through the following actions

To be adapted and populated by the entity concerned

Action	Responsible	Focal point	Time frame
3ab Determine the subjects and learning activities split across learning methods			
☐ Determine **which subjects** should be prioritized for in-person learning based upon criticality, need for in-person equipment, interaction needs, and availability of adaptive software			
☐ Determine which **elements of the learning value chain should be prioritized** for in-person learning			
☐ Determine **models of hybrid learning** to use (asynchronous hybrid, flipped classroom, synchronous with one in-person group + one remote group simultaneously, instruction at school + assignments at home, combination across)			
☐ Cross hybrid learning archetypes with student age groups and subjects of study and determine **coherent manageable strategy** for schools			
3cd Determine how to distribute students and teachers across learning methods			
☐ Develop **shift system** to distribute the available in-person learning time across students (staggered daily model, morning/afternoon layer model, rolling weekly model)			
☐ Engage with teachers to **allocate teachers** according to student split between in-person and remote learning, chosen hybrid learning model, and chosen shift system			
3e Fill capability gaps to enable delivery of quality hybrid learning			
☐ Explore possibilities to **expand remote learning accessibility** and **quality** and **in-person capacity** to enhance the hybrid learning strategy			
☐ Gather support and approval of relevant stakeholders (e.g., teacher unions, legal)			

4 Monitor and adjust through the following actions

To be adapted and populated by the entity concerned

Action	Responsible	Focal point	Time frame
4a Monitor key indicators of hybrid learning processes and outcomes			
☐ Choose which **dimensions the team should monitor:** both the process of the implementation (e.g., design and implementation choices) and the outcomes of the strategy (student access, quality, and equity)			
☐ Determine the **sources of data to be leveraged** (e.g., teacher survey)			
☐ Align on which **metrics** will be tracked for these dimensions (e.g., student progression by grade and age) and **how often** (e.g., every 2-3 months)			
☐ Agree on **responsible parties** and timeline for the collection of each metric			
4b Set up an adjustment mechanism to continuously adapt hybrid learning strategy to emerging needs			
☐ Regularly **compile data** and **share** findings with the central team			
☐ **Adjust design choices** (e.g., which school systems participate in in-person learning) as well as **implementation choices** (e.g., shift systems)			
☐ Identify and disseminate **practices** between teachers and schools			

05

Case studies

Lessons learned

READ MORE

- Countries have implemented hybrid learning practices during COVID-19
  - Brief examples of practices: Morocco, Paraguay, United Kingdom, China, Denmark, Norway, Nicaragua
  - More detailed case study: Brazil, Uruguay, Argentina, Singapore

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Countries have implemented hybrid learning practices during COVID-19

01 Brief examples of practices

-  Morocco
-  Paraguay
-  United Kingdom
-  China
-  Denmark
-  Norway
-  Nicaragua

02 More detailed case studies

-  Brazil
-  Uruguay
-  Argentina
-  Singapore

1 Countries have chosen different options according to their context

AS OF AUG 25th 2020

Options	Country	Example
Full remote learning	 Morocco	Schools will remain closed until next September and all final exams of the 2019-2020 academic year will be cancelled with the exception of the High School Diploma for first and second years
	 Paraguay	Face-to-face classes across the country will be suspended until December
Vulnerable groups and in need of childcare	 United Kingdom	Schools and colleges have remained open only to a priority group of children and young people, children who have a parent who is a critical worker and vulnerable children
Transition years	 China	Due to lockdown measures, some 200 million students transitioned to online learning in February. Schools in nine mainland provinces had reopened for graduating students as of April; mostly highschool seniors in Beijing, Shanghai, and Guangzhou are preparing for their college entrance exams
Primary school	 Denmark	Denmark was the first European country on lockdown to reopen schools, beginning with children in day care and grades 1 through 5. Among other measures, schools have placed desks 6 feet apart
	 Norway	Norway began reopening its kindergartens on April 20, followed by primary schools for children in grades 1 through 4 on April 27
In-person learning	 Nicaragua	Nicaragua is the only Latin American country that has not suspended classes

Source: Morocco (AAWSAT), Paraguay (PY.gov), UK (BMJ.com), China (Weforum), Denmark (BBC), Norway (DW), Nicaragua (Swissinfo.ch)

2 In Brazil, São Paulo has launched a mobile app and mailed materials to students to ensure continuity of learning while planning to reopen schools at 20% capacity

ILLUSTRATIVE

NOT EXHAUSTIVE

AS OF JULY 2020

Overview

São Paulo plans to reopen public schools starting July with physical distancing measures to minimize contagion risk and with school shifts to minimize turnout at a given time

For now, priority for in-person learning is given to day care and early childhood education, for those less than six years old

Curriculum is available online with session broadcasted by public TV and student receiving hard copies of workbooks

Detail

Students	58% of households do not have a computer, 33% do not have access to the internet 20% of students to return to in-person learning at any given time – proposals for a student to attend once a week or prioritization by school grade Daycare centers and early childhood education being prioritized in the first stage
Educational operations	Students sent to holidays mid-March, remote learning launch mid-April Reduction of student capacity per classroom to 20% at all times Mobile app for students to attend online classes and interact with teachers in addition to prerecorded session; public TV to broadcast classes; workbooks to be sent by mail – adjusted by age and subject State partnered with telecom operators to ensure free access to the app and billing of internet consumption to the government, not the user
Curriculum	Minimum requirement for 200 school days temporarily lifted to allow flexibility for curriculum readjustment during the second half of the year

Source: Zdnet, Government of Brazil

2 Uruguay has relied on their existing remote learning solution to ensure continuity of learning for at least 70% of students

ILLUSTRATIVE

AS OF JULY 2020

Overview

Uruguay has opened schools with physical distancing measures to minimize contagion risk and with school shifts to minimize turnout at a given time

For now priority for in-person learning is given to rural schools in towns with no COVID-19 cases

Existing remote learning solutions were quickly deployed with roughly 70% students continuing their classes during lockdown

Detail

Students	~70% of the student population is accessing remote learning Rural schools reopened with voluntary attendance for students, roughly 2.5% of all students in the country 85% of student have government-provided devices to access online content
Teachers	All school personnel will wear masks at all times All workers with risk factors are exempt from attending schools
Educational operations	2 meter separation in classrooms, roughly only 30% capacity for schools Available to students are CREA platform to interact with teacher, PAM platform with math-related activities, e-Library, etc. – adjusted by age and subject Internet data consumed accessing government website is not charged to user due to partnership with the national telecom operator
Curriculum	Remote learning initially prioritized assisting students with transition and preserving the connection between teacher and student

Source: World Bank, ReliefWeb

2 Argentina will implement a ‘dual’ system, combining online and in-person classes, diving the school population in two

ILLUSTRATIVE

AS OF JULY 2020

Overview

The Ministry of Education is creating a protocol to return to face-to-face classes in a ‘staggered’ way, in principle beginning August, with half the students of each school per day

1st, 2nd, 6th, and senior years are being prioritized, only students in these years attend in-person classes every day

Detail

Students	There are four specific courses where it is necessary to focus. 1st and 2nd grades, because that is when the literacy begins; the last year of primary school (6th or 7th grade), and the last year of secondary school (5th or 6th year) due to the jump to the next level . Those courses could be the first to return to classrooms and attend full time
Teachers	Masks will be distributed for teachers to use
Educational operations	Teaching in classrooms will be combined with the remote modality. The Ministry of Education will launch 2 programmes, a national platform, which will integrate the different tools used by the provinces, and the delivery of devices for vulnerable students The courses would be divided into 2 to try to meet the 1.5 or 2 meters of distance. In this way, the first group would go during normal hours on Mondays, Wednesdays, and Fridays while the other group would attend on Tuesdays and Thursdays. Each week they would alternate so that attendance on days is even
Curriculum	The government is looking for a way to redistribute the content and the learning goals between this year and the following ones

Source: Batimes.com, MoE

2 Singapore has prioritized graduating students to return to school to focus on preparing for national exams

AS OF JULY 2020

Overview

Singapore has opened schools with physical distancing for safety and well-being of students

For now, priority for in-person learning is given to graduation cohort

Full curriculum is available online: Singapore Student Learning Space (SLS) platform

Detail

Students	Students in graduating cohort to return for coaching and consultations prioritized for return to in-person learning; also students who need critical consultations, projects, or practicums
Teachers	Training sessions were conducted for lecturers to provide online learning, including face-to-face workshops, walk-in consultations, and self-help guides Most teachers stay at home on the day of home-based learning, while about 20% of staff, including the principal, remain in school
Educational operations	Students have been placed in class groupings, with no intermingling Students attending classes on different days and time Students and teachers have been asked to wear masks, and daily temperature-taking with wipe-down routines
Curriculum	In-person learning focused on aiding students preparing for national exams The entire school curriculum is available on the SLS platform providing flexibility to learn while allowing teachers in designing classes with workbooks and assignments

Source: Straistime.com, https://vle.learning.moe.edu.sg/login

06

Appendix

READ MORE

- Glossary of key terms
- Hybrid learning resources

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Glossary of key terms

Hybrid learning can be defined as a learning approach that combines both remote learning and in-person learning to improve student experience and ensure learning continuity - it is of particular relevance during school partial reopenings and in preparation for potential virus resurgence

In-person learning: learning that occurs when the **learner** and the **instructor,** or **source of information**, are **colocated physically** either in a traditional classroom setting or another space

Remote learning: learning that occurs when the **learner** and the **instructor,** or **source of information**, are **separated physically** and hence cannot meet in a traditional classroom setting – it includes "online learning" as well as lower-tech remote learning options (e.g., TV, radio, mail)

Remote learning solution: a system, a platform, a method, or a tool that enables remote learning and is characterized in 4 dimensions, **experience** offered, **technology** used, **connection** enabled, and **learning activities** covered

Experience the solution offers the users can be live or on-demand

- **Live stream (synchronous) learning:** learning occurs live (e.g., videoconferencing and live TV or radio programmes) for real-time lessons – the student follows the pace and intensity of learning of the class
- **On-demand (asynchronous) learning**: students participate in self-paced on-demand learning (e.g., recorded videos, textbooks, and post mail assignments) – the student is more autonomous with the pace and intensity of learning

Level of connection the solution enables can be interactive or individual

- **Human interactive learning:** students and teachers meet live (e.g., videoconferencing) for real-time collaborative lessons and discussion
- **Individual learning**: students pursue learning activities in isolation (e.g., adaptive software or textbook) from each other

Technology which the solution relies on can be digital or analog

- **Digital:** advanced digital devices that generate, store, or process data
  - **Adaptive software:** specially designed adaptive software that collects data through the interaction with the student to identify learning needs and adapt the content and practice accordingly (e.g., mobile app that adapts language exercises based on student performance) – frees up teacher for tailored and more in-depth 1-on-1 coaching
  - **Nonadaptive software:** software that can enable students to practice but does not collect data or adapt to student needs (e.g., computer word-processing program, coding programmes) – demands teacher feedback and close supervision to ensure learning outcomes
- **Analog:** basic analog devices that do not generate, store, or process data (e.g., mail, textbook, radio)

Hybrid learning resources

Resource type Article or report | Compilation of resources | Guide or toolkit | Materials | Podcast | Data

Title	Description	Country	Date	Source and link
Supporting teachers in back-to-school efforts: guidance for policy-makers	This document provides guidance to policy-makers on measures to support teachers and education staff when schools reopen, during and after the COVID-19 crisis	USA	05/2020	UNESCO; Educational Task Force on Teacher Education 2030 ; ILO
Blended Learning Models	Website compiling different models of blending learning	Global		Clayton Christensen Institute-Blended Learning Universe
Scheduling Concepts for Hybrid Learning	The concepts shared in this document are intended to serve as a starting point for systems considering hybrid models	USA	04/2020	Center for District Capacity Building
Blended Learning for quality higher education: Introducing a new self-assessment tool for Asia-Pacific	UNESCO Bangkok developed a new online self-assessment tool for Higher Education Institutions (HEIs) to enhance their understanding of blended learning and promote the quality of higher education in the Asia-Pacific	Asia	22/07/2019	UNESCO
Blended learning	Definition and components of blended learning		Global	UNESCO
Using ICTs and blended learning in transforming technical and vocational education and training	This book brings together the work of several leading experts, presented as a series of case studies from around the world showcasing the use of information and communication technologies (ICT) and novel forms of open, flexible and technology-enhanced learning in Technical and Vocational Education and Training (TVET)		Global	UNESCO and Commonwealth of Learning
Education Reimagined: The Future of Learning (Remote to Hybrid Learning)	This paper, created in collaboration with global visionaries from New Pedagogies for Deep Learning, explores the now, the near, and the next in the changing landscape of education, including the shift to hybrid learning	Global	05/2020	Microsoft and New Pedagogies for Deep Learning - A Global Partnership

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