COVID-19 response – hybrid learning

Hybrid learning as a key element in ensuring continued learning

Version 2 as of July 2020
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Introduction

→ 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
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
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

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 Health, safety and resurgence protocols
Evaluating the trade-offs to school reopening and reclosing
Defining health and safety measures to put in place before and after reopening

4 Re-enrolment
Identifying students at risk of dropout
Engaging students, parents and communities to ensure all students are back to school

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

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

7 Recommitment and reform
Identifying longer-term implications of the crisis
Rethinking the new education system and reforming accordingly

8 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
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

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)

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?

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).

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 …

… 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

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
Introduction

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
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

Status of K-12 schools in countries around the world

<table>
<thead>
<tr>
<th>Date</th>
<th>Country-wide closures</th>
</tr>
</thead>
<tbody>
<tr>
<td>2/15/2020</td>
<td>1</td>
</tr>
<tr>
<td>3/15/2020</td>
<td>53</td>
</tr>
<tr>
<td>4/15/2020</td>
<td>190</td>
</tr>
<tr>
<td>5/15/2020</td>
<td>162</td>
</tr>
<tr>
<td>6/15/2020</td>
<td>119</td>
</tr>
</tbody>
</table>

Schools have begun to reopen in …

- Sweden
- 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 (April 20)
- Madagascar (April 22)
- China – (April 27)
- Germany (Last wk. of April)
- New Zealand (Apr end)
- Israel (1st week of May)
- Austria (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

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**Introduction**

**The problem**

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.

**The response**

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.

**The checklist**

Schools closed without remote learning

% school in-person capacity

Schools fully open (100%)

Schools fully closed (0%)

$\%$ remote learning (0%)

$\%$ remote learning (100%)

**Appendix**

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

Learning models

<table>
<thead>
<tr>
<th>% school in-person capacity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schools fully open</td>
<td>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</td>
</tr>
<tr>
<td>Schools unable to offer remote learning</td>
<td>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</td>
</tr>
<tr>
<td>Schools able to fully offer remote learning</td>
<td>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</td>
</tr>
</tbody>
</table>

Example drivers of capacity: physical space, teacher availability, support operations

Example drivers of capacity: digital infrastructure, volume of curriculum adapted to mass media (e.g., TV), number of textbooks per student

Example drivers of capacity: physical space, teacher availability, support operations

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

**Type**

- **Remote learning**
- **In-person learning**
- **Integration and switching**

**Challenge**

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

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

**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
The response
Framework and practices

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

01 Understand and Envision: Assess the needs and capabilities

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- **1B** Assess students’ needs for remote and in-person learning
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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
### 1A When setting a vision, leaders can consider balancing between key trade-offs

Balancing between …

<table>
<thead>
<tr>
<th>Limited scope to “now”</th>
<th>Expanded scope to future</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creating a hybrid learning strategy simply to mitigate immediate disruptions of COVID-19</td>
<td>Rethinking the learning strategy to optimize remote and in-person learning methods fully</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Light curriculum</th>
<th>Full curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reducing the curriculum that has to be covered to reduce pressure on students and teachers</td>
<td>Maintaining full curriculum coverage expectations to prevent learning losses and disruption of future academic years</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Class pace</th>
<th>Self-paced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Having students follow the pace of the teacher and the class to keep everyone at same level</td>
<td>Allowing students to study at their own pace to tailor expectations to their situation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Prioritize vulnerable students</th>
<th>Standardized allocation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prioritizing in-person learning for a subset of students who have a higher learning and well-being risk</td>
<td>Distribute the same mix of remote and in-person learning across all students</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Play safe</th>
<th>Experiment boldly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Changing only incrementally from the traditional educational model starting point</td>
<td>Innovating radically by leveraging ideas “outside the box”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pause assessment</th>
<th>Continue assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pausing all summative assessment to not impact disproportionally vulnerable students</td>
<td>Keeping summative assessment to incentivize students to study and facilitate academic progression</td>
</tr>
</tbody>
</table>
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.

- Assess students’ needs for remote and in-person learning
- 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.

- Assess teacher capacity (e.g., ability to return to school or teach remotely)
- Assess availability of physical space for in-person learning
- 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.
There are student segments whose needs and circumstances need to be considered when crafting a hybrid learning strategy.

<table>
<thead>
<tr>
<th>Vulnerable student at risk by being away from school</th>
<th>Students without access to remote learning</th>
<th>Students without childcare</th>
<th>Transition students</th>
<th>General student population</th>
<th>Students whose parents may not be comfortable with a return</th>
<th>Students at high risk if infected by the virus</th>
</tr>
</thead>
<tbody>
<tr>
<td>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 countries)</td>
<td>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)</td>
<td>Students whose parents cannot provide childcare (e.g., essential workers)</td>
<td>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</td>
<td>Students who have no particular risks and that can either study remotely or in person</td>
<td>Students who do not have any particular risk and could study remotely or in person but whose parents will not allow to return</td>
<td>Students who due to intrinsic health factors, living with people of high-risk or another factor cannot attend in-person learning until vaccine</td>
</tr>
</tbody>
</table>

**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
- 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

**Need to stay remote**
- School systems can have different segments or prioritize them differently according to their local circumstances
As part of their remote learning strategy, school systems will have already determined a solution mix that will now influence their hybrid learning alternatives.

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

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

#### Educational outcomes

<table>
<thead>
<tr>
<th>Goal</th>
<th>Remote learning access</th>
<th>Remote learning quality</th>
<th>Remote learning equity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ensure all students fulfill the necessary prerequisites to participate in remote learning solutions</td>
<td>Ensure learning outcomes in remote learning are as close to in-person expectations as possible</td>
<td>Ensure remote learning solutions do not create or worsen inequities between student groups</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Assessment question</th>
<th>How many students have access to the remote learning solutions and the content covered?</th>
<th>How well are students achieving learning outcomes?</th>
<th>Are any groups in particular being left behind?</th>
</tr>
</thead>
</table>
| Assessment elements | Stakeholders’ access to digital tools (e.g., students access to advanced devices) | Summative exams scores | Variations of access and quality indicators across:  
Gender |  
Geography |  
Ethnic background |  
Family education |  
Economic status |  
Disability |
|                      | Stakeholders’ capabilities to use devices (e.g., parents ability to use advanced devices) | Formative exams scores | Stakeholders’ experience (e.g., teachers satisfaction) |
|                      | Students’ attendance and participation | Samples of key documents and students’ work | |

- 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.
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.

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).
## Availability of current pool of teachers can be affected by different factors and can be segmented between grades and subjects

### 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.

### Description
- **Vulnerable teachers**: Teachers that are part of the vulnerable group to the virus, due to age, health conditions, or other reasons.
- **Suspected case**: 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.
- **Uncomfortable with return to in-person**: Teachers who live with someone who is vulnerable or are simply afraid and unwilling to return to work in person.
- **Compromised logistically**: Teachers who are 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).
- **Available to work in person**: 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

<table>
<thead>
<tr>
<th>Grade</th>
<th>Math</th>
<th>Science</th>
<th>Social studies</th>
<th>Languages</th>
<th>Sport</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grades 1-4</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Grade 5</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Grade 6</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Grade 7</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Grade 8</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Grade 9</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Grade 10</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Grade 11</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Grade 12</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
</tbody>
</table>

*UNESCO, in collaboration with McKinsey and Company*
1E Safety measures define how many students can share the physical space available

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

<table>
<thead>
<tr>
<th>Classroom size m²</th>
<th>Class size No. pupils</th>
<th>Av. space per person (students + 1 teacher)</th>
</tr>
</thead>
<tbody>
<tr>
<td>52m²</td>
<td>30</td>
<td>~1.7m²</td>
</tr>
<tr>
<td>50m²¹</td>
<td>24</td>
<td>~2.0m²</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Classroom size m²</th>
<th>Class size No. pupils</th>
<th>Av. space per person (students + 1 teacher)</th>
</tr>
</thead>
<tbody>
<tr>
<td>52m²²</td>
<td>10</td>
<td>~5m²</td>
</tr>
<tr>
<td>50m²²</td>
<td>15²</td>
<td>~3m²</td>
</tr>
</tbody>
</table>

… 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

-XX% Lost classroom capacity

AS OF JUNE 15TH 2020
### Supporting levers will influence schools’ capacity to receive students for in-person learning and need to be assessed

<table>
<thead>
<tr>
<th>Supporting levers</th>
<th>Availability assessment</th>
<th>What to assess</th>
</tr>
</thead>
</table>
| Transportation                            |                         | 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) |
| Cleaning                                   |                         | 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 |
| PPE and other healthcare products          |                         | 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 |
| Catering                                   |                         | How many students can one offer food to?  
  • Interventions in the kitchen to abide by food production safety regulations or other external alternatives |

### School capacity for in-person learning

<table>
<thead>
<tr>
<th>Level of capacity at school re-opening</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-10%</td>
</tr>
<tr>
<td>10-40%</td>
</tr>
<tr>
<td>40-70%</td>
</tr>
<tr>
<td>70-90%</td>
</tr>
<tr>
<td>90-100%</td>
</tr>
</tbody>
</table>

NOT EXHAUSTIVE

- 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 channelled 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
   > 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
## Decide whether to spread in-person capacity evenly across all students, or prioritize certain segments

<table>
<thead>
<tr>
<th>Description</th>
<th>When to use it</th>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remote allocation for all students</td>
<td>When there are constraints in offering in-person learning, or in-person learning is impossible</td>
<td>Simpler with everyone in the same system</td>
<td>Certain student segments needs’ might not be met</td>
</tr>
<tr>
<td>Same allocation of in-person capacity across all students</td>
<td>When all students’ needs exceed the limited in-person learning capacity</td>
<td>Every student has a portion of in-person learning</td>
<td>Difficult to integrate learning across both methods</td>
</tr>
<tr>
<td>Prioritizing some students for in-person, leaving others remote</td>
<td>When the limited in-person learning capacity is sufficient to address priority segments needs full-time</td>
<td>Attends to immediate needs of vulnerable segments</td>
<td>Has a portion of students permanently in remote lessons full-time</td>
</tr>
<tr>
<td>Mixed model of allocation</td>
<td>When priority segments in-person learning needs can be fully met and there is still capacity to rotate among other students</td>
<td>Optimize learning for every student segment</td>
<td>Complex to operationalize</td>
</tr>
</tbody>
</table>

### Description
- Remote allocation for all students: The education system offers either in-person or remote learning and all students are allocated to the same learning method.
- Same allocation of in-person capacity across all students: The education system offers each student both in-person and remote learning methods, so that the students have a hybrid experience.
- Prioritizing some students for in-person, leaving others remote: 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.
- Mixed model of allocation: 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
- Remote allocation for all students: When there are constraints in offering in-person learning, or in-person learning is impossible.
- Same allocation of in-person capacity across all students: When all students’ needs exceed the limited in-person learning capacity.
- Prioritizing some students for in-person, leaving others remote: When the limited in-person learning capacity is sufficient to address priority segments needs full-time.
- Mixed model of allocation: When priority segments in-person learning needs can be fully met and there is still capacity to rotate among other students.

### Pros
- Remote allocation for all students: Simpler with everyone in the same system.
- Same allocation of in-person capacity across all students: Every student has a portion of in-person learning.
- Prioritizing some students for in-person, leaving others remote: Attends to immediate needs of vulnerable segments.
- Mixed model of allocation: Optimize learning for every student segment.

### Cons
- Remote allocation for all students: Certain student segments needs’ might not be met.
- Same allocation of in-person capacity across all students: Difficult to integrate learning across both methods.
- Prioritizing some students for in-person, leaving others remote: Has a portion of students permanently in remote lessons full-time.
- Mixed model of allocation: Complex to operationalize.
### 2B Decide which grades to prioritize for in-person learning

#### Considerations

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

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

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)

AS OF AUG 25th 2020
2C Decide whether certain vulnerable groups should be brought back irrespective of grade

### Options of prioritization

**Vulnerable groups**

- Schools open or remain open for **specific segments that are disproportionately impacted by school closures** (e.g., special education schools, vulnerable population)

**Essential workers' children**

- Schools prioritize opening for **children of essential workers** to enable them to continue working

### Rationale

- **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**

<table>
<thead>
<tr>
<th>Types of hybrid models</th>
<th>All students</th>
<th>Youngest students</th>
<th>Targeted crosscutting student population(s)</th>
<th>Mixed approach</th>
<th>Older students in important transition years</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Illustrative representation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Primary</td>
<td>Primary</td>
<td>Primary</td>
<td>Primary</td>
<td>Primary</td>
</tr>
<tr>
<td></td>
<td>Crosscutting population</td>
<td>Crosscutting population</td>
<td>Crosscutting population</td>
<td>Crosscutting population</td>
<td>Crosscutting population</td>
</tr>
<tr>
<td><strong>Rationale</strong></td>
<td>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</td>
<td>Younger students may be harder to engage in a remote environment and their return to campus may enable their parents to return to work</td>
<td>Specific crosscutting student segments may be disproportionally negatively impacted by remote instruction (e.g., special education students, those with limited internet bandwidth)</td>
<td>Taking a nuanced approach allows at least some in-person instruction to be offered to all student groups who are likely to benefit most</td>
<td>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</td>
</tr>
<tr>
<td><strong>Example</strong></td>
<td>New Zealand</td>
<td>Denmark</td>
<td>United Kingdom</td>
<td>Israel</td>
<td>South Africa</td>
</tr>
<tr>
<td></td>
<td>Due to the highly limited community spread of COVID-19, New Zealand fully resumed in-person instruction for all students at the same time</td>
<td>Denmark was the first country in Europe to begin to reopen schools and began by resuming instruction for students in grades 5 and below</td>
<td>The U.K. prioritized maintaining in-person instruction for students enrolled in alternative provision (AP) programmes, which educate several categories of at-risk students</td>
<td>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</td>
<td>South Africa resumed in-person instruction for its 7th and 12th grade students first to help them prepare for important examinations</td>
</tr>
</tbody>
</table>

Source: UNESCO; WHO; Reuters; BBC; UNICEF; public government websites
2E Decide how to phase in more students over time as epidemiological conditions improve, opening up more capacity

**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 1:** 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

UNESCO, in collaboration with McKinsey and Company
Hybrid learning involves a three-step approach supported by continuous monitoring and adjustment

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1A Define guiding principles for hybrid learning strategy

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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

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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
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?

**When?**
When does in-person or remote learning take place?

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

**How?**
How can capacity be built to strengthen hybrid 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.
- **3C** Organize a shift system that distributes access to in-person learning amongst students (e.g., half days).
- **3D** Define teacher allocation model between learning methods.
- **3E** Identify levers to bridge the capability gaps to ensure optimal delivery of the hybrid learning strategy.
### 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?
- Is the learning path for this subject linear? (e.g., if something is not learned today does it impedes future learning process)
- 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?
- Are there sophisticated remote learning solutions which can ensure high learning outcomes?
- Does the content of this subject constitute foundations for the study of other subjects (e.g., numeracy and literacy)?
- Does this subject continued in future grades or levels (i.e. university)?
- Is it possible for such in-person equipment to be used safely at school premises?
- Does it contribute to students emotional connectivity?

---

**Illustrative**

Subject prioritization will depend on 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

<table>
<thead>
<tr>
<th>Core learning activities</th>
<th>Enabling student practice</th>
<th>Level of pressure for subject to be studied in person</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching new concepts¹</td>
<td>Enabling student practice</td>
<td>High, Medium high, Medium, Medium low, Low</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level of prioritization for in-person learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
</tr>
<tr>
<td>Medium</td>
</tr>
<tr>
<td>Low</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-person interaction fundamental for a student to create social connection with his teacher and peers</td>
</tr>
<tr>
<td>Information can be shared as effectively remotely or in person</td>
</tr>
<tr>
<td>Teacher explanation can benefit from practical demonstrations</td>
</tr>
<tr>
<td>Teacher can see student understanding and readjust teaching</td>
</tr>
<tr>
<td>Teacher can immediately react to difficulties and questions</td>
</tr>
<tr>
<td>Activity requires a certain rhythm that is easier for the teacher to set with the students in person</td>
</tr>
<tr>
<td>Activity might need in-person physical interaction with colleagues</td>
</tr>
<tr>
<td>Activity might need physical equipment</td>
</tr>
<tr>
<td>If adaptive software is not available</td>
</tr>
<tr>
<td>Students can contact teachers with their questions</td>
</tr>
<tr>
<td>Teacher can ensure academic integrity</td>
</tr>
</tbody>
</table>

- 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**

<table>
<thead>
<tr>
<th>Learning activities</th>
<th>Communicating new assignments and information to students and parents</th>
<th>Teaching new concepts</th>
<th>Enabling student practice</th>
<th>Providing formative feedback and coaching</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Learning experience types</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1  In-person</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2  Homework model</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3  Flipped classroom</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4  Synchronous with one group in person and one remote simultaneously</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5  Asynchronous hybrid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6  Remote</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 3B ... each with their own pros and cons

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

<table>
<thead>
<tr>
<th>Age group</th>
<th>4-8</th>
<th>8-12</th>
<th>12-17</th>
<th>17-18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Math</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Reading and writing</td>
<td>In person</td>
<td>In person</td>
<td>Flipped classroom</td>
<td></td>
</tr>
<tr>
<td>Sciences</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social studies</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd language</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Art</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sport</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **In person**: Students require in-person interaction with peers and teachers. Learning can be strengthened with complementary learning activities at home that are reviewed in-person.
- **Remote**: Students require in-person interaction with peers and teachers. Learning can be strengthened with complementary learning activities at home that are reviewed in-person.
- **Asynchronous hybrid**: 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.
- **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.

- 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:

**Pre-COVID-19**
- Full time x 5 day model
- Students from all grades come to school

**Option 1 – Hours based model**
- **Day**: M T W T F
- **Schedule A**
- **Schedule B**

**Option 2A – Days based model**
- **Day**: M T W T F
- **Schedule A**
- **Schedule B**

**Option 2B – Days based model**
- **Day**: M T W T F
- **Schedule A**
- **Schedule B**

**Option 3 – Weeks based model**
- **Week**: 1
- **Schedule A**
- **Schedule B**

**Risk of infection**
- **Higher**
- **Lower**

**Description**
- **Option 1 – Hours based model**
  - Students have a block of hours per day (e.g., morning and afternoon as 2 blocks)
- **Option 2A – Days based model**
  - Students go to school every other day
  - Students can change schedule every week
- **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
- **Option 3 – Weeks based model**
  - Students come to school full-time for a week (e.g., week 1, grade 1, week 2, grade 2, etc.)

**Pros**
- **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**
- **Students have classes with their usual teachers, reducing disruption**
- **Students follow a usual day schedule when at school**
- **Students follow a usual day schedule when at school**
- **Students have a block of hours per day (e.g., morning and afternoon as 2 blocks)**
- **Students have consecutive days of learning with their teachers**
- **Students have one week of normal classes**
- **Students return to in-person learning after one day of remote work to clarify questions**
- **Students have a block of hours per 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**
- **Students have classes with their usual teachers, reducing disruption**
- **Students follow a usual day schedule when at school**
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- **Students have a block of hours per day (e.g., morning and afternoon as 2 blocks)**
- **Students have consecutive days of learning with their teachers**
- **Students have one week of normal classes**
- **Students return to in-person learning after one day of remote work to clarify questions**

**Cons**
- **Parents cannot 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**
- **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**
- **Students are from further from school for a longer period than in model 2A**
- **Students come 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**

**Considerations**
- **Schools can change students on schedule 1, 2A, and 2B on a weekly basis for fairness or keep 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**

UNESCO, in collaboration with McKinsey and Company
Different teacher allocation models can be deployed, considering factors as flexibility, consistency, and teacher skill maximization

Pre-COVID-19 teacher allocation … ▶ … can adjust to hybrid learning

<table>
<thead>
<tr>
<th>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)</th>
<th>Pros</th>
<th>Cons</th>
<th>Could be an option</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students keep the same teachers</td>
<td>Students study remotely because of teacher situation</td>
<td>For high school electives for which there is one teacher only, and one class that takes the elective</td>
<td></td>
</tr>
<tr>
<td>Consistency of interaction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Familiar method</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Easy to accommodate switching students</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Student classes are restructured between remote and in person and teachers are allocated full time between either method</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Students study in-person if they can</td>
<td>Potentially new classes and new teachers</td>
<td>When the numbers of vulnerable teachers and vulnerable students are proportional</td>
</tr>
<tr>
<td>Consistency of learning method</td>
<td>Harder to accommodate switching students</td>
<td>For early elementary (K-4)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>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</th>
<th>Excellent teaching Teacher accompaniment</th>
<th>Different format Teacher accommodation</th>
<th>For subjects where there are multiple classes of the same topic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>For high school (age 14-18)</td>
</tr>
</tbody>
</table>

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

**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

### 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
- 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

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.

A central team can ensure that both monitoring and adjustment take place.

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

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 ...

Leverage indicators to evaluate hybrid learning strategy execution, subject and activity prioritization, shift and teacher organization, capability enhancement, access, quality, and equity.

- What to assess
  - Evaluate hybrid learning solution outcomes
  - Student and time distribution
  - Subject and activity prioritization
  - Shift and teacher organization
  - Capability enhancement
  - Access
  - Quality
  - Equity

- Example metric
  - 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
  - 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
  - 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
  - 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
  - Student engagement: Adoption rates of remote platforms, attendance (in person and remote)
  - Learning outcomes: Reading score, student satisfaction
  - 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

<table>
<thead>
<tr>
<th>Decide and design</th>
<th>Indicators monitored</th>
<th>Result</th>
<th>Potential adjustments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Which students?</td>
<td>• Health risk</td>
<td>• Transmission rates low</td>
<td>• Bring more grades of the school system for in-person learning leveraging on initial lessons learned</td>
</tr>
<tr>
<td>Student and time distribution</td>
<td>• Student engagement</td>
<td>• Remote learning attendance low</td>
<td></td>
</tr>
<tr>
<td>• In-person capacity</td>
<td>• Health risk</td>
<td>• Number of teachers available increased</td>
<td></td>
</tr>
<tr>
<td>• Equity</td>
<td>• In-person capacity</td>
<td>• Transmission rates remain the same</td>
<td></td>
</tr>
<tr>
<td>Execute</td>
<td>• Curriculum progression per subject</td>
<td>• Vulnerable groups reading score significantly lower</td>
<td>• Increase in-person learning time allocation for vulnerable students</td>
</tr>
<tr>
<td>What activities?</td>
<td>• Student satisfaction by age and grade</td>
<td>• Number of teachers remain the same</td>
<td></td>
</tr>
<tr>
<td>Subject and activity prioritization</td>
<td>• Student satisfaction by age and grade</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Remote learning capability</td>
<td>• Transmission rates remain the same</td>
<td></td>
<td></td>
</tr>
<tr>
<td>When in the week and taught by whom?</td>
<td>• Student and parent satisfaction with shifts</td>
<td>• Students regressing considerably in reading</td>
<td>• Reallocate the in-person time dedicated to each subject</td>
</tr>
<tr>
<td>Shift and teacher organization</td>
<td>• Teachers’ satisfaction with shifts</td>
<td>• Students satisfied with overall number of in-person hours</td>
<td>• Shift hybrid learning model archetype to prioritize in-person ‘emotional connection’ over other activities</td>
</tr>
<tr>
<td>• Teacher experience across models</td>
<td>• Students unsatisfied with the lack of emotional connection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Student segmentation</td>
<td>• School still unable to ensure synchronous learning to all students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How to do it well?</td>
<td>• Subject experience</td>
<td>• Students satisfied with shift system</td>
<td>• Make shift systems standardized across grades</td>
</tr>
<tr>
<td>Capability enhancement</td>
<td>• Remote learning capability</td>
<td>• Teachers unsatisfied with shift system due to demands of managing different shift systems</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Students unsatisfied with remote learning solutions</td>
<td>• Teachers feel overwhelmed with constant change of number of students</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Number of students returning for in-person learning increasing</td>
<td>• Number of students returning for in-person learning increasing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Expand technology options for remote learning</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
04

The checklist
Summary of actions

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

01 Identify hybrid learning

02 Define hybrid learning

03 Prepare to operationalize hybrid learning

04 Monitor and adjust

UNESCO, in collaboration with McKinsey and Company
## Identify hybrid learning possibilities through the following actions

To be adapted and populated by the entity concerned

<table>
<thead>
<tr>
<th>Action</th>
<th>Responsible</th>
<th>Focal point</th>
<th>Time frame</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a Define guiding principles for hybrid learning strategy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Convene all stakeholders relevant for hybrid learning (including health authorities, leaders for finance, IT, infrastructure, principal, teacher and parent representatives, etc.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>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)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Determine level of compliance expected from schools regarding guidance been issued (e.g., guidelines to be leveraged or mandates to follow)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1b Assess students’ needs for remote and in-person learning</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>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</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Define the standards for learning outcomes and assess the effectiveness of remote learning solutions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assess the public opinion to understand feasible options and the feeling of teachers, parents, and unions on in-person prioritization</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1dec Assess school in-person capacity drivers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>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</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estimate space availability given the implementation of physical distancing measures, identify interventions to expand capacity, and make a plan of action</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identify key supporting levers, estimate capacity constraints and channel budget to de-bottleneck the constrained capacity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Determine the overall capacity for each school within the system given teacher, student, and space constraints</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Define hybrid learning allocation through the following actions

To be adapted and populated by the entity concerned

<table>
<thead>
<tr>
<th>Action</th>
<th>Responsible</th>
<th>Focal point</th>
<th>Time frame</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determine the allocation of hybrid learning by grade and student type</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2abc</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Determine which <strong>school grades should be prioritized</strong> for in-person learning based upon health data, childcare needs, and learning needs</td>
<td></td>
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</tr>
<tr>
<td>Determine the precise <strong>amount of in-person time per grade</strong> (e.g., equivalent of one day per week, two days per week, five days per week)</td>
<td></td>
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</tr>
<tr>
<td>Determine if <strong>vulnerable groups</strong> get <strong>additional in-person learning time</strong> (e.g., special education, essential workers’ children)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Determine the precise <strong>amount of additional in-person time for vulnerable students</strong> (e.g., full-time vs. incremental time by grade)</td>
<td></td>
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</tr>
<tr>
<td>Determine <strong>progression to increase/decrease in-classroom allocation</strong> as epidemiological situation shifts</td>
<td></td>
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</tr>
</tbody>
</table>
### Prepare to operationalize hybrid learning model through the following actions

To be adapted and populated by the entity concerned

<table>
<thead>
<tr>
<th>Action</th>
<th>Responsible</th>
<th>Focal point</th>
<th>Time frame</th>
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</thead>
</table>

#### 1. Determine the subjects and learning activities split across learning methods

<table>
<thead>
<tr>
<th>3ab</th>
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<tbody>
<tr>
<td>Determine <strong>which subjects</strong> should be prioritized for in-person learning based upon criticality, need for in-person equipment, interaction needs, and availability of adaptive software</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Determine which <strong>elements of the learning value chain should be prioritized</strong> for in-person learning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Determine <strong>models of hybrid learning</strong> to use (asynchronous hybrid, flipped classroom, synchronous with one in-person group + one remote group simultaneously, instruction at school + assignments at home, combination across)</td>
<td></td>
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</tr>
<tr>
<td>Cross hybrid learning archetypes with student age groups and subjects of study and determine <strong>coherent manageable strategy</strong> for schools</td>
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</tbody>
</table>

#### 2. Determine how to distribute students and teachers across learning methods

<table>
<thead>
<tr>
<th>3cd</th>
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</thead>
<tbody>
<tr>
<td>Develop <strong>shift system</strong> to distribute the available in-person learning time across students (staggered daily model, morning/afternoon layer model, rolling weekly model)</td>
<td></td>
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</tr>
<tr>
<td>Engage with teachers to <strong>allocate teachers</strong> according to student split between in-person and remote learning, chosen hybrid learning model, and chosen shift system</td>
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<td></td>
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</tbody>
</table>

#### 3. Fill capability gaps to enable delivery of quality hybrid learning

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<thead>
<tr>
<th>3e</th>
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</thead>
<tbody>
<tr>
<td><strong>Explore possibilities to expand remote learning accessibility and quality and in-person capacity</strong> to enhance the hybrid learning strategy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gather support and approval of relevant stakeholders (e.g., teacher unions, legal)</td>
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</tbody>
</table>
4 Monitor and adjust through the following actions

To be adapted and populated by the entity concerned

<table>
<thead>
<tr>
<th>Action</th>
<th>Responsible</th>
<th>Focal point</th>
<th>Time frame</th>
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</thead>
<tbody>
<tr>
<td><strong>Monitor key indicators of hybrid learning processes and outcomes</strong></td>
<td></td>
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<tr>
<td>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)</td>
<td></td>
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<tr>
<td>Determine the sources of data to be leveraged (e.g., teacher survey)</td>
<td></td>
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<tr>
<td>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)</td>
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<tr>
<td>Agree on responsible parties and timeline for the collection of each metric</td>
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<tr>
<td><strong>Set up an adjustment mechanism to continuously adapt hybrid learning strategy to emerging needs</strong></td>
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<tr>
<td>Regularly compile data and share findings with the central team</td>
<td></td>
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<tr>
<td>Adjust design choices (e.g., which school systems participate in in-person learning) as well as implementation choices (e.g., shift systems)</td>
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<tr>
<td>Identify and disseminate practices between teachers and schools</td>
<td></td>
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</tbody>
</table>
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
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

CLICK EACH COUNTRY FLAG TO VIEW CONTENT
# Countries have chosen different options according to their context

<table>
<thead>
<tr>
<th>Options</th>
<th>Country</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full remote learning</td>
<td>Morocco</td>
<td>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</td>
</tr>
<tr>
<td></td>
<td>Paraguay</td>
<td>Face-to-face classes across the country will be suspended until December</td>
</tr>
<tr>
<td>Vulnerable groups and in need of childcare</td>
<td>United Kingdom</td>
<td>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</td>
</tr>
<tr>
<td>Transition years</td>
<td>China</td>
<td>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</td>
</tr>
<tr>
<td>Primary school</td>
<td>Denmark</td>
<td>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</td>
</tr>
<tr>
<td></td>
<td>Norway</td>
<td>Norway began reopening its kindergartens on April 20, followed by primary schools for children in grades 1 through 4 on April 27</td>
</tr>
<tr>
<td>In-person learning</td>
<td>Nicaragua</td>
<td>Nicaragua is the only Latin American country that has not suspended classes</td>
</tr>
</tbody>
</table>

Source: Morocco ([AAWSAT](https://www.aawsat.com)), Paraguay ([PY.gov](https://py.gov)), UK ([BMJ.com](https://bmj.com)), China ([Weforum](https://weforum.org)), Denmark ([BBC](https://www.bbc.com)), Norway ([DW](https://www.dw.com)), Nicaragua ([Swissinfo.ch](https://www.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.

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

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 students 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](https://www.worldbank.org), [ReliefWeb](https://reliefweb.int)
## 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
## 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

<table>
<thead>
<tr>
<th>Students</th>
<th>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</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers</td>
<td>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.</td>
</tr>
<tr>
<td>Educational operations</td>
<td>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.</td>
</tr>
<tr>
<td>Curriculum</td>
<td>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.</td>
</tr>
</tbody>
</table>

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

→ Glossary of key terms
→ Hybrid learning resources
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

<table>
<thead>
<tr>
<th>Title</th>
<th>Description</th>
<th>Resource type</th>
<th>Country</th>
<th>Date</th>
<th>Source and link</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supporting teachers in back-to-school efforts: guidance for policy-makers</td>
<td>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</td>
<td>Article or report</td>
<td>USA</td>
<td>05/2020</td>
<td>UNESCO; Educational Task Force on Teacher Education 2030; ILO</td>
</tr>
<tr>
<td>Blended Learning Models</td>
<td>Website compiling different models of blending learning</td>
<td>Compilation of resources</td>
<td>Global</td>
<td></td>
<td>Clayton Christensen Institute-Blended Learning Universe</td>
</tr>
<tr>
<td>Scheduling Concepts for Hybrid Learning</td>
<td>The concepts shared in this document are intended to serve as a starting point for systems considering hybrid models</td>
<td>Guide or toolkit</td>
<td>USA</td>
<td>04/2020</td>
<td>Center for District Capacity Building</td>
</tr>
<tr>
<td>Blended Learning for quality higher education: Introducing a new self-assessment tool for Asia-Pacific</td>
<td>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</td>
<td>Data</td>
<td>Asia</td>
<td>22/07/2019</td>
<td>UNESCO</td>
</tr>
<tr>
<td>Blended learning</td>
<td>Definition and components of blended learning</td>
<td>Materials</td>
<td>Global</td>
<td></td>
<td>UNESCO</td>
</tr>
<tr>
<td>Using ICTs and blended learning in transforming technical and vocational education and training</td>
<td>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)</td>
<td>Podcast</td>
<td>Global</td>
<td></td>
<td>UNESCO and Commonwealth of Learning</td>
</tr>
<tr>
<td>Education Reimagined: The Future of Learning (Remote to Hybrid Learning)</td>
<td>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</td>
<td>Data</td>
<td>Global</td>
<td>05/2020</td>
<td>Microsoft and New Pedagogies for Deep Learning - A Global Partnership</td>
</tr>
</tbody>
</table>