



BRIDGING THE GAPS IN REMOTE LEARNING

A Handbook for Educators

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OPENING MESSAGE

In this COVID era, educators face both challenges and opportunities. One might add, it is not just COVID-19 but also climate change and technology-led disruptions that are challenging established notions of schooling.

Already more than a billion students, a majority in developing economies, have lost schooling opportunities. Terms like ‘learning loss’, ‘hybrid schooling’, and ‘mental health issues’ are commonplace. The term ‘Building Back Better’ suggests that both recovery and innovation strategies are required.

Yes, online learning is one solution, but it is insufficient. COVID-19 has exposed the wide digital inequalities between and within countries; even in high-income countries like Singapore, pockets of students are struggling to access online learning. In Malaysia, a student slept up in a tree to get an internet signal to take her exams while a group attended lessons from a suspension bridge. In the Philippines, a student played a mobile phone game to earn virtual “diamonds” to redeem a tablet, while students traded plastic trash for WiFi in Indonesia.

Countries in this region, and around the world, have shown ingenuity in ensuring that their students can continue to learn meaningfully in this difficult period. In this handbook, we share innovative case stories of how educators bridged the gaps in remote learning, from securing digital devices and internet for their students, to repurposing older technologies such as telephones and the radio to conduct lessons.

It is essential that COVID-19 should not stop teacher professional development. It is in these new times that we should continue to share innovative and relevant ideas and best practices, and to guide and inspire school leaders and teachers to do the same. I invite you to use this handbook as a reference book and a journal in your journey to Build Back Better.

S. Gopinathan

Academic Advisor,
The HEAD Foundation



MODERATOR'S MESSAGE

The narrative relating education, COVID-19 and technology has been reiterated on various occasions these past months: the pandemic altered our lives and caused school closures, remote teaching and learning methods had to be adopted. The disruption caused by the pandemic compelled school leaders and teachers to quickly search for ways to ensure that students continue to learn. Educators from across the globe, including those who face very difficult circumstances, rose to the challenge.

This handbook captures valuable ideas and insights from the three-part practitioner-focused webinar series, *Bridging the Gaps in Remote Learning*. The words of Lu Xun, a Chinese writer of the 20th century, aptly encapsulate the substance of the series:

Hope is a path on the mountainside. At first there is no path.
But then there are people passing that way. And there is a path.

The inputs of the panellists and conversations in the first session (*Working with Your Community*) reflected how stakeholders came together and pooled resources to enable the children from under-resourced environments to continue to learn during trying times. The second session (*Using Digital Tools*) brought to light concrete examples demonstrating the use of technology in a manner that considered the context of learners, as well as prioritised student engagement and learning goals. Digital tools can be very intimidating for those who have very limited access to computers and the internet, but the third session (*Rehashing Older Technology*) showed how remote learning is doable using older technologies.

Now more than ever, access to technology has become critical in the teaching-learning process. Unfortunately, the digital divide is real, wide and growing at an alarming rate. The gaps in remote learning have to be addressed intentionally to enable students to continue to learn despite the pandemic. The paths that the panellists in the webinar series have taken demonstrate their extraordinary resourcefulness and unwavering determination to ensure that students continue to learn even during the unusual situation. This handbook will provide the opportunity for you to understand their examples more thoroughly so that you may be inspired to search for more ways to address the challenges in education processes brought about by COVID-19. Through meaningful initiatives, we are hopeful that educators will be able to take significant steps forward, overcome the difficulties caused by the crisis, and ensure that our children have a bright future.

Carmela C. Oracion

Director, Ateneo Center for Educational Development

PREFACE

School Leaders and Teachers at the Frontlines

The shutdown of school systems due to COVID-19 pressed those at the frontlines of education all over the world to respond quickly to the unprecedented disruption in teaching and learning. Unsurprisingly, the pandemic magnified inequalities in access to quality education, and educators in disadvantaged environments grappled with ways to deliver quality education amidst the complex challenges. Scarcity of resources impeded remote instruction, many teachers lacked adequate digital skills, and many home situations in overlooked communities were not conducive to learning.

Schoolchildren around the world have so far lost 1.8 trillion hours of face-to-face learning due to COVID-19 lockdowns.

According to UNICEF (2021), schoolchildren around the world have so far lost 1.8 trillion hours of face-to-face learning due to COVID-19 lockdowns. When the thousand-odd participants in the webinar series *Bridging the Gaps in Remote Learning* were asked about their opinion on how much students were learning through remote teaching, 51% responded that students were learning only 50% of what they would have learned from face-to-face classes. The participants also thought that this perceived learning loss may be attributed to lack of instructional materials and devices (33%), lack of training for teachers on the use of both old and new technology (31%), loss of motivation on the part of teachers and students (21%), and non-priority of education continuity by governments in the fight against the virus (15%). These results from the informal polls during the webinar series align with the intuitive view of many educators that students made little progress while learning from home, especially in places with weak support structures for remote instruction.



School leaders and teachers, as the frontliners of this education crisis, need to respond to the disruption promptly so that students may continue to learn during very trying times.

It is true that opportunities to reimagine and develop education processes have come about as a result of the crisis, but unfortunately the challenges in vulnerable environments have also been very overwhelming. However, interventions and solutions do not have to be sophisticated or

high-tech; the initiatives of the school leaders and teachers featured in this handbook are implementable, context-specific, and innovative responses to the situation. The devastation caused by COVID-19 is far from over, and episodic school closures, over prolonged periods in some places, are more likely than not to continue taking place. Simply wishing that the situation returns soon to the predominantly face-to-face, classroom-based, and schedule-bound teaching-learning process before COVID-19 may not be pragmatic. School leaders and teachers, as the frontliners of this education crisis, need to respond to the disruption promptly so that students may continue to learn during very trying times. Through initiatives that were motivated by a deep concern for the welfare and future of students, gaps in access to quality education can be addressed in concrete ways.

PANELLIST BIOGRAPHIES



Mr Eddie A. Alarte is currently Principal IV of Polo National High School, the Philippines; and the President of the Principals' Association in DepEd-Valenzuela. As a school head for 10 years, his pursuit of good leadership has always been a priority. He steadfastly believes that passion, commitment and hard work are the main ingredients that create a good leader.



Ms Aury R. Atienza-Santos is a project manager at SEAMEO INNOTECH's Educational Research and Innovation Office. She handles projects related to the use of mobile devices for education and cultivating digital citizenship among learners in Southeast Asia. She is currently in charge of programme delivery for the Philippines' Alternative Learning System implementers, using Mobile Technology for Teachers (MT4T 2.0), a teacher resource kit, as the main resource material.



Mr Oscar Yustino Carascalao is Diploma Programme Coordinator/Vice Principal for IB Diploma Programme at SMA Pradita Dirgantara, a world-class boarding high school in Indonesia. He is an educator who values integrity, service and excellence. The school incorporates Project-Based Service which allows the school to strengthen relationships with the wider community and stakeholders. He has experience with several international teaching programmes in Australia and Malaysia.



Mr Teerawat Luanrit is currently Director at Buddhajakwittaya School (OBEC), Thailand. Prior to this role, he was a teacher, and then Deputy Director, at Rajadamri School, Bangkok. He holds a Bachelor's Degree in Physics, a Masters in Educational Research and is currently pursuing his Ph.D. in Educational Administration.



Dr Yolanda Marin-Gonzales is Principal IV of Capas National High School, the Philippines. An epitome of servant leadership, she has been recognised as an Outstanding Principal from 2014 to 2021 at the division and national levels of the Department of Education. She is an achiever graduate from Tarlac State University, the Philippines.



Dr Nguyen Thi Thu Trang is Director of the STEM Education Center of Ho Chi Minh City University of Education (HCMUE), where she is in charge of designing and conducting teacher training courses in STEM Education. Trang is also working as a lecturer at the Department of Chemistry, HCMUE. She received her Ph.D. Degree in Material Chemistry from the University of Birmingham.



Ms Lou Sabrina Ongkiko is an award-winning public school teacher at Culiati Elementary School, the Philippines. Among other awards, she was given the Best Teacher award by the Department of Education – NCR Congressional District VI. Passionate about education, she has spoken in different venues including UNESCO conferences in Bangkok and Paris. Sabrina advocates for teacher empowerment through telling stories – encouraging and opening doors for other teachers to reflect on, articulate and share their own stories.



Prof Yeap Ban Har was with the National Institute of Education, Singapore for a decade until 2010. He is currently Director of Curriculum and Teacher Development at Pathlight School, Singapore and Anglo Singapore International School, Thailand. His area of expertise is mathematics education. Prior to the pandemic, he travelled globally to help mathematics teachers rethink their classroom practices to cultivate deep learning and learner independence.



Mr Jatón Zulueta is the executive director and founder of AHA Learning Center, a non-profit that's helped thousands of parents, teachers, and students in the Philippines during the pandemic. Jatón is a multi-awarded teacher, community organiser, and broadcaster. For his work, Jatón was recently awarded Obama Foundation Leader. He works with education groups in the Philippines and abroad.

Host and moderator:



Dr Carmela C. Oracion is currently the Director of the Ateneo Center for Educational Development. She completed her Doctorate Degree in Education, a dual award programme, from Nanyang Technological University, Singapore and the University of London. In her present post, she is deeply involved in the development of public schools in the Philippines, most of which face very challenging circumstances. The majority of students enrolled in Philippine public schools come from disadvantaged backgrounds and she believes that a good education is key to breaking the cycle of poverty. Her interests include school leadership, teacher development and school improvement.

Disclaimer: All deliberations made by the authors are their own. They do not represent the views of their national or local education departments, their respective schools nor The HEAD Foundation.



1 PLANNING AND DESIGNING LEARNING EXPERIENCES

Arranging for an accessible remote learning experience can be challenging, especially when students lack the suitable digital learning infrastructure, and teachers the experience to design an effective virtual lesson. In this chapter, we look at how some schools created a systematic action plan that evaluated their students' digital infrastructural needs, found creative partnerships that overcame geographical limitations, and asked the right questions in planning student-centric remote learning experiences.

Food for Thought


What do you think are key considerations in creating a remote learning action plan?


Flip to the end of the chapter for our perspective!

SCHOOL PROFILE

Buddhajakwittaya School

 Bang Rak, Bangkok, Thailand

 Public school
Grade 7-12

 200 students

 23 staff

1.1 Preparing remote learning infrastructure

Mr Teerawat Luanrit (Dale)

When schools in Thailand closed for remote learning, Buddhajakwittaya School implemented a 'PAE' model to ensure that students had the resources and infrastructure they needed to continue their education.



1. Plan and prepare

- The school conducted a survey with teachers, students and parents to determine the best form of instruction needed for students to have a positive learning experience, and for teachers to deliver professional remote teaching.
- The survey showed it was best to (i) host online lessons through messaging apps like Facebook Messenger and the popular messaging app in Thailand, LINE, and (ii) follow up with phone calls to reach those without internet access.

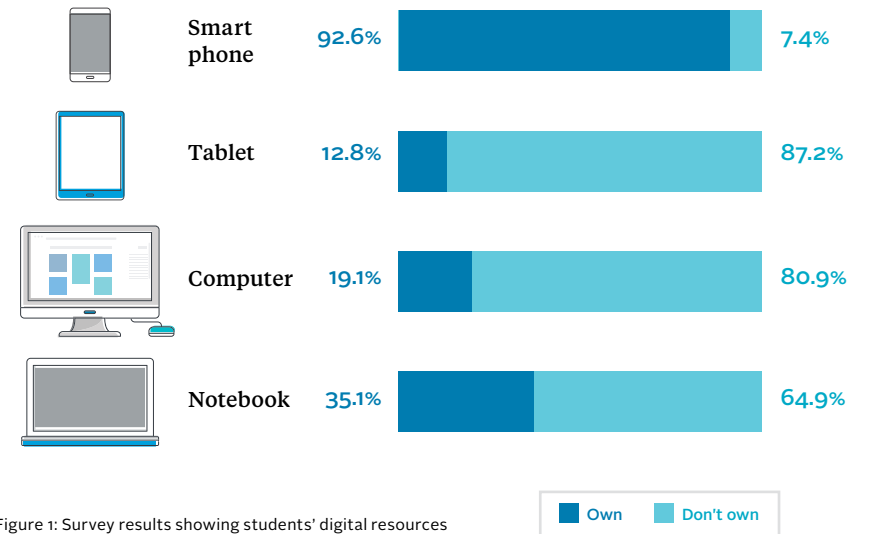


Figure 1: Survey results showing students' digital resources

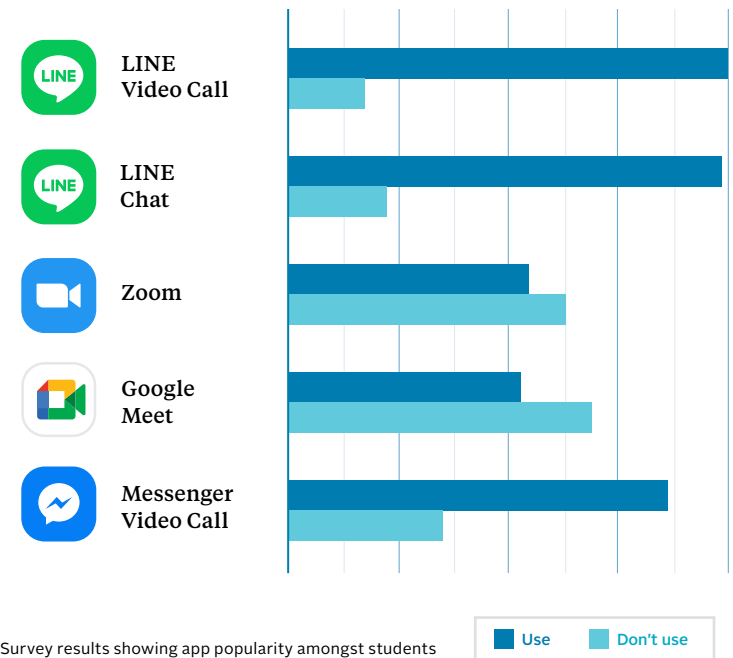






Figure 2: Survey results showing app popularity amongst students


Looking at all their available resources, Buddhajakwittaya School came up with five ways their students could access learning:

- 
1 On-site
 Learning at school
 Students learn on-site. Not applicable during COVID-19.

- 
2 On-air
 Learning through DLTV
 Thai government channel DLTV – distance-learning television, that was already in place before COVID-19.

- 
3 Online
 Learning through the internet
 Students communicate with teachers in real-time.

- 
4 On-demand
 Learning through applications e.g. YouTube video clips
 For students whose households only have one digital device, and need to take turns or wait for parents to return home before they can access classes.

- 
5 On-hand
 Learning from books and paper work
 Teachers prepare paper work for students to take home.

After surveying students' needs and available infrastructure, Buddhajakwittaya School used two main modes of learning during the pandemic:



The school approached Wat Hua Luamphong, a nearby temple, to help secure computers and tablets for students, and install free WiFi in the internet room for teachers without stable internet connection at home.



A teacher in the school's office running a virtual lesson.

2. Action

Once a plan was in place and preparations done, Buddhajakwittaya School implemented their online and on-hand learning modalities. Every Monday, teachers met to discuss challenges and come up with solutions together.



Online:

Teachers who found it more conducive to work in the office came back to school to conduct their lessons via Google Meet and Facebook Live. Dale joined online classes to observe lessons, keeping an eye out for teachers and students who needed more help, and anticipating problems in order to address them as early as possible.

Tip

School leaders should continue to conduct classroom observations even during remote learning.

Classroom observations are essential to assess and improve the quality of teaching, particularly important during remote learning as both teachers and students try out and adapt to this new arrangement.



On-hand:

Students without stable internet access or digital devices received packages of books, paper notes and homework to study independently. Teachers called students on the phone or visited their homes to explain the contents of the package, and how to use them for independent learning. For students who needed more clarification and support, they were able to call teachers for one-on-one tutoring. The school covered the cost of teachers' telephone bills during this period.



A teacher calling her student to go through an assignment.



School staff delivering learning packages to a student's home.

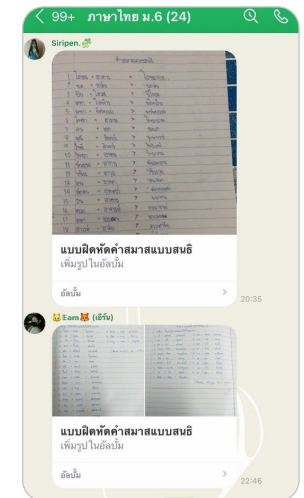


3. Evaluate

To monitor their students and evaluate their understanding of learning materials, teachers asked students to send photographs of completed assignments using their mobile phones. The teachers would then review the submissions.

- For minor comments, they wrote their comments directly on the photos using a photo editing app and sent them back to students;
- For comments that needed more clarification, they called the students to explain in detail over the phone.

By evaluating their students' available resources and crafting different ways for students to access remote learning, Dale and Buddhajakwittaya School kept up an encouraging atmosphere where students with different levels of technology could access classes, and teachers were in regular contact with students, ensuring that no one was left behind.



Students submitting their work in a group chat for their teachers to review.


1.2


Systematically meeting students' resource needs


Mr Oscar Carascalao

SCHOOL PROFILE

SMA Pradita Dirgantara

 Boyolali, Central Java, Indonesia

 Private Senior High School

 448 students

 139 staff

SMA Pradita Dirgantara is a boarding school in Boyolali Regency, Central Java, Indonesia, with students from 26 different provinces. During the pandemic, all students had to return home for remote learning. As Indonesia's geography is very diverse, the conditions of students' homes differed and had varying levels of digital infrastructure. In particular, students from eastern Indonesia's Papua, Papua Barat, and Maluku provinces lacked computers and stable internet connections because of their mountainous geography.



Remote locations in Indonesia where some students lived.



To meet these students' needs, Oscar and his school developed an implementation plan under their donor's supervision. The school:



1. Asked homeroom teachers to identify students who did not have computers and internet access – the two key requirements for remote learning;



2. Collated a list of potential partners who (i) had the digital infrastructure to support students' remote learning needs and (ii) were close to where their students lived, including Air Force bases, NGOs and other larger schools;



3. Contacted these potential partners to arrange virtual meetings, and submit proposals and formal requests for their students to use these partners' facilities for remote learning purposes;



4. Followed up with these potential partners and discussed partnership terms to secure resources for their students.



Students studying at an Air Force base.



The parent expressed her gratitude to the Commander of Silaspapare Air Force Base, Jayapura, Papua, for providing her children with internet connection for more than a month while they were fixing up the internet at their house.

Screen capture of a student's Facebook post.

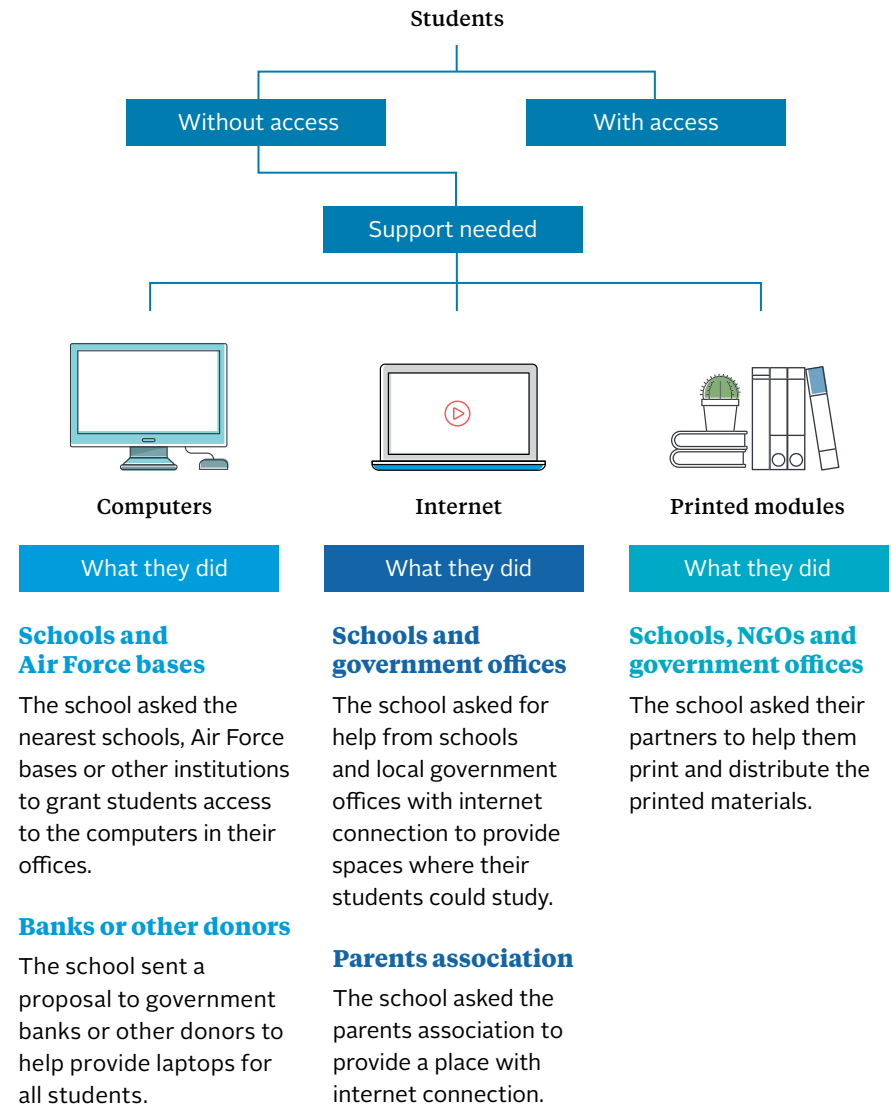
“Achieving education goals is not only the responsibility of educational institutions, but of all of society (non-educational offices, NGOs, and other institutions).

- Mr Oscar Carascalao,
SMA Pradita Dirgantara, Indonesia

Tip
Building an online school brand online is essential.
 SMA Pradita Dirgantara's reputation as a good school with caring management helped them to be trusted by donors and partners.

The decision tree

Oscar and his team created a flow chart to help them decide which type of partner institutions could best support their students' remote learning infrastructural needs.



Try it out!

Identify what your students need to learn effectively in remote learning, and what tools your teachers need to be effective teachers online.

Identify three to four partner institutions who may be able to provide these resources. They can be government organisations, NGOs, or even other schools and tertiary institutions.

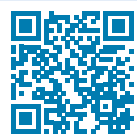
Draft a proposal to make the case for a partnership.

Tried it out?

Share your reflections and classroom implementation with fellow educators! Join in the conversation and connect with the education community in our social learning group, *Teaching, Leading, Learning* on Facebook.

SCAN TO VISIT

**Teaching,
Leading,
Learning**



1.3

Three guiding questions for designing online learning experiences

Professor Yeap Ban Har

 banharmaths

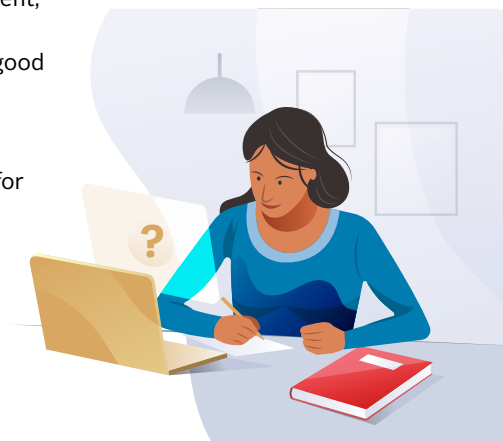
As a teacher, what questions should you ask when choosing digital tools? Most teachers grapple with the more basic issues of how to get their students to switch their cameras on, or how they can effectively assess students' learning during remote instruction. Beyond that, educators should also use this opportunity of remote learning to go deeper to create authentic student-centric digital learning experiences. Alternative questions educators can ask are those that can (i) provide answers around student engagement, and (ii) provide answers beyond remote learning to give students good learning experiences, even post-pandemic.

Here are some guiding questions for you when structuring your online classes, and deciding which digital teaching tools to use.

O1

Questions surrounding student learning experiences:

- Do I want students to explore?
- Do I want students to have structured learning?
- Do I want students to have practice opportunities?
- Do I want students to read, write or reflect?

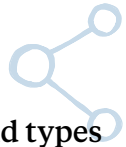


02

Questions around types of learning outcomes:

- a. Is it for acquisition of facts?
- b. Is it for developing understanding?

Acquisition of facts can be turned into higher-order learning with online tools. Students do not need to listen to a teacher telling them what apparatus is needed for fractional distillation and how they are set up. Neither do they need a teacher to tell them what happens in different organs in the human digestive system. From the days of Sesame Street and the Count, children have always been learning letters of the alphabet and numbers from television and videos, and now they learn it from the internet.



“ The general principle is that anything informational is best done through technology and anything inspirational through humans. ”

- Professor Yeap Ban Har, Director of Curriculum and Teacher Development, Pathlight School, Singapore

03

Questions around the nature of the message:

- a. Is it informational?
- b. Is it inspirational?

While the pandemic has forced schools to adapt to this new method of learning and teaching, it also provides opportunities for a better learning environment to be built and brought forward into the post-pandemic future. For this to happen, teachers should use remote learning as an opportunity to clarify their roles as educators, and the roles online tools play in every student's learning.



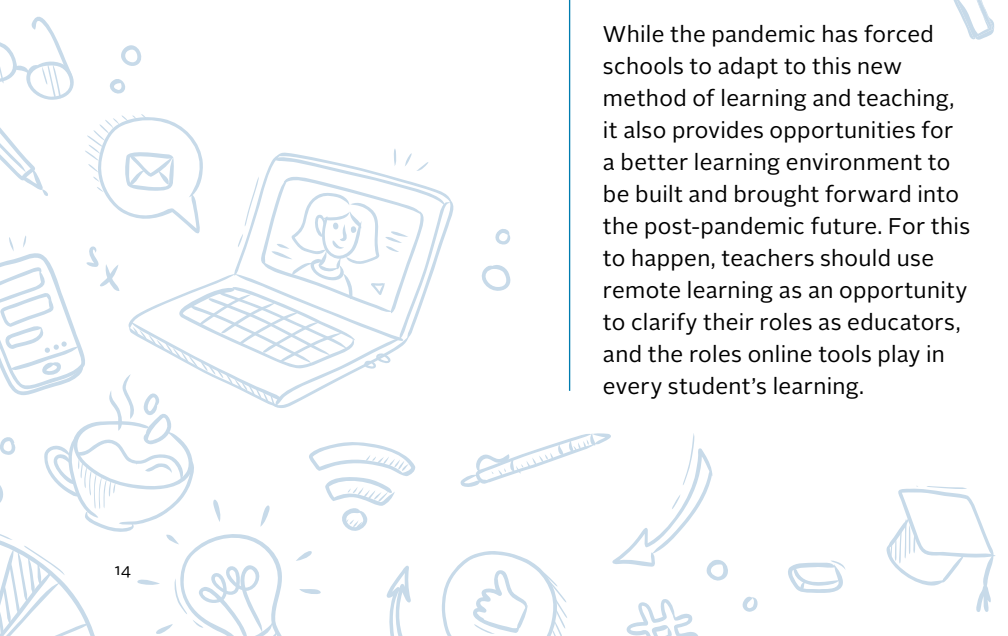
What do you think are key considerations in creating a remote learning action plan?

Now that you've read the chapter, here's our perspective!

1. Taking into account students' needs and circumstances.
2. Identifying key stakeholders and partner organisations, and how they can help in implementation.

What did you come up with? Were they similar?

Jot down your thoughts!



2.1

Using digital tools for interactive teaching

Professor Yeap Ban Har

 banharmaths

Inspirational teaching: Case study of Jamboard

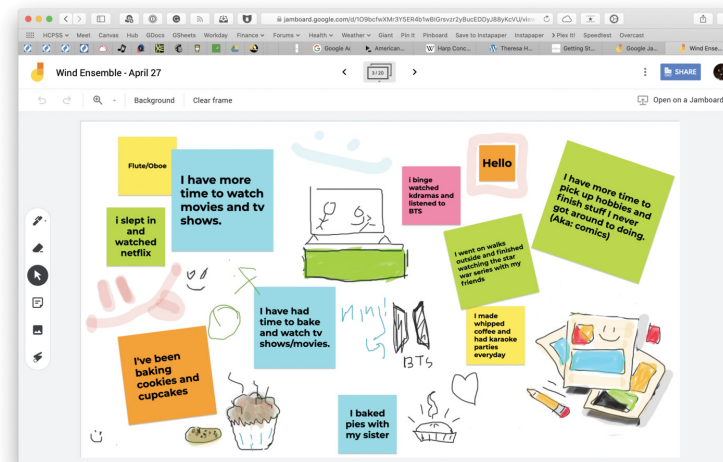
Jamboard is a digital interactive whiteboard developed by Google, to work with Google Workspace. The tool has collaborative learning functions, allowing teachers and students to write on the same whiteboard in real-time, and can host video meetings.

Jamboard allows teachers to shift the control of the learning process from educators into the hands of the students themselves, empowering them to be engaged and active learners, even through remote learning. Teachers may give students a problem to explore on Jamboard, where students can draw their own connections and solutions in real-time, learning interactively through this technology. The app also allows teachers to check in on their students' work as they work through problems, and request students to share their methods and findings with the rest of the class. Such an interactive tool and learning method allows students to take leadership in their own learning process.

Just because lessons are conducted online does not mean they need to be mere boring lectures. By incorporating the right digital tools in your lesson design, students can be empowered



Google Jamboard is a digital whiteboard that allows for remote or in-person collaboration in a shared space. Students can sketch out ideas, problem solve, or draw collaboratively and synchronously.



Source: robbyburns.com

By incorporating the right digital tools in your lesson design, students can be empowered and self-motivated in their learning process.

and self-motivated in their learning process. While video lectures can deliver content to students, the role of teachers remains to inspire their students; as students independently explore problems with tools such as Jamboard, teachers can act as empowering and inspirational figures by listening to their ideas, as well as demonstrate humility when students sometimes do a better job of finding a solution. As we craft virtual lessons and incorporate digital tools, we must remember that teachers can be inspirational even without the use of technology. What is important is how these tools help to facilitate the learning process.

“ We teach students content, not teach content to students. Video lessons can teach content. Human teachers teach students. ”

- Professor Yeap Ban Har, Director of Curriculum and Teacher Development, Pathlight School, Singapore

SCAN TO LEARN
How to use Jamboard for remote teaching



SCAN TO LEARN
Tools and activity ideas using Jamboard

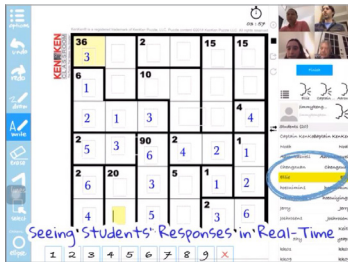
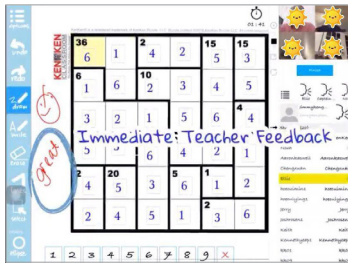


Four digital tools for interactive learning



www.noosphere.academy

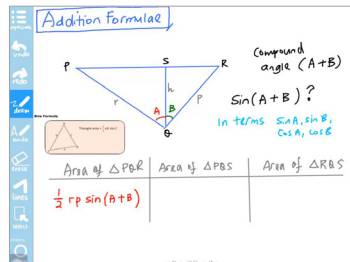
Ashburn Chan at noosphere.acad@gmail.com



Source: Noosphere

Noosphere

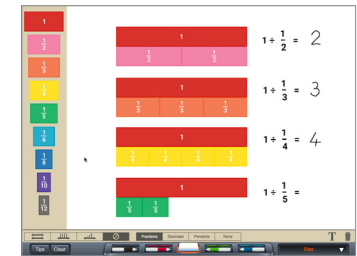
This is a Learning Management System (LMS) that allows schools to collect, organise and share teaching and learning resources, and facilitates students' individual and collaborative work. Students can respond in writing (not just in typing), as they would in their physical notebooks, draw diagrams and respond orally via video or audio recordings. Teachers have real-time access to students' work. The platform also has an auto-checking function.



www.brainingcamp.com

Brainingcamp

This mathematics manipulative app features a range of common manipulatives such as connecting cubes and algebra tiles. With Brainingcamp LIVE, teachers can host live lessons and provide feedback in real-time. The website also hosts webinars from mathematics educators, for on-demand topics.



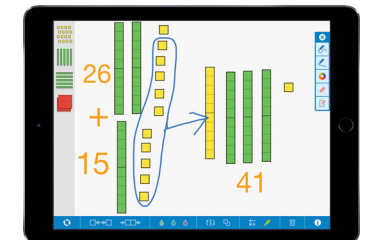
Source: brainingcamp



www.mathlearningcenter.org

Math Learning Center

Focusing on inquiry-based learning, Math Learning Center has a library of mathematics manipulative tools, ready-made guides and lessons for teachers, teaching core mathematics curricula across Pre-K and K-5. It has also developed *Math at Home*, a collection of resources and activities designed to engage students in deep mathematical thinking during remote learning.



Source: Math Learning Center

2.2

Conducting lessons on Facebook Messenger

Ms Sabrina Ongkiko

SCHOOL PROFILE

Culiat Elementary School

Quezon City, Philippines

Public school
Grades K-6

2,221 students

87 teachers

When Culiat Elementary School in the Philippines had to adapt to remote learning, the school was at a loss about how to deliver online lessons to their young students, most of whom were at low literacy levels, or could not afford the high-bandwidth internet connection required for long video calls. After conducting a needs analysis, the school piloted, with non-profit organisation AHA Learning Center, a novel solution of delivering lessons using Facebook Messenger, a popular free, low bandwidth and intuitive communication app already widely used by students and their parents alike. Students could also revisit lessons if they missed them live, especially useful for those students who are unable to attend live lessons because of household obligations.

For cyber-safety, students can use their parents' account to attend the classes, or inform their parents that they are using their own accounts for class. Younger children also use Messenger Kids, so parents can monitor their child's Facebook use.

Tip

Maximise the features of the digital tool and integrate it in your pedagogy.

For example, Sabrina started using the record audio function of Messenger when a student told her that he finds it hard to catch up with the chats because he reads them slower than his classmates.



Preparing Facebook Messenger lessons

01

Create a professional Facebook account and make chat groups for each class

Chat rooms become virtual classrooms. Add subject teachers to each class chat, so that when it is time for a lesson, the teacher simply messages the chat.

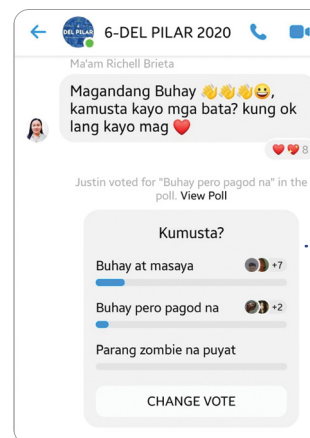
02

Establish rules in each class chat

Just as in regular classes, setting ground rules on how to interact in and use the platform will ensure students respect the group as a learning space.

03

Maximise the poll function to check attendance and check-in with students



Kumusta?
(How are you?)

- **Buhay at masaya**
(I'm alive and happy)
- **Buhay pero pagod na**
(I'm alive but tired)
- **Parang zombie na puyat**
(I lack sleep and look like a zombie)

Screen capture of a Facebook Messenger poll.

04

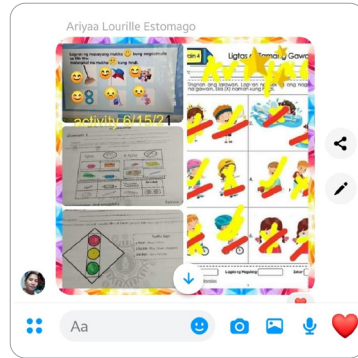
Create scripts for your lesson plan

To save time and ensure all teachers are on the same page, prepare scripted messages to be sent out to classes. For Culiati Elementary school, teachers used many emojis to personalise their messages and convey emotions through what can be a dry format of communication. Personal connection with students is vital when interacting in a digital setting.

05

Send photographs of worksheets to pupils

Photographs of worksheets are sent to Kinder pupils, who then answer the worksheets with the help of their parents by editing their responses on their smartphones.

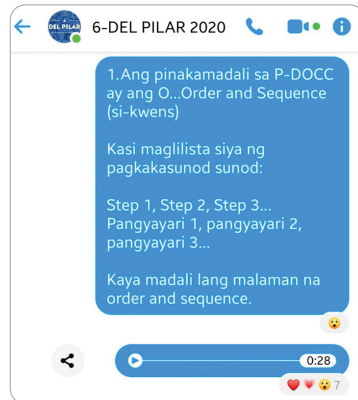


Sample of answered worksheets sent to the teacher.

06

Maximise audio recording functions and emoji responses

Recorded audio clips from teachers serve to provide further clarity and instructions, and to help frustrated readers. Facebook's emoji reaction function also serves as a method to check for students' understanding of the lesson.



Screen capture of an audio recording in Facebook Messenger, and emoji reactions.

07

Create a chatbot to facilitate classes and promote self-directed learning

Sabrina created a chatbot persona named Angel who would interact with her students and assist her in delivering lessons.

What chatbots like Angel can do:



Be a virtual teaching assistant. For example, Sabrina provided instructions in the main class chat, and students would go to Angel in their own time to complete their tasks and assignments;



Customise the assignments. Sabrina coded Angel to begin classes with a review of previous lessons, before sending out exercises;



Automate marking and provide instant feedback. Explain the rationale behind right and wrong answers;



Give students the option of speaking to the teacher if they are uncertain about the task or content;

Screen capture of Angel the chatbot in action.

Ano ang gusto mong gawin?
(What do you want to do?)

Ano ang gusto mong gawin? 🤖

Sumagot

Magpasa

I-chat si Ma'am

- **Sumagot** (answer) Angel will show a list of activities and the student will choose which one they need to answer.
- **Magpasa** (pass) Students can choose to skip this assignment.
- **I-chat si Ma'am** is the option to talk to the teacher, and Angel's reply would be, "please type your message while I call Ma'am Sab"

1. I sat with my toes in the hot sand digging a hole with my new shovel and pail. I can smell the saltiness of the water and the fresh air. The sun is warm and the waves are gentle. I left my shovel and pail and went to go for a swim.

Where am I?

grocery store school beach

Yay! You got it! 🤖 Ang clue o ebidensiya ay yung mga salitang SAND, SALTY WATER, WAVES, SWIM. Kaya alam mong nasa beach ako.

In English...Yay! You got it! 🤖 You know that the clues are the words SAND, SALTY WATER, WAVES, SWIM. That's why you know that I am at the beach!

Sample of question and instant feedback

SCAN TO LEARN

How to create a chatbot without coding



SCAN TO EXPLORE

Other ways chatbots can help in your teaching



Tried it out?

Share your reflections and classroom implementation with fellow educators! Join in the conversation and connect with the education community in our social learning group, *Teaching, Leading, Learning* on Facebook.

SCAN TO VISIT

Teaching, Leading, Learning



Reminder

Be student-centric in choosing digital learning tools.

- Using the latest and most expensive digital tools may not be what is best for your school community. Understand your students' needs through a needs analysis, and choose situationally-appropriate solutions.
- Online pedagogy remains more important than the digital tool used. Digital tools can engage and inspire students in the hands of a skilled teacher, but will be meaningless in a lesson design that is not student-centric. Avoid directly transferring in-person teaching pedagogy onto online modalities.
- Teach students cyber security and online literacy. Students should be taught how to report and protect themselves from cyberbullying, to not entertain strangers online, and to protect their credentials and personal information.

2.3

Discussion Points: On schools and digital readiness

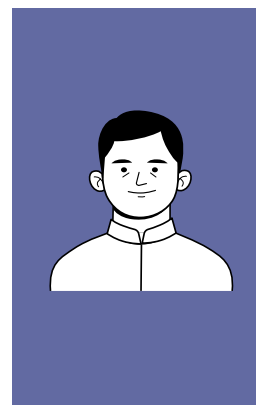
Qn: How do you encourage teachers who are hesitant about adopting online pedagogies to be comfortable and fluent in them?



MR OSCAR CARASCALAO

Vice-Principal for IB Diploma Programme,
SMA Pradita Dirgantara, Indonesia

Our school sent the teachers who are a bit more hesitant to use technology to attend online courses provided by the government. We also discuss issues and problems in teacher forums and encourage continual improvement of technological skills.

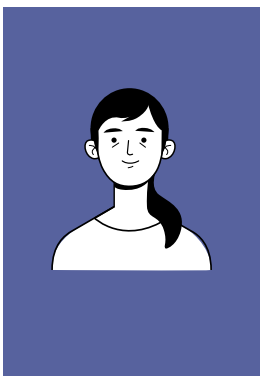


MR EDDIE ALARTE

Principal IV, Polo National High School, Philippines

Honestly, at first it was difficult to make all teachers use technology, especially the seasoned ones. However, through trainings, workshops, seminars in their Learning Action Cell sessions and constant communication with them, they were slowly introduced to these technologies and slowly embraced the changes. Some of them ultimately loved using these tools!

Qn: Why is technological literacy in the classroom important, and how can educators ensure all students are comfortable with it?



MS SABRINA ONGKIKO

Teacher, Culiati Elementary School, the Philippines

As teachers, we never give up on our students. I call up students and their parents and express my worry and concern. I ask about their circumstances and what challenges they might be experiencing at this time and offer help or solutions that we can work on together, to ensure that students are comfortable using technology to learn.



DR NGUYEN THI THU TRANG

Director, STEM Education Center of the Ho Chi Minh City, University of Education, Vietnam

In the field of STEM, it is important to expose students to the use of technology in the real world. For example, the rover landing on mars and exploring outer space with satellites, all of this will inspire students. The passion of scientists may also inspire them to want to learn more about technology and how to apply it.



What do you think the right digital teaching tool can do for your classroom?

Now that you've read the chapter, here's our perspective!

1. The right digital tool for your classroom can empower students to take charge of their own learning, and promote exploration and interactivity.
2. The tool should also deliver subject-specific content to students in a seamless and engaging way.

What did you come up with? Were they similar?

Jot down your thoughts!



3 TEACHING CYBER SAFETY AND WELLNESS

With school happening online, students and teachers are spending an extended amount of time on the internet. Safely navigating the online space can be new to many students, even teachers, who are not accustomed to prolonged internet usage. As remote learning requires educators and students to frequently make use of the digital space, how can we safeguard our students and ensure our school community learns to be responsible digital citizens? In this chapter, we look at cyber-literacy resources available to help teachers learn and teach digital citizenship, and address key questions on how students should use the online space for learning.

Food for Thought How do you think students and educators can have a safe online learning experience?

Flip to the end of the chapter for our perspective!

3.1

MT4T: A resource for teaching digital safety and e-citizenship

Ms Aury R. Atienza-Santos

The Mobile Technology for Teachers (MT4T) is a teacher resource kit developed by SEAMEO INNOTECH that promotes the use of mobile technology in Southeast Asian educational settings. The kit serves as a guide for teachers to use social media and mobile devices such as smart phones, tablets and their accompanying applications as tools for teaching and learning in the classroom, and for teachers' professional development and networking. MT4T is currently only available in English, but translation of snippets of infographic materials and powerpoint decks on e-Citizenship into other Southeast Asian languages are already in progress.

“**Being proficient in using digital technology and online platforms is not enough. This must be matched with a recognition of the responsibilities that come along with their use.**”

- Ms Aury R. Atienza-Santos, Project Manager, SEAMEO INNOTECH



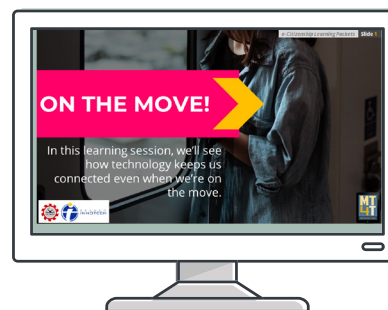
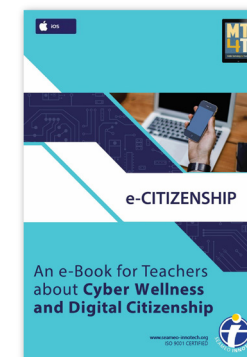
The MT4T helps educators by:

- Enriching their perspectives on current and potential applications, and the benefits of mobile technology in education.
- Guiding them to become digitally literate and responsible digital citizens as they introduce technology into the classroom.
- Providing them with curated resources on mobile technologies and digital citizenship.
- Educating them, and consequently their students, on the importance of e-Citizenship, as classrooms migrate to online learning.

Digital citizenship resources that MT4T provides include the following:

1. E-book about cyber wellness and digital citizenship


- Strategies on managing risks and maximising technology applications in education
- Strategies for teachers to empower students as responsible users of mobile technology
- Classroom activities that promote critical thinking and social-emotional intelligence, for students to be safe and responsible digital citizens
- Links to other relevant digital citizenship resources



2. Learning packets for educators

- Each packet contains a teacher's guide, ready-to-use PowerPoint presentation deck, and supplementary materials on relevant digital citizenship topics
- Teacher's Guides contain mini lessons that educators can incorporate into their online/remote classes


- The 5A's learning design framework helps educators plan for engaging students through active learning through:
 - i. **Activity** – Learning activities for students that teachers can facilitate, with instructions.
 - ii. **Analysis** – Asking questions to guide students in processing and reflecting on their learning experience after undergoing the activities.
 - iii. **Abstraction** – Drawing out the key learning points that teachers can use to guide their students toward achieving the desired learning outcomes.
 - iv. **Application** – Ways for students to demonstrate what they have learnt from the lessons, for example, installing anti-virus apps to protect their digital devices.
 - v. **Assessment** – Ideas and ways for teachers to assess students' understanding of digital literacy concepts, such as during discussion groups and class sharing.
 - vi. Bonus: **Adaptation** – Suggestions for (i) how lessons (e.g. learning activities and materials) can be adapted or modified for students in different circumstances, such as the differently abled and out-of-school youth and adult learners, and (ii) how activities can be simplified, and how digital educational apps (e.g., Jamboard, Mural, Mentimeter, etc.) can be used to make learning fun and interesting for remote delivery.



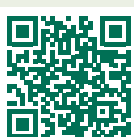
Tip

Creating a positive digital footprint is important for educators. For that reason, consider adopting the “billboard test” before posting anything online. Ask yourself this question, **“If this information were put on a billboard for all to see, would I and my students still be okay with it?”**

SCAN TO VISIT
MT4T homepage



SCAN TO VISIT
MT4T and SEAMEO Innotech on Facebook



3.2

Discussion Points: Screen time during remote learning

Qn: With students spending much more time on screens during remote learning, how can screen time be regulated?



MS AURY R. ATIENZA-SANTOS

Project Manager, SEAMEO INNOTECH

Parents can agree with their children on the number of hours they will use gadgets outside of regular online school activities. External controls can be done as well, like setting timers on the devices to make sure children use these at a specific time and duration, and plotting daily activities that do not involve digital devices. More importantly, parents and educators should work together in strengthening self-discipline in children, such that they themselves understand why their screen use must be regulated. Frequent reminders at home and parents modelling proper screen use can be amplified in school by integrating lessons pertaining to this.



MS SABRINA ONGKIKO

Teacher, Culiat Elementary School, Philippines

Having routines is very helpful. Teachers can create a weekly home learning plan to give students a suggested schedule of what their day can look like when learning from home. Teachers can help parents regulate how much time their child learns on screen by planning hands-on activities and engagements that require students to be physically present, such as reading books and other art projects. Younger kids should have shorter screen times. There is a difference between maximising technology use and being totally reliant on technology for learning.



PROFESSOR YEAP BAN HAR

Director of Curriculum and Teacher Development, Pathlight School, Singapore

The same question can be asked in face-to-face classrooms: how do teachers limit teacher talk? When the learning process is made up of various learning experiences, some of which are hands-on, and some of which are guided with technology, there will be a good balance between using technology and not using technology during learning. For example, small children can be asked to find common shapes in objects around the house – this does not require screen time. However, older students learning a literature text, for example a Shakespeare play, may need to watch the play on the internet and do online research for their assignments. To balance this out, they can write their reflections in a physical journal instead.

As long as teachers do not dominate lessons with teacher talk and provide students with a range of learning experiences, screen time will be balanced with non-screen time activities.

SCAN TO LEARN

How parents can work with their children to balance their screen time during remote learning



SCAN TO LEARN

Why hand-writing notes promotes greater content retention and understanding



Try it out!

Suggest two activities you can incorporate into your lesson plan that involve students learning time off-screen: (e.g. natural observation, written journal reflections, hands-on experiments).

1. _____

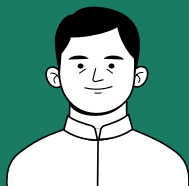
2. _____

Create a home-based learning schedule where your students can suggest how they can divide their time between on-screen and off-screen activities, incorporating break times as well (e.g. sports, playing with pets).

3.3

Discussion Points: Cyber-safety during remote learning

Qn: With students spending much more time online, how can we teach students to be safe while interacting in the digital space?



MR EDDIE ALARTE

Principal IV, Polo National High School, the Philippines

The Cyberbullying Act was already in place at school before online classes started, and the school had informed parents of the seriousness of cyberbullying, should any student encounter or enact it. To prepare for remote learning, teachers laid down house rules on how students should respectfully behave during online lessons and after classes. There are constant reminders in each class' chat groups to remind students that cyberbullying is a crime punishable by the law, as a strong deterrent.

The school also adheres to the Privacy Policy Act to ensure everyone's privacy is protected online.



MS SABRINA ONGKIKO

Teacher, Culiati Elementary School, Philippines

There are many websites and apps to help you determine which websites could be harmful to students, and we try to incorporate such digital literacy in our lessons. However, cyber literacy is more than giving students a list of harmful websites to look out for; educators should help students think critically about how one can assess whether a site is harmful or not. Cultivating in students this critical thinking process is more important than providing them with a list to follow.

Food for Thought

How do you think students and educators can have a safe online learning experience?

Now that you've read the chapter, here's our perspective!

1. Be aware of basic digital literacy, such as data privacy, by consulting a course or educational materials.
2. Educators can design lessons to include a healthy balance of both on-screen and off-screen tasks to ensure students regulate their screen time.

What did you come up with? Were they similar?



4 USING RADIO TO BROADCAST LESSONS

Radio has been used for decades as a medium for remote schooling, most famously in the 1930s during a polio outbreak in the United States. During the COVID-19 pandemic, some schools and organisations have turned to this medium as an alternative mode of instruction to reach students who do not have access to the internet. In this chapter, we look at how 'radio school' can be established and run successfully, and how educators can create inspiring and personable lessons, and involve students in this unique medium of instruction.

Food for Thought

How can radio school be used to deliver engaging remote lessons?

Flip to the end of the chapter for our perspective!

4.1

Implementing Radio School during remote learning

Dr Yolanda Marin-Gonzales

SCHOOL PROFILE

Capas National High School



Tarlac, Philippines



Public school
Grade 7-12

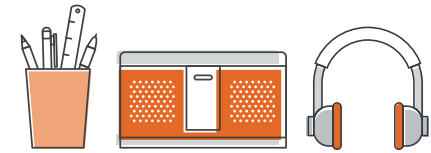


7,000 students



250 staff

In an effort to ensure remote learning was readily accessible to all their students, Capas National High School in the Philippines invested in the necessary infrastructure to set up their own Radio School. There were three key issues the school considered in setting up radio-based instruction (RBI):



Issue	Why RBI is suitable
<p>Students' preference: The school conducted a Learner's Enrolment Survey to understand how students preferred to learn remotely, with 14% of students preferring radio-based instruction.</p>	<p>RBI caters to this group of students who are unable to join online classes, but want something more than paper-based learning.</p>
<p>Internet access: Students were spread across the district, and students without internet access were unable to go to school due to safety restrictions in place.</p>	<p>RBI can reach students across a large geographical radius, and students without internet access can listen to the classes in the safety of their homes.</p>
<p>Cost: Paper-based modules are the backbone of other learning delivery modalities but they are too expensive.</p>	<p>RBI is a more cost-effective solution, and has low technological barriers for students.</p>

To deliver radio-based instruction to students across the district, Capas National High School developed and operated their own radio station, and trained their teachers in delivering entire lessons using broadcast audio.

The implementation plan



1 Identify site and construct RBI room



2 Procure and set up RBI equipment and tools, with the help of existing partners

- Procure two-way transistor radios sponsored by Local Government Units;
- Approach local and *barangay* (neighbourhood) officials to provide internet connectivity. The school raised funds to purchase SIM cards, internet tools and transistor radios for their students;
- The school worked in co-operation with parents, advisers, and local officials in making sure physical modules reached those students who still could not access online or radio classes.



3 Conduct training and workshops for teachers

- Teachers received training to deliver lessons on air, under the tutelage of experienced radio broadcasters renowned in the province.



4 Prepare RBI scripts, learning activity sheets, and schedules

- Prepare radio broadcast scripts for content using engaging stories and games. This way, students can enjoy lessons that are relevant and applicable to their daily lives;
- Before airing the lessons, staff will have distributed the self-learning modules to all *barangays* (neighbourhoods). Staff will have ensured that the students have copies before the actual broadcast. The self-learning modules are also downloadable from the school's website.



5 Launch of CNHS official radio station DWRY 103FM; conduct radio lessons

- DWRY 103 FM, the self-owned and self-operated radio station with a broadcasting radius of 30 kilometres, was launched.

Topic: Maikling Kwentong “Ang Kuwintas”

Learning Area: Filipino 10

Length: 20 minutes

Scriptwriter: Melajoy M. Valliente

Competencies: Nakapagbibigay ng mga halimbawa ng pangyayari sa tunay na buhay kaugnay ng binasa. (F10PB-If-g-67)

Lesson Objectives:

- Naiisa-isa ang mga mahahalagang pangyayari sa akda.
- Napaghahambing ang mga pangyayari sa akda at tunay na buhay
- Naiuugnay ang mga pangyayari mula sa akda sa tunay na buhay

Sample of RBI lesson plan with learning competencies and lesson objectives stated

TIME	TECHNICAL INSTRUCTION	SPIEL
00:00- 00:10	Music	
00:11- 00:15	Music sustain for 5 seconds then fade away.	
00:16- 00:24		Ang dalawangpung minutong leksyon sa Filipino 10 ay narito na. Buksan ang modyul. Kumuha ng papel Ihanda ang panulat. Makinig nang Mabuti
00:25- 00:29	Music sustain for 5 seconds then fade away.	
00:30- 00:58		Mula sa paaralan ng Capas National High School Ito ang DWRY 103 FM “YOUR DREAM RADIO”... Isang magandang umaga sa lahat ng mag-aaral ng Capas National High School na nakikinig sa mga sandaling ito. Naritong muli ang inyong guro sa Filipino mam _____, ang magsasamhimpapawid ng inyong leksyon ngayong Lunes para sa Filipino 10 modyul 4 Maikling kwentong “Ang Kuwintas”
00:59- 01:04	Music sustain for 5 seconds then fade away.	

Sample of RBI script for teachers



The teaching and non-teaching staff of Capas National High School worked together as one wearing a HAT – the values of **Hard work**, **Acceptance** and **Teamwork**, to create Radio-Based Instruction that provides quality, accessible and relevant education to their learners.

“ **Everyone needs to work together in unity and co-operation to provide quality education to learners. It is a matter of shared governance, shared responsibility and shared accountability that leads to excellence. The role of every member of the school community makes a big difference and makes things possible.** ”

- Dr Yolanda Marin-Gonzales, Principal IV, Capas National High School, the Philippines



Tips

...on making your project successful:

- S**et your goal
- U**nderstand any obstacles to achieving your goal
- C**reate a positive mental picture
- C**lear your mind of self-doubt
- E**mbrace the challenge
- S**tay on track in the face of challenges
- S**how the world you can do it!

4.2

Four guidelines on designing effective radio lessons

Mr Jatón Zulueta

SCHOOL PROFILE

AHA! Learning Center



Makati City,
Philippines



Public school
Grade 1-10



7,000 students
(direct)
3 million students
(through partners)



12 staff

When the AHA! Learning Center in the Philippines first started broadcasting daily education *teleradyo* shows (radio, TV, and Facebook Live), they made the mistake of conducting radio lessons the same way in which online classes were conducted. They simply used the same lessons they had prepared for online instruction and broadcasted them on radio.

The benefit of radio was its large reach; the AHA! Learning Center had their shows broadcasted by DZRJ 810AM, Radyo Bandido, to Southern Tagalog (Region IV), the largest region in the Philippines, reaching at least 1,500 listeners with every show. They had thought that having quality lessons and instruction on radio would suffice to impact a large number of learners. What they soon realised, however, was that the medium of radio required a different approach than online or in-person lesson delivery. Radio lessons had to sound as if they were talking directly to the listener, in order to make students feel involved.

Taking lessons from the best radio shows, Jatón and his team realised that the most effective radio shows were the ones that told stories that were important and relatable to their audience. With this knowledge, AHA! Learning Center created a new radio show curriculum that centred on relevant stories that resonated with issues and circumstances their communities were experiencing at the moment.

01



Before each show, ask: 'What is causing our community pain?'

Here, Jatton shares four guidelines that helped him design effective radio lessons:

- Radio shows need to be rooted in addressing a real problem parents and students face each day, to make sure it is a story worth telling. Rooting the story in a real-life problem gives the show a deeper purpose.

02

Understand that every lesson has a deeper subtext of why students should learn it.



- Especially when subjects are more theoretical or abstract in nature, it is important to connect these lessons to students' everyday lives, and show why they need to learn these subjects;
- For example, instead of focusing on grammar during English lessons, they focused on the value of the English language. Learning English is not just about speaking it, but also about story-telling and communication; grammar, vocabulary and writing skills are powerful tools for students to do their stories justice;
- In mathematics lessons, they emphasised that, apart from practical uses of the subject in daily life, such as balancing one's chequebook, mathematics is also vital as components of a story that answer the question, 'What do you value?' This can be anything from stocks to savings, to a student's scores on a test, to important measurements of change, such as in climate change.

03

Partner with organisations whose content can be repurposed.



- There are many open access materials with content that can be translated and localised;
- AHA! Learning Center worked with the Department of Health, the Department of Education, the Office of the Vice President, the Cultural Center of the Philippines, Ateneo de Manila and Miriam College;
- Groups such as Rising Academies have over 500 open-source radio scripts that can be easily localised.



04

Use radio alongside intensive parent-teacher mentoring systems and online communications.

- Radio alone cannot completely replace face-to-face classes as students cannot reach out to teachers for help. Teachers' ability to interact with their students is also limited.
- To overcome this, AHA! Learning Center held text-based sessions on Facebook Messenger with their students during and after radio lessons. The low-bandwidth version of Facebook Messenger is free for students to use and is one of the best options for students who cannot afford internet access. Using only text messaging, students can discuss what they have learnt and ask their teachers any questions they may have.

Try it out!

Think of a subject with content that may be theoretical and abstract in nature. List down two reasons why students should learn this subject, and describe how you can impart these lessons to your students.

1. _____

2. _____

SCAN TO READ
More tips on operating a radio school



4.3

Involving students in radio shows



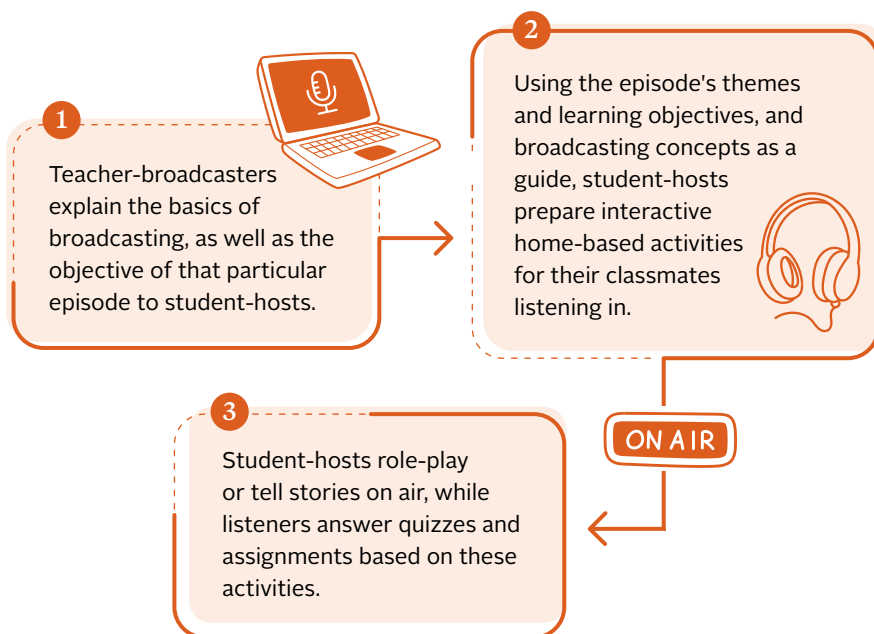
Recognising that the radio station could be a platform to incorporate non-academic activities and expose students to the world of radio broadcasting, the team decided to maximise the potential of the radio station and involve students in radio shows.

Involving students in radio broadcasts breaks the monotony of pen-and-paper activities and creates something that students can look forward to. Students are encouraged to apply creative thinking in how they express themselves on radio, exploring and developing themselves in different fields such as acting and singing.



In the past year, AHA! Learning Center's radio show has featured at least 100 students and around 30 educators from last mile schools (remote schools with fewer than four classrooms), who act as the show's co-hosts:

- Younger children are trained in research, hosting and writing;
- Older children attend short programme management courses on booking guest speakers, organisation and mobilising the community.



Their team of talented volunteer co-hosts have been able to create a community of collaborators to sustain the radio school project in the long run. By October 2021, AHA! Learning Center will be reducing their involvement from producing 11 hours of broadcast content per week, to only one hour a week, with the rest of the show produced by the community. Students from Grades 3 through 10 will be able to tell their stories, unfiltered, to create the most public class project on air.

In Jatón's view, it is important to let students have as much editorial leverage as possible. While recommendations from the students are non-academic in nature, these are topics that the students are invested in, and educators must not dismiss subjects such as: 'Why doesn't my crush like me?' or 'Is BTS the greatest band of all time?' These are important questions for students to explore and discuss, as they develop socially and emotionally. As much as possible, Jatón sees his and others' roles as educators to teach students to do the right thing through imparting life lessons via these broadcasts, and giving them enough opportunities and guidance to do so. He hopes these opportunities can give students the power and confidence to do better, and by October 2021, their voices will take centrestage.

Try it out!

How can you involve students in your radio school broadcasts, or Facebook classes if your school does not have radio lessons? List down three activities they can do on-air.

What has been an inspiring story you have seen or heard from your students? What impact has it left on you as an educator?

Tried it out?

Share your reflections and classroom implementation with fellow educators! Join in the conversation and connect with the education community in our social learning group, *Teaching, Leading, Learning* on Facebook.

SCAN TO VISIT
**Teaching,
Leading,
Learning**



How can radio school be used to deliver engaging remote lessons?

Now that you've read the chapter, here's our perspective!

1. Radio school is a unique medium positioned for storytelling, with an intimate connection with its audience. Positioning classes as stories with deeper lessons to be learnt is an extremely effective format for radio school.
2. Students can be involved in the conception and production of radio school, developing crucial skills such as creativity, speech and drama.

What did you come up with? Were they similar?

Jot down your thoughts!



5

MAKING THE MOST OUT OF PAPER-BASED LEARNING

As we look at providing remote learning modalities that are suitable for every student's learning style and circumstance, we must also consider offline and hybrid methods of learning. In this chapter, we look at how two schools have conducted remote learning modules that supplement paper-based learning with telephone calls, to support students in their learning.

Food for Thought

How do you think paper-based remote learning can be supported and implemented by schools?


Flip to the end of the chapter for our perspective!


5.1

Engaging students with paper-based learning

SCHOOL PROFILE

Buddhajakwittaya School

 Bang Rak, Bangkok, Thailand

 Public school
Grade 7-12

 200 students

 23 staff



Four questions with Mr Teerawat Luanrit (Dale)

In chapter 1.1, Dale listed five modes of teaching available to Buddhajakwittaya School. Here, he addresses questions specific to the on-hand learning methods used by the school, detailing how the school made effective use of this hybrid form of learning.

ON-HAND LEARNING



ON-HAND



PHONE CALLS



Qn: How effective is on-hand learning? Are teachers and students ready for that?

Dale: On-hand learning has been great in our school. As most of our students do not have internet connection or have only limited use of it, mixing on-hand learning methods with telephone calls provides them support in their learning. We prepare paper assignments for students, then call them to explain the direction of learning. Calling students increases the effectiveness of on-hand methods because we would know if students understand what they are learning. We can also keep in contact with the

students and watch their progress, because if we leave them alone with no contact, they could easily lose interest and motivation in learning, as they would rather do something more fun like playing games or watching TV.

Qn: How do you ensure better co-operation from students and parents on the school's remote learning initiatives?



D: When COVID-19 first hit, it was very hard for us but we have since adapted and learned to be better. We have LINE group chats for all the students and parents, and communicate regularly to talk about the problems they are facing and how we can help. We requested parents to help us watch over their child during remote learning and to encourage them to attend online classes. To motivate the students to co-operate and still learn, we set personal goals for them to reach. We also reward them; if they are working hard with their lessons and learning, they will get a scholarship from us to support their education for free.

Qn: Do you have any suggestions on how to get through to students learning asynchronously?



D: It is important to keep communicating with their parents, and help parents understand how important it is for their children to continue learning. Teachers also need to chat with students and treat them with love and sincerity, and convey the importance of learning; that it is not just for the sake of education and tests, but also for their future. Lastly, teachers need to design personalised Individual Development Plans that are specific to each student. We cannot teach the same thing with the same method to all students in a class. Teachers must understand that all students are different, and have an Individual Development Plan for each of them.

Qn: How can we make passive learners active ones?

D: First of all, you have to be an active and fun teacher. You need to prepare your lesson to be different from your on-site classes in a classroom. If students see that you have an interesting way of teaching, they will be more active and engaged in your classes. And you also have to use many different types of content, activities and formats of teaching, even for paper notes and assignments, to keep the class interesting and engaging.

5.2

Developing effective paper-based modules

Mr Eddie Alarte

SCHOOL PROFILE

Polo National High School



Valenzuela City, Philippines



Public school
Grade 7-12

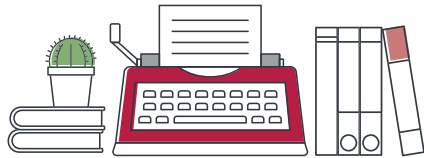


4,500 students



150 staff

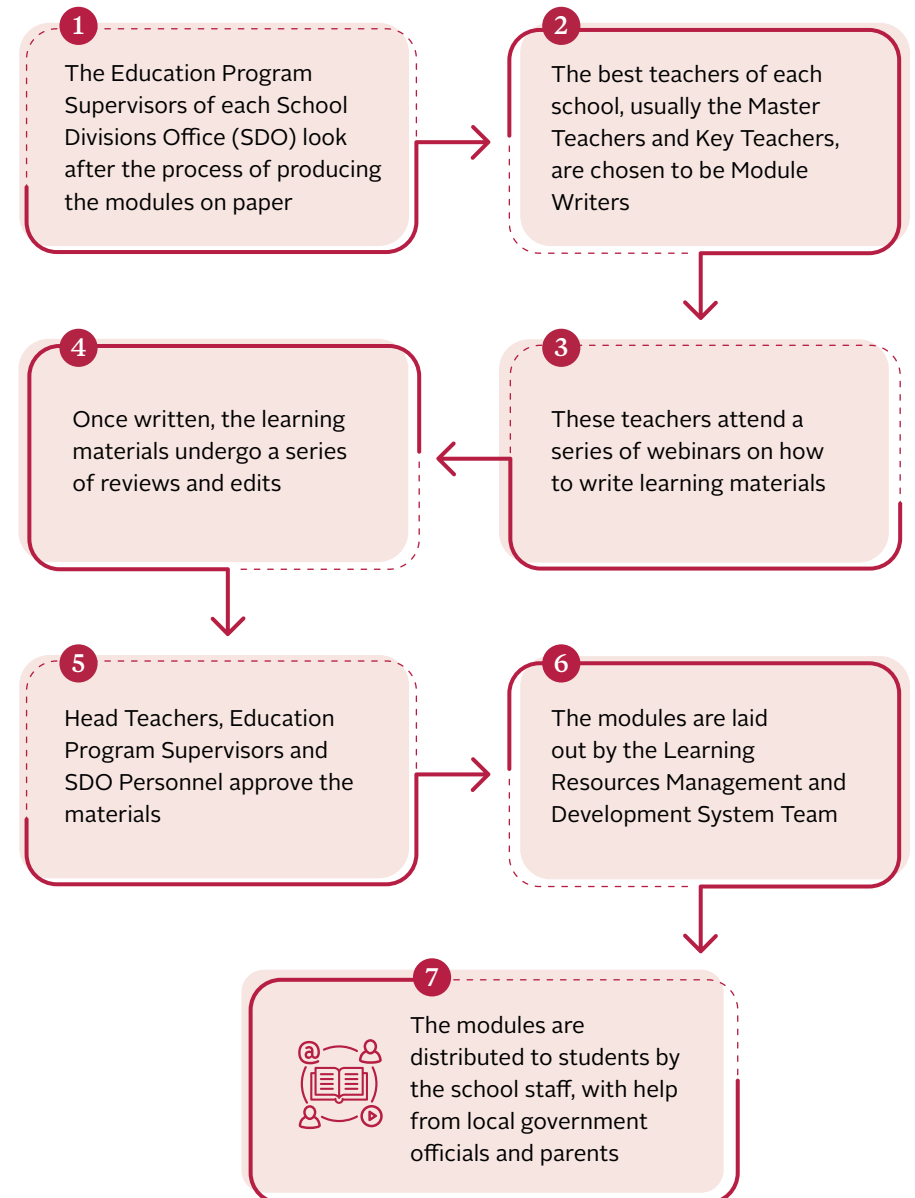
With a belief that strong partnerships and links with various stakeholders, both internal and external, can create a positive learning environment, Polo National High School adopted a community-based approach in developing and delivering effective paper-based modules for their learners with fewer digital resources. Here are their key considerations:



1. Assessing students' needs:

- During enrolment, students already chose their preferred delivery modalities based on which is convenient and available to them;
- For those who are unable to access online learning, a Modular Approach is used:
 - Printed modules and assignments are provided to every learner.
 - Students with questions can reach out to their teachers via messaging apps, texts or phone calls.

2. Developing and distributing the modules:



6.1


Creating a hands-on remote STEM education


Dr Nguyen Thi Thu Trang

CENTRE PROFILE

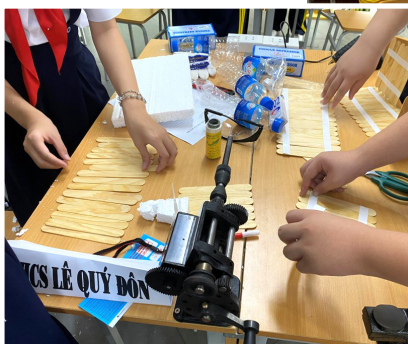
STEM Education Center; Ho Chi Minh University of Education

 Ho Chi Minh City, Vietnam

 > 2,000 students served





 > 2,500 teachers served

When talking about STEM education in schools, we often think of the many hands-on activities and experiments students conduct in class, collaborating in teams to solve problems. With hands-on learning and experimentation being a core component of STEM education, how can we effectively adapt such activities to be done by students independently and remotely?



High school students participating in a STEM challenge of building a Flood-Safe Home. Students worked in teams to innovate and create a prototype of safe and flood-resistant houses for people to live in.

To adapt STEM classroom activities to remote learning, Dr Nguyen and the STEM Education Center of HCMUE set four key goals:

- 1  Guide remote hands-on STEM activities efficiently
- 2  Provide all students with the resources required for effective remote learning
- 3  Provide ready-to-use STEM packages that facilitate hands-on learning experiences, so that students are engaged and not idle at home
- 4  Deliver STEM training courses to teachers, in particular teachers in remote areas like the countryside and mountains

Obstacles	Solutions
Schools are closed and travel is restricted.	<ul style="list-style-type: none"> • Online and hybrid courses for students and teachers. • Create online resources for STEM education.
Students do not have computers or smartphones, and cannot afford to buy the necessary remote learning and STEM-related materials.	<ul style="list-style-type: none"> • Design STEM kits to send to students' homes for hybrid and virtual learning, using common recycled and household materials. • Guide students to conduct their own STEM experiments independently.
The Education STEM Center is unable to mass-produce STEM kits due to the lack of facilities and funding.	<ul style="list-style-type: none"> • Collaborate with external partners and source for external funding.

The implementation plan



1 Provide online STEM education resources for students and teachers

- Collate websites with free STEM resources, and those with paid resources for those who require advanced features;
- Make the most of technology in teaching and learning, using online resources and virtual labs, coding and simulations to help students understand and increase interest in learning. Choose and use proper techniques and tools for remote teaching, and support students to apply what they have learnt.



Flip to chapters 1.3 and 2 for tips on choosing the right digital tools and pedagogy for you!



2 Create ready-to-use and affordable STEM kits to send to students' homes

- Provide low-cost, ready-to-use STEM kits that can meet the needs of a wide range of learners;
- Create STEM hands-on activities that are easily adaptable for students with different levels of resources. Many activities make use of recycled and household materials to make them more accessible to students.



3 Offer remote and hybrid learning training courses for teachers

- Organise online and hybrid training courses for teachers on remote STEM pedagogy, ensuring teachers in rural areas are also able to attend.



4 Collaborate with external partners and source for funding

- Establish with partners the values you both have in common, and the values you share with your community;
- Have both short-term and long-term plans to make the partnership fruitful;

- Demonstrate to partners the impact of the work you have done, and reinforce the credibility and dedication of your institution to your goals;
- Widen your network to consider partners outside of the education sector; the STEM Education Center found healthy partnerships with production and manufacturing companies in the wider STEM industry in Vietnam to aid in the production of their toolkits.

“Examine the community's needs more carefully to provide the products they need, not what you can provide.”

- Dr Nguyen Thi Thu Trang, Director, STEM Education Center of the Ho Chi Minh City, University of Education, Vietnam

6.2

A GUIDE

Designing your own STEM toolkits for home-based learning

Making use of commonly available items, Dr Nguyen and her team adapted hands-on STEM experiments which could be easily conducted in the home. Here are some of the ideas they have implemented:



Toolkits provided by the Center

JET CAR EXPERIMENT

Materials

- 4 bottle caps
- Baking soda
- Vinegar
- Plastic bottle with cap
- Straws
- Skewers
- Glue guns
- Tissue paper
- String

The science behind it

For this car model, the vinegar (dilute acetic acid) reacts with the bi-carb soda (sodium bicarbonate) to form carbonic acid. Given that carbonic acid is an unstable compound, it immediately breaks into carbon dioxide (CO₂) and water (H₂O). When stored in a sealed container, this pressure helps the vehicle to move.

Procedure

Punch a hole in the center of the 5 bottle caps.

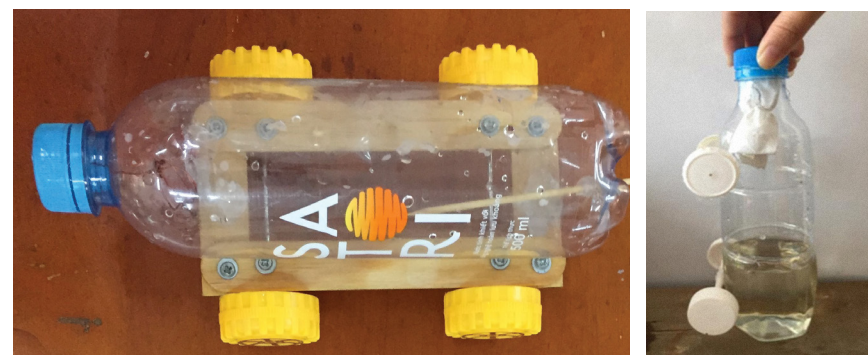
Use a glue gun to glue 2 straws (7 cm) on the body of the bottle.

Insert 2 skewers through 2 straws. Glue the 4 bottle caps to the ends of the wooden skewers to make wheels.

Place baking soda on paper towels. Roll up, use wire to fix the paper roll.

Put the vinegar in a plastic bottle. Slowly insert the roll of baking soda into the bottle and close the cap. Leave one end of the string out of the hole of bottle's cap. Hold the string.

Release the string to let the baking soda fall. Shake the bottle vigorously. Put the car on a flat surface immediately and observe how it works.



Jet car models created by students from the instructional kit.

With the same starting materials, students can make different products depending on their creativity and personal preferences. Even without guidance, students can develop their problem-solving skills, creativity and curiosity at home.

Some materials you can use to create your own STEM kits for your students:



Stationery

- Scissors
- Pencils/ coloured pencils
- Rulers
- Glue
- Tape
- Craft sticks
- Crayons
- Play-Doh

....

Recycled materials

- Newspaper
- Cardboard
- Bottles of water
- Toilet paper rolls
- Plastic yoghurt containers
- Cereal/ shoe boxes
- Paper plates/ cups
- Rubber bands

....

Figure 3: Instructions for students to create and execute a jet car experiment independently in their homes.

6.3

A GUIDE

Creating a holistic remote STEM education

As an interdisciplinary domain, STEM education consists of more than just the technical content of its various subjects – it also aims to impart understanding of the connections between these subjects. A holistic STEM education also cultivates in students essential skills and 21st Century Competencies such as teamwork, communication skills, critical and creative thinking, and effective self-expression of ideas.

Here are some tips on how best to include these components of STEM education in the remote learning classroom:



Make use of digital tools that encourage interaction and collaboration, such as Google Meet and Zoom, Microsoft Teams, Padlet, NearPod, and many others.

- Teachers can host breakout rooms in Zoom and Microsoft Teams for small-group discussions and teamwork;
- There are many whiteboard apps where teachers and students can draw on the same canvas in real-time.



Flip to chapters 1.3 and 2 for tips on choosing the right digital tools and pedagogy for you!



Continue to create STEM challenges and projects related to real-world problems that students have to solve using their technical knowledge, creative thinking and teamwork.

- Through these projects, students need to communicate their ideas effectively to team members, think critically to find solutions to problems, and creatively design their own processes to design experiments or product models;
- Presenting their ideas to the class and reporting their team's results cultivates a sense of ownership over their learning process, critically provides recommendations for self-improvement and develops confidence in their communication skills.

More online resources:

STEM activities

<http://stemactivitiesforkids.com>
<https://www.stem.org.uk>
<https://teachkidsengineering.com>
<https://www.pinterest.com>

Coding

<https://code.org>
<https://scratch.mit.edu>
<https://girlswhocode.com>
<https://www.khanacademy.org>

Websites for Massive Open Online Courses (MOOC)

<https://www.coursera.org>
<https://www.futurelearn.com>
<https://www.edx.org>
<https://www.canvas.net>
<https://www.khanacademy.org>

Virtual labs and Simulations

<https://phet.colorado.edu>
<https://learn.concord.org>
<https://www.youngscientistlab.com>

SCAN TO LEARN

How STEM education helps teach skills necessary for 21st century success



SCAN TO LEARN

The benefits of interdisciplinary learning



Try it out!

From the examples above, how can you incorporate activities that develop creativity in your lesson plan?



7

ASSESSING YOUR STUDENTS' LEARNING

Students and educators alike face much difficulty adapting to remote learning modalities. Usual face-to-face assessment styles cannot be directly replicated in remote learning, as students' access to remote learning tools and methods of instruction are varied. In this chapter, we look at how educators can craft assessments with empathy for students' circumstances, and how you can assess students for different remote teaching modalities.

Food for Thought

Should you continue to assess students the same way you did before the pandemic? Why or why not?

Flip to the end of the chapter for our perspective!

7.1

A GUIDE

Assessing with empathy

In addition to having to quickly adapt to an entirely new mode of learning, many students have less-than-ideal study arrangements. Educators cannot penalise students who do not have the resources to learn, and should instead, look upon their students' circumstances with empathy and be flexible and understanding when grading students. This guide offers some starting points on how to craft empathetic assessments for your class:

1

Prepare your students for remote testing

- Help students address the loss of face-to-face teaching interactions, allowing time and space for them to accept and adapt to this change.
- Familiarise students with not just subject content but also the technology used during testing.
- Connect with your students individually to make them feel seen. Creating individualised development plans for each student ensures they have learning objectives and assessments that fit their pace and circumstances.

2

Design assessments

- Make assessments simple and engaging, to ensure it is an exercise students feel confident to complete on their own.
- Make projects more meaningful and incorporate problems students can solve at home, to increase relevance and interest in assignments. Teachers can ask students to apply what they have learnt to come up with creative home-based solutions.

3

Provide clear grading rubrics before the test so students know how to prepare themselves

4

Follow up with students

- Understand your students' home-based learning circumstances and use that to inform your grading. Students could fail assessments because they do not understand the material, but possibly also because of family circumstances such as needing to help out at home or with their family business.
- In the case of absent students, teachers can call students privately to understand the difficulties they are facing. Distributing surveys is also another way of obtaining information from students safely and privately, and to consolidate feedback about lessons.
- Be sensitive to the challenges each individual student faces, and be flexible and forgiving when grading. Some students may not be able to participate adequately in remote learning, but may have proved to be dedicated and consistent workers during classes pre-COVID; such factors need to be taken into consideration too.
- Use a combination of numerical and descriptive grading. Though it is easier to track students' progress numerically, descriptive grading systems recognise effort and growth, and give a more complete picture of students' performance.

 **Try it out!**

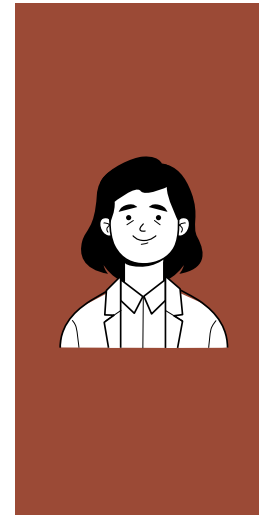
How can you incorporate empathy in your grading this term?

How do you think empathetic grading would impact your students in the long term?

7.2

**Discussion Points:
Assessments for different modes of instruction**

Qn: How can teachers assess students who are on asynchronous learning?



DR YOLANDA MARIN-GONZALES

Principal IV, Capas National High School, Philippines

For radio-based teaching and assessment, every lesson will be accompanied by a learning activity sheet on the most essential learning competencies, coordinated by the Barangay Council. Teachers will post questions on-air, and students have to submit the accompanying learning activity sheet.

Formative assessment can be submitted through student portfolios. This gives students a chance to not only integrate their subject knowledge into a final project, but also to exercise their creativity and critical thinking skills.



MR TEERAWAT LUANRIT (DALE)

Director, Buddhajakwittaya School, Thailand

To measure learning outcomes when teaching through the phone or on other apps, we considered students' paper work, online tests and their live responses to questions via a telephone call. For skills-based assessment, students sent in video recordings of themselves to demonstrate the skill tested.

Qn: What are some ways to assess students online?



PROFESSOR YEAP BAN HAR

Director of Curriculum and Teacher Development, Pathlight School, Singapore

Some learning applications have self-correcting functions. Teachers can input a task, and students are able to self-assess as they complete the task. These apps also provide explanations for each answer, and when students cannot get the final answer, they can check back on what they may have done wrong. Apps such as Jamboard are helpful for this purpose. As teachers, we can see when students are doing their homework in real-time and this will help us assess what they have learnt. Teachers can also interact with them on the spot if they see a mistake being made.



Flip to chapter 2 to look at some digital tools with self-assessment functions!



DR NGUYEN THI THU TRANG

Director, STEM Education Center of the Ho Chi Minh City, University of Education, Vietnam

For STEM subjects, we design many different types of assessments such as presentations, report writing, exercises, and making products throughout the learning process. The assessment is holistic, with students being evaluated for tasks they complete on the spot, and another assessment of their overall learning process. Other than testing of STEM knowledge, teachers can also assess students on their 21st Century Competencies. Teachers can also incorporate team activities and encourage students to cross-check their classmates' assignments, and assess how well they communicate and collaborate.



Reminder

Providing constructive feedback to improve students' understanding of content and competencies is more important than issuing grades in the new learning environments brought about as a result of the pandemic.

SCAN TO READ

More tips on empathetic assessment



Food for Thought

Should you continue to assess students the same way as you did before the pandemic? Why or why not?

Now that you've read the chapter, here's our perspective!

No.

1. Some students may not have enough resources at home to attend synchronous lessons or complete assignments.
2. Some parents may have lost their jobs during the pandemic. Some students need to help out at home or earn a side income, and do not have the time or energy to complete assignments.

What did you come up with? Were they similar?



8 TAKING CARE OF YOUR COMMUNITY

Blended learning has been a new and challenging modality for everyone involved. Much effort has gone into preparing teachers and students for a remote classroom, and coaching parents on supporting their child learning from home. Adapting to such drastic changes requires mental resilience, as well as socio-emotional support by and from the whole school community. This final chapter provides some strategies schools can adopt to ensure everyone has access to appropriate systems of support as we continue blended modes of learning.

Check-in:

How have you been feeling this past year of blended learning?



How did you and your school community take care of yourselves and each other?

8.1

A GUIDE

Supporting mental wellness

The pandemic has taken a toll on well-being, with teachers overwhelmed, students suffering from Zoom fatigue, and parents worried about finances and their children's education. Mental wellness support should be weaved into daily operations and curricula, and paid special attention to during unstable and trying times. Schools can:



- Provide webinars and in-service training by registered medical professionals for teachers to facilitate mental wellness support for their students;
- Create open opportunities for students and parents to seek help from wellness professionals and respected community leaders in their own time;
- Encourage and support Department Heads to have constant communication with teachers, to better understand staff needs and concerns;
- Organise regular sharing sessions with staff, parents and students;
- Allocate time during staff meetings and lessons to talk about stress management;
- Inform parents about wellness resources available to them, such as support from teachers and school counsellors;
- Observe student behaviour during online classes; teachers should pay more attention to students who act differently from their usual selves, and reach out to them where appropriate;
- Regularly check in with parents and students through calls.

“ We really need to start thinking empathetically about where the kids are coming from. Maybe the silence (in class) is anxiety, boredom, some form of languishing – the in-between of depression and joy – and it might be a better use of time to just talk these feelings through, rather than focus on the curriculum.

- Mr Jatón Zulueta, Executive Director and Founder of the AHA Learning Center, Philippines



SCAN TO LEARN

How teachers can manage their own welfare during remote teaching



8.2

A GUIDE

Supporting parents

As students take their class home, parents have become important facilitators of their learning. Many parents, however, need support and guidance themselves from schools, to better understand how to step in as co-educators during remote learning occasions. A strong familial support system is crucial in ensuring students effectively learn from home. To aid parents in their adjustment, schools can:



1 Educate parents on how to support their child

- Emphasise the important roles parents play in their child's learning journey, as they experience school from their homes;
- Encourage parents to set rules, systems and schedules in place that scaffold and support their child's independent learning throughout the day;
- Provide detailed instructions on how the school is conducting online classes, and guidelines on how parents can support their child during this process;
- Check in with parents to understand common difficulties faced in online learning, and develop suitable solutions;
- Organise training courses for parents to educate them on how online learning functions, and how their child can make the most out of the experience;
- Encourage and conduct conversations with the whole family;
- Encourage the whole family to tune in to live learning programmes. At the end of each session, request parents to prepare one question about the content which can be discussed during meal times. This can be an effective way for educators to check in on students' learning outcomes, as students respond readily and candidly.



2 Promote collaboration and sharing among parents

- Start parent clubs with monthly catch-ups, for parents to come together and discuss their child's progress as well as common issues faced during remote learning;
- Maintain a welcoming space for parents to approach topics such as how they can support their children academically and emotionally.

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NO. 4 ENHANCING REMOTE LEARNING [NOV 2021]

'Classroom management' has taken on a new meaning where teachers and students can no longer see each other. Engaging students becomes challenging when there are too many distractions competing for students' attention. How can we make learning more meaningful for our students, while still measuring their key competencies?

FIND OUT MORE: headfoundation.org/making-headway

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School leaders from Southeast Asia show how they led school- and system-wide responses to the educational disruptions caused by COVID-19, while eminent educational leadership experts discuss how educators can adapt these strategies and tips to their schools.

NO. 2 FOSTERING A POSITIVE SCHOOL CULTURE IN THE NEW NORMAL

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