

### Learning Management in the COVID-19 Era and Learning Loss Recovery

Case Study of Baan Pla Dao School and Its Expansion With A Network of Partner Schools



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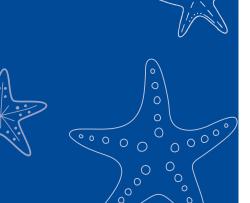
## Introduction

The COVID-19 crisis has caused great challenges in the education sector. Children have been affected by long-term school closures globally. In Thailand, schools have been unable to operate normally for two academic years, causing children to lose learning opportunities – academic learning, social and emotional learning, and various other necessary skills. Beyond the educational impact of this, the physical and mental health of children and families have also been affected.

Starfish Education recognizes the challenge and has organized learning and support for the children, families and communities of Baan Pla Dao School so that students can receive help and teachers can develop tools and competencies to manage learning. Starfish has extended these methods of creating and using innovation to a network of more than 140 partner schools.

This is a collection of Starfish Education's lessons learned during the COVID-19 era through remote learning management, hybrid learning management, and case studies of these innovations being applied in partner schools, including measures for recovering from learning loss at the school level in order to be a guideline for the restoration of systemic education.

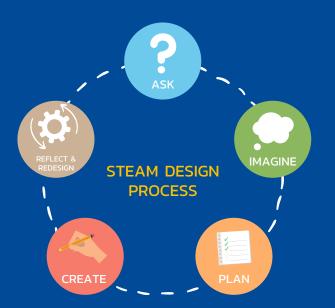
Learning loss recovery and helping those affected is an important matter that all sectors must address urgently. Starfish Education hopes that this document is helpful in regards of adjusting learning arrangements and setting up education management to develop in the post-COVID era.





Dr. Nanthaporn Janchalia Seributra CEO Starfish Education

### Starfish Education's Mission



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Our mission is to provide all children in Thailand with an equal opportunity to access quality education through innovative learning techniques such as Active Learning teaching methods, the STEAM Design Process, Makerspace learning activities, PBL and the 3R Innovation curriculum used by Baan Pla Dao School.

We also use innovative Ed Tech solutions such as Starfish Labz, an online learning and training development resource used by teachers and parents, and Starfish Class, an application that helps to support skills and competencybased assessment which responds to education management that focuses on base competencies for children. These both utilize Starfish Academy, a teacher training institute which brings together educational experts to provide training both online and offline, including knowledge dissemination to the public.

This mission is meant to solve problems and develop Thai education towards creating true change for all children. We use Baan Pla Dao School as a model institution that serves as an example of school administration and Starfish Education's teachingbased management guidelines.





## Learning Management During COVID-19

The Pandemic and the Learning Loss Crisis

In 2020, the COVID-19 pandemic spread around the world. Measures to prevent and control the spread of the disease led to 91% of the student population in 191 countries around the world being unable to study at school normallv (UNESCO. 2020). This included Thailand, where schools had to close across the country, and students had to learn at home instead. This resulted in a Learning Loss crisis which directly affected children, especially those from ethnic minority backgrounds who do not primarily speak Thai. The lack of interaction with teachers and friends caused language skills to disappear as well as fundamental skills including mathematics, reading skills and social skills



More than 91% students cannot study at school normally



Educational institutions needed to adapt to these changes quickly so that students could continue to learn even if they were unable to go to school. There also was a need for all students to be able to access this education, regardless of income or family background. In a different light, this could also be seen as a good opportunity to find ways for students to practice critical thinking skills and independently search for information on their own without the close proximity of a teacher.



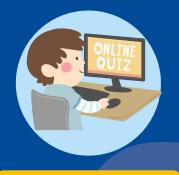
## Learning Management During COVID-19

Remote Learning That Meets Pressing Needs



Remote learning management is the answer to this situation. It has several forms of teaching and learning: synchronous learning involves organizing lessons (either recorded or live) between teachers and students in which they learn and do activities together, while asynchronous learning involves a teacher preparing lessons and materials and having learners study by themselves through lessons and media. Classes can be held both online and offline.





Asynchronous Learning



Basic Information



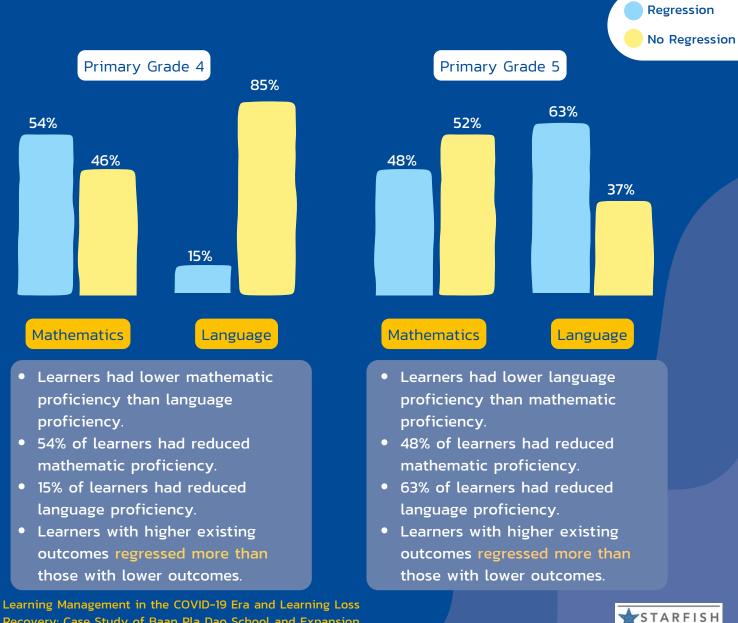
Baan Pla Dao School is a private school managed by Starfish Education. Its goal is to focus on providing a quality education for all children equally to reduce educational disparities, to let children own their own learning, and to allow them to do their own practice so that they can gain knowledge and experience. Baan Pla Dao offers education at the kindergarten and primary levels. There are currently 215 students, 80% of whom are children of an ethnic minority background who do not speak Thai as their first language.





### Analysis of Learning Outcomes

Due to the COVID-19 pandemic, students have been unable to go to school which has resulted in the Learning Loss crisis. Baan Pla Dao School has assessed this situation. By testing students with 30 selected NT and RT exams for each core subject, it found that most of its students had learning regression issues. The details are as follows.



EDUCATION

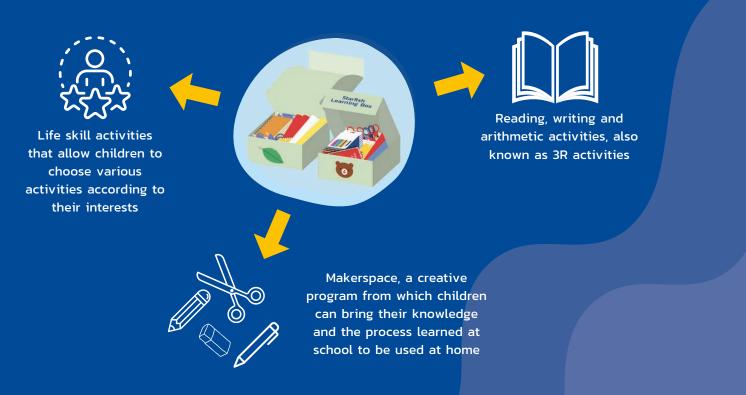
Recovery: Case Study of Baan Pla Dao School and Expansion With Network of Partner Schools

### Remote Learning Management Tools & Processes

Baan Pla Dao School decided that the pandemic should not be a barrier to children's learning development. Therefore, it sought ways to adapt the learning management process to various contexts and limitations, and designed ways to provide ongoing educational opportunities for children when they need to stay at home to avoid infection. This was done by remote learning with the following tools and processes:

### 1. Learning Box

Baan Pla Dao School has designed a 'Learning Box' to enable children to receive as much education as possible while at home. Although not equal to normal, on-site learning at school, the Learning Box contains a booklet and a set of learning materials designed into three parts:





### Remote Learning Management Tools & Processes

### 2. Community Outreach

This is to help parents and promote family relationships as well as enhancing children's physical and mental well-being. Baan Pla Dao's teachers have been active in various communities to help children whose parents are illiterate or unable to support children's learning, so that children can gain more knowledge and be able to do Makerspace activities on their own at home.



In order to provide services to children, permission was requested from village or community leaders according to COVID-19 prevention measures, and a joint action plan was planned by teachers of Baan Pla Dao School, Community Volunteer Teachers, Parent Volunteers and Senior Students in communities to help support children's learning. It was found that most parents cooperated quite well.



Remote Learning Management Tools & Processes

### 3. Online Learning Platform

Baan Pla Dao School has created online lessons to support children's learning according to its curriculum, which focuses on the development of competencies through problem-based learning (PBL) and Makerspace activities, learning with its 3R innovation curriculum, and learning with modern technology through the Starfish Labz website.



In addition, Baan Pla Dao School has improved its online teaching and learning modules in order to keep children interested in learning continuously. It has reduced teaching time from 50 minutes to 40 minutes, where the first 5 minutes will be the format for entering the lesson, a review of the course content and entering the teaching period for 15 minutes, then a 15 minute exchange period and finally 5 to reflect minutes for teachers on takeaways by playing quiz games. If children want more information, they can learn by theirselves on other sites online. Starfish Labz collects knowledge as an example of learning guidelines for children and parents.



Remote Learning Management Tools & Processes

### 4. Real-Time Communication

For more effective learning management, Baan Pla Dao School has arranged for parents to contact classroom teachers and the school director via a phone hotline, as well as personal and group LINE chats, where the teacher can give advice and help to parents or children who want to inquire about various issues. In teaching and learning management, topics are covered in three learning at home with formats: teachers preparing worksheets for parents to support learning; having teachers visit student homes from time to time (on-hand); and learning through applications (on-demand) as well as learning that teachers facilitate for students through the Internet (online). well as as summarizing and reflecting.





The school also takes care of children's health by having them meet with a psychologist once a month to help address and prevent stress. As for the safety of teachers who have to go to communities, the school has provided COVID-19 test kits, and in cooperation with sub-district health promotion centers perform a swab test every 14 days in order to provide timely assistance to children and teachers if there is a problem.

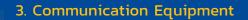


### Factors in Planning for Different Learning Styles

In managing remote learning, Baan Pla Dao School uses local context and the potential of personnel in schools and communities to adjust its educational model to be appropriate. However, in adjusting learning style models, schools and teachers should also focus on learning outcomes by considering 6 important factors as follows:

### 1. Age of Learners

Age is an important factor in planning an appropriate course of study; for example, activities for KG and primary school children must focus on short-term activities with parents to support learning.



Lessons designed for computers versus smartphones are very different. Activities that students can do with computers are more diverse, like ones that require printing. As for smartphones, there is flexibility in viewing and accessing media, but also limitations for activities designed by teachers in a way that focuses on writing or printing paperwork.



#### 5. Learning Style

Each learner has a different learning style. Lessons should be flexible and diverse. Avoid designing activities that feature only reading and answering questions, because children who learn through listening and doing will not able to gain much from them.

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#### 2. Internet Access

In many areas internet access may be a barrier. If there are lessons that use a lot of internet data such as videos, this may make the lesson difficult to access for some learners.



#### 4. Pedagogy

The school establishes a teaching method that aims to develop competencies. This includes content, skills, and attitudes. Activities must be designed to give learners the opportunity to develop their skills and attitudes with Active Learning consistent with real world learning, and care must be taken not to design activities that focus on students only remembering the content.



#### 6. Parental Support

Remote learning requires cooperation from parents. But the context of each family or community is different. In some communities, parents can help organize learning for their children at home.



### Teacher Development for Overcoming Learning Loss

When Learning Loss occurs and children need to recover academic learning, skills, and attitudes, the teacher is the key person to deal with dramatic changes in teaching and learning. They need to understand the learning gaps or barriers to learning in children to help mitigate Learning Loss.

### Baan Pla Dao School Guidelines

1. Hold teacher brainstorming meetings to find tools for measuring student regression by using RT and NT exams from the past 3 years together, 30 items per subject at random, then analyze each test item with help from experts in order to find solutions.





2. Join Starfish Education's TSQP project to develop innovations that will help solve the problem of Learning Loss.

3. Send teachers to join the trainings from Starfish Academy and external agencies on Learning Loss and teaching design in unusual situations.

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## Teacher Development for Overcoming Learning Loss

### Baan Pla Dao School Guidelines

4. Teachers design a variety of tools to address student learning declines, both online and offline. This includes online teaching activities, Active Learning for students to get practical experience, community visits to help teach in groups and individually for students with slower development, designing a school van that provides wireless internet access, a television for media and also serves as a mobile classroom for teaching children in case of unfavorable home learning environments.

5. Organize weekly Facebook Live events to reflect on student's work and share ideas to help resolve problems in a timely manner.

6. Department heads and school director participate in online teaching and field visits to observe and discuss with teachers to help improve and develop.





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### What is a Learning Box?

A Learning Box contains learning tools (school supplies, worksheets, evaluation forms and more) for students to use and practice their skills at home, especially students who have tech limitations like no internet signal, frequent power outages, no mobile phone data, televisions or computers, as well as for young children who are not ready for continuous online learning.

### Learning Box Design Concept

Learning Boxes are designed for each grade level to cover age-appropriate knowledge and skills, and focus on integrated learning with mathematics, science, Thai language and art to develop competency-based skills as well as social and emotional skills by focusing on Active Learning.



The Learning Box contains a Makerspace activity tool, along with worksheets for recording the STEAM Design Process (Ask, Imagine, Plan, Do, and Reflect) that is used in the classroom. This strengthens children's skills in the 21st century by using critical thinking and applying ideas to everyday life, such as making anti-lice ointment from custard apple leaves, making mosquito repellent from lemongrass leaves, using plastic bottles or food to create as an invention as well as being able to build on the creation of existing works. Even if the children are learning at home they can have space to create per their imagination without interruption, especially if parents work together with them until it becomes a concrete learning process, and a passive skill that can be utilized in daily life.



### What's Inside Each Learning box



### 1. Problem Based Learning (PBL) Toolkit

Practical learning by solving problems; students can experiment with topics that interest them, such as 'why do ants like to eat food?', 'how to get rid of ants?', etc, which students find the answers for on their own.



Makerspace

#### 2. 3R (Reading, wRiting ua: aRithmetic)

Learning lesson content for mathematics and Thai language in the form of a worksheet which facilitates research for information in online media, or having volunteers or parents help explain to enhance understanding.

#### 3. Makerspace Activities

Train students to create their own works according to the STEAM Design Process. In planning and designing creative works, the teacher facilitates the learning item such as making toys from bamboo, making plant pots, etc. Students then practice life skills and apply equipment or raw materials that are around them to develop and produce a piece of work.



• Learning Box at the KG Level Includes:

**1. A Booklet** designed and made by a homeroom teacher. It is divided into 2 levels – KG 1 and KG 2–3.

- Includes a set of tools for developing early childhood skills in daily life that allow child to help themselves, such as going to the bathroom by themselves, eating by using cutlery, dressing themself, etc. (KG 1)
- Also includes 3R Innovation curriculum content to develop skills through activities in the form of Active Learning.
- Has a project-based learning management toolkit through Makerspace activities to enhance 21st century skills for children. Teachers design activities on a weekly basis, to be flexible so that children and parents can choose to do activities when convenient.

**2. Posters and charts** showing the steps for Makerspace activities so that children and families can set up a Makerspace corner in their homes.

**3. Weekly records** and evaluation forms for parents and teachers.

**4.** Materials for activities such as crayons, stickers, pencils, erasers, clay, colored paper and scissors, etc.

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ARFISH

EARNING BOX

Learning Box at the Primary Level Includes:

**1. A Booklet** designed and made by a homeroom teacher.

- Integrated Learning Toolkit that uses PBL on topics chosen by the students themselves, requiring to do one subject (for primary school students Grades 2-6)
- Has a project-based learning management toolkit through Makerspace activities to enhance 21st century skills for children. Teachers design activities on a weekly basis, to be flexible so that children and parents can choose to do activities when convenient.

**2. Posters and charts** showing the steps for Makerspace activities so that children and families can set up a Makerspace corner in their homes.

**3. Weekly records** and evaluation forms for parents and teachers.



4. Materials for activities such as crayons, stickers, pens, pencils, erasers, correction fluid, rulers, crayons, clay, colored paper, glue guns, glue bullets, latex glue, scissors, cutters, screwdriver sets and cloth masks, etc.

5. Student records where they can document everything about learning, such as expert feedback, research, listening to news on television, and chart measurement.

6. Assessment forms according to real conditions and weekly records for parents and class teachers, which can be made into a video clip or photographed to keep as evidence, or can be made into an e-portfolio format if computers and internet are accessible.





The Learning Box is designed for one week worth of classes, so teachers will need to design their learning on a weekly basis, during which time all teachers must work together to design the best possiblelearning and benefit for the students. Resources, budgets, safety, and timelines are managed to be consistent with the overall management of the school.

• Using the Learning Box



1. Integrate teachers into the community with cooperation of volunteer parents, senior students, and others in the area



4. Explain the role of parents in using Learning Box



5. Follow up to help parents



2. Coordinate visit dates with parents



6. Parents and children do activities and learning together



3. Explain how to use Learning Box to parents



 Children's learning outcomes are shared between parents and teachers weekly

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### Results of Using Learning Box

**1. Parents** play important roles in caring for, monitoring and managing learning together with their children while at home. However, if the experience problems then they can contact teachers by phone or LINE.

2. Community teacher volunteers and older children volunteers are responsible for reviewing knowledge and understanding, communicating, coordinating and monitoring work between parents and teachers, since some parents are from ethnic minority background and can't communicate in Thai.

**3. Community leaders** facilitate teachers in entering the community, and follow up on the learning of students in the area because some areas have stricter COVID-19 measures to enter and exit.

In using the Learning Box, parents are key in acting on behalf of teachers through giving instruction and working together with community volunteers after participating in activities with children, have a better understanding of the process, and can observe the of various development skills, especially the systematic thinking process in children. Learning Boxes can be effectively applied to teaching and learning during the COVID-19 pandemic for children in remote areas. It is also a tool that helps children practice critical thinking skills, problem solving and life skills. as well as promoting participation within the family.

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### Helping Children & Building Relationships with Parents

Baan Pla Dao School conducted a survey of parents' readiness to manage online learning at home and found that 80% of parents were not fully ready due to a lack of equipment to support online learning such as TVs, computers, internet access, etc. The school then provided equipment (iPads) to borrow for learning and supported the cost of internet access. This is partly covered by government subsidies and partly by Starfish Education, and allows the school to manage teaching and learning for all of its students, not just some of them.







### Helping Children & Building Relationships with Parents

Baan Pla Dao School places special emphasis on providing care and assistance to vulnerable children during this time of crisis.



Mental Health In times of crisis, parents may face economic or social problems that affect children both directly and indirectly. This creates a buildup of stress that may be dealt with in inappropriate ways, such as domestic violence, substance abuse or gambling. Children may lack counseling or don't know who to ask for help.



Physical Health Many vulnerable children may not be getting good nutrition at home. Not coming to school means not receiving lunch (and sometimes breakfast), milk and snacks that promote growth, which directly affects learning potential.



### Social & Emotional Well-Being

In many cases children live in homes without other children of the same age, resulting in a lack of development and social learning. If not taken care of this may cause children to lack social skills and results in psychological and physical consequences.



### Helping Children & Building Relationships with Parents

Baan Pla Dao School surveys living conditions and readiness of parents to take care of children's basic needs and finds ways to work with them to support children's learning and build good relationships. This sends the power of learning from Baan Pla Dao School to children and parents so that they can happily organize learning at home.



Care Package Donations



Adjust class schedule according to home schooling



Learning aid support



Organize exciting online teaching activities



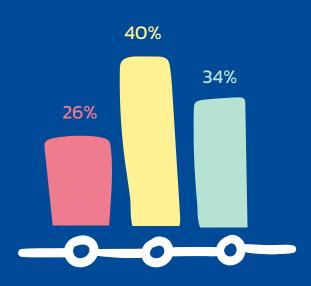
Learning Box program



Organize activities with psychologist and students



### Monitoring Children's Learning Outcomes



The school has assessed learning outcomes and have divided results into 3 groups:

- The Red Group consists of children and parents who need more help from the school.
- The Yellow Group can learn but needs guidance for the parents to help the children.
- The Green Group consists of children and parents who can learn well on their own.
  In the PLC process, trachers work together to find a way to help the red and yellow groups to learn.

Actual assessment is done by having parents submit proof of learning in form of photographs or video clips via the Starfish Class application.





## Dissemination of Learning Box Innovation

 Role in the Teacher and School Development Program for Continuous Quality of Education (TSQP)

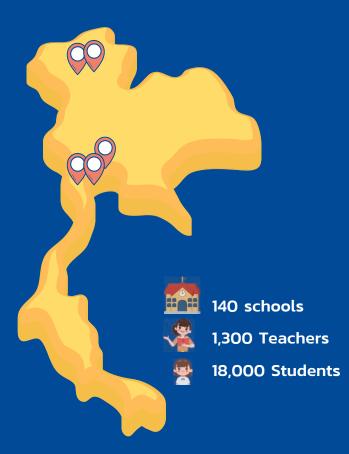
In Equitable Education Fund's Teacher and School Development Program for Continuous Quality of Education (TSQP), Starfish Education acts as a mentor in the development of entire school systems to 58 schools participating in the opening phase. The COVID-19 crisis began in the second semester of the 2019 academic year, causing the project to adjust its processes, including providing advice to solve problems when schools needed to stop onsite teaching and learning and have students study at home. Starfish Education coaches created a prototype of the Learning Box as an example for schools to apply. They could then design their own Learning Boxes that meet the needs of students in different grades and in accordance with the context of each different area. Starfish Education also gave consultation to network schools and other schools interested in using the Learning Box for children to learn at home.





## Dissemination of Learning Box Innovation

### Presentation of the Learning Box Innovation



the 2021 academic In vear. the pandemic still loomed large. Therefore, Starfish Education proposed to the Equitable Education Fund to continue running the innovative Learning Box program with more schools. To date, there are more than 100 schools in two groups participating in the Teacher and School Development Program for Continuous Quality Education of (TSOP), as well as other interested schools. This accounts for more than 100 schools in 5 provinces, namely Chiang Mai, Lamphun, Samut Sakhon, Nakhon Pathom and Ayutthaya. Over 1,300 teachers and 18,000 students have benefited from the Learning Box program.

At the same time, Baan Pla Dao School has developed a higher quality model of learning management through the Learning Box model. It focuses on Learning Loss Recovery, well-being and competency-based learning. By using tools and equipment in the Learning Box, the idea is for children to learn Active Learning through PBL with study and research from the community or village key actors. This may not be useful only during a pandemic; children can also use these study skills when learning outside the classroom to learn in the real world. Each school must find a solution that is suitable for its own context.



Baan Mae Tala School

#### School Context

Ban Mae Tala School teaches Kindergarten to Grade 3. All of the students are ethnically Hmong. Parents do agricultural work, especially in strawberry plantations.

### • Design / Implementation

The Learning Box was designed to fit the context and culture of the community. It has been applied for "Reduce Study Time, Increase Learning Time" activities and in school projects. It is used in grades 1–3.

#### • Effects

Every child has a passion and desire to learn. Even when teachers cannot teach normally, children can use Learning Boxes to do group activities according to their interests without having to have a teacher there to direct learning. Every child can create innovation in the local context that is consistent with the identity of the school.

#### • Problems / Obstacles

Sometimes teachers or children want various materials to increase the diversity of creativity, but the school is very far from the city (around 3 hours travel), making it a barrier to travel and buy things. Starfish coaches have helped by purchasing items according to the needs of the children and forwarded them to teachers to organize activities for children.

#### • Application

The school has organized teaching and learning for children to take into account the local context. What is learned is integrated into the culture of the community; for example, a boy who likes to make tribal-style race cars can choose to create his own innovative cars that are creative and interesting to him. For girls who like needlework, they can also create their own favorite works. Another interesting activity is that since most parents work on strawberry plantations, children bring strawberries. There are many and the parents can't sell them all, so they are adapted into various creative food items.



Baan Dong School

#### School Context

There are 9 classrooms for Kindergarten 1 to Grade 6. Most of the students are from ethnic minority backgrounds.

#### • Design / Implementation

The school designs and applies the Learning Box to suit its learners. It is treated as an innovation to enhance the competence and basic health of students during the COVID-19 pandemic and disseminate knowledge about basic healthcare to the community. They are also designed to have students focus on how the identity of Karen ethnicity has been developed, such as the innovation "Seek Ha" (make) that uses a traditional basket on the back of Karen people, which Karen language calls "Songha". This innovation won an award with a prize of 50,000 baht from the Starfish Teacher Hero project contest.

#### • Effects

1. Students and people in the community are more knowledgeable about basic health conditions from using the "Songha" innovation.

Students can apply the STEAM Design Process to solve problems in the community, promote students' critical thinking skills and help students with learning disabilities.
Students develop competencies and learning by doing in real-life.

In addition, the innovation developed is also a model that reflects the local context by applying existing objects to create new innovation, as well as being able to adapt to changing situations in accordance with the local context. Students who do not have access to online media can still learn through this innovation.

#### • Application

Due to language challenges, the school has designed innovative Karen language songs with content to promote knowledge about health for students and people in the community. It also organizes activities for a team of young people who aspire to use the "Songha" innovation which students designed using the STEAM Design Process, to explain to parents in the local Karen language.



Baan Pa Muad School

#### School Context

Teaches Kindergarten 1 to Grade 6. 80% of the students come from neighboring countries.

### • Design / Implementation

Learning Box for early childhood and primary school children through Makerspace activities. The Learning Box consists of:

1. Booklet created by class teachers - KG and primary school levels have different formats as appropriate for each age range

- 2. Equipment and materials for learning
- 3. STEAM Design Process activity sheets

4. Actual assessment forms (Starfish Class) and weekly record forms (primary levels include a learner note set that can record everything about learning)

### • Effects

Children have fun learning, are disciplined in taking care of their own things, have the courage to think and dare to act, want to learn about things around the world and know how to apply ideas. They can also learn together with parents at home.

### • Problems / Obstacles

There is a limitation in learning of students from neighboring countries; the age range of children in each class is different and existing knowledge is unequal. Early use of the Learning Box and Makerspace activities was challenging because children still didn't know about the kit and its usage, which led to a lack of creativity in work. But as the activity continued, children had more courage to think, dared to do more and learned to use the equipment over time.

### • Application

Teachers have applied the Learning Box to problem-based learning management for children in early childhood, so that children can learn together and have equipment to support the creation of various works. Children are more effective in the primary school levels, and this can be applied to the study of various subjects set by the teacher.



Baan Aen Jatsaan School

#### School Context

Teaches Kindergarten to Grade 9 (Matayom 3) levels. Students are diverse in ethnic background. In 2021 there was a total of 159 students and 16 teachers.

#### • Design / Implementation

- Their Learning Box is designed for students from KG 2 to Grade 6 during a "reducing studying time, increasing learning time" period each day, as well as via school activities. It can be used both in the classroom and brought back to use at home by learning through the STEAM Design Process.

- There is a room for storing materials used in Makerspace activities.

- The Learning Box consists of basic equipment for creating new works, knowledge sheets about the learning unit, worksheets, and a record for learning activities.

#### • Effects

- Teachers have an Active Learning approach, designing and teaching in a variety of ways. There are tools, media and technology that are suitable for learners.

- Students are fairly happy and have fun doing activities that let them be creative, think and design pieces according to their own interests. More importantly, learners develop important skills for the 21st century.

- Parents help teachers to teach their children.

#### • Problems / Obstacles

Since students are of different ethnic backgrounds and lanugages, sometimes there are misunderstandings between teachers and students. Also, poor parents are sometimes unable to support for communication equipment between teachers and students, such as internet access, mobile phones, etc.

#### • Application

Teachers have designed a Learning Box that corresponds to the context of the community. It allows students to take home activities and for their parents to support them, including activities for brothers and sisters too.



Seaside Agricultural Cooperative School

#### School Context

Teaches Kindergarten to Grade 6 levels. Most of the students are in communities where the primary work available is fishing. Some students accompanied their parents from other provinces to work in this area.

#### • Design / Implementation

Designed as a 'cloth bag of learning for important skills in the 21st century' (Learning Bag) by dividing students into 2 groups as follows:

 Learners in KG 2–3 organized study by using Makerspace creation activities and focused on the development of learners' minds and muscles.

- The second part grouped learners according to their interests, mixing grades 1 - 6 with Makerspace creation activities according to School Concept : School of Art.

#### • Effects

Integrated into courses, students can come up with creative designs according to specific activities and topics, learn professional skills and do activities at home, such as cooking with parents.

#### • Problems / Obstacles

Budget - because materials in the Learning Box are consumable, there are limitations for how much can be done. Teachers provided advice for students to use extra materials that are accessible and around thei everyday lives to augment this.

#### • Application

The "School of Art @ Kasigum Day Market" activity was expanded to include a variety of activities and parental involvement by creating activities that allow parents or the community to help and spend time together doing activities that students have received. Students can continue to create innovations to be developed into a career. with learning activities based on the STEAM Design Process through the Makerspace activities.



Baan Gong Kaek School

#### School Context

Teaches Kindergarten to Grade 12 (Matayom 6) levels. The students are ethnically diverse, consisting of Karen, Hmong and Northern Thai groups. The school has accommodation for students living far away from home. 80% of students are boarding students.

#### • Design / Implementation

- Learning Box is designed for use with learners from Grade 1 - Grade 9 (169 students and 9 teachers) in activities that use the STEAM Design Process, which can be used both in the classroom and at home during the "reducing studying time, increasing learning time" period each day.

- Each box consists of basic equipment for creating works, knowledge sheets for each learning unit, and worksheets and records of learning activities.

- Parents participate in activities in the Learning Box with their children.

#### • Effects

- Teachers have an active learning approach, designing and teaching in a variety of ways. There are tools, media and technology that are suitable for learners.

- Students are fairly happy and have fun doing activities letting them be creative, think and design pieces according to their own interests. More importantly, learners develop important skills for the 21st century.

- Parents help teachers to teach their children.

#### • Problems / Obstacles

Most of the materials used to make the Learning Box are consumables, causing insufficient supplies. Teachers therefore design activities that are appropriate for the context of the school and community. using locally available materials.

#### Application

 Teachers design Learning Boxes that meet the community context and allow students to do activities at home with parents and siblings.

- Serves as a model school for schools in the network to study and visit, exchanging ideas on teaching and learning in an Active Learning style.



Baan Mae Ka School

#### School Context

Teaches Kindergarten 2 to Grade 9 (Matayom 3) levels. In the 2021 school year there were 339 students, teachers and staff.

#### • Design / Implementation

Learning Box is for students who can do activities on their own as appropriate for each age group through the STEAM Design Process. Each Learning Box consists of:

1. Manuals, explanations for using the Learning Box and the submission of assignments, knowledge sheets, learning sets and end of lesson activities.

2. A set of learning tools through STEAM Design Process activities, materials and learning materials. The Learning Box can be applied to teaching and learning management both during normal school hours or by bringing it to place in the learning media corner of the classroom, with which students can learn by themselves during free time. This enables students to learn all the time and to use the Learning Box to organize activities to stimulate learners' interest and during the COVID-19 pandemic, learning is organized at home (on-hand), which is suitable for students in remote areas. It is also a tool to help students practice critical thinking skills, problem solving and enhancing life skills as well as promoting participation within the family as well.

#### • Effects

Both from using Learning Box in teaching and learning activities in normal schools and learning activities during the COVID-19 pandemic, students receive knowledge and fun, resulting in students developing skills in reading, writing, and critical thinking. They gain skills in using materials and equipment, dare to think, dare to make decisions and solve problems that arise rationally and creatively from actual practice, including the use of free time to benefit and be able to develop their work more efficiently.



Baan Mae Ka School

#### • Problems / Obstacles

- Budget for media production is limited.

- During the COVID-19 pandemic, students learn through the Learning Box for all subject groups, but it will take longer to learn all subject groups due to time taken up by making appointments for students to pick up and send work on a weekly basis, to avoid touching and meeting, and the effort in to reducing the workload for students therefore limiting worksheets and scope of creative work.

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#### • Application

#### - Allocate enough budget

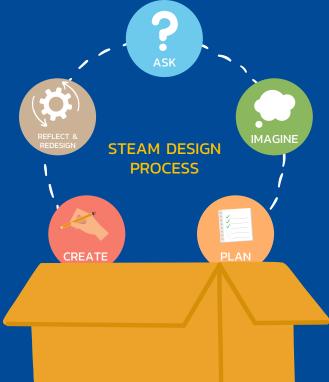
- For teaching and learning activities during the COVID-19 pandemic, there should be a guideline for developing media that integrates subject groups/courses in order to reduce the workload of teachers and students. If normal classes are open, use the Learning Box according to the subject and develop Learning Box media as appropriate for the student's grade levels to have content that is easy to understand. Students can then learn and do practical work.





### Reflections from Partner Schools

Active Learning management through the STEAM Design Process (asking questions to stimulate curiosity, designing, planning, doing, and reflecting and redesigning), providing a space for creators (Makerspace) and the use of learning materials that integrate professional skills and academic knowledge for learners in the form of a Learning Box encourages learners to learn happily, manage themselves, and gives students the opportunity to learn according to their interests and take action on their own. It allows students to develop learning skills and discover their preferences and aptitudes that will lead to inspiration in the future, including learners developing 21st century skills.



Learning Box opens up opportunities and expands the boundaries of learning outside the classroom, especially during school closures due to the COVID-19 pandemic. Because Learning Boxes are compact and can carry equipment or aids to promote learning to various places comfortably, they facilitate learning for students who want to use equipment to create their own work or work anywhere, anytime, and are able to go beyond the limits of learning management in a crisis. As a learning aid from school to home, every space can be a creative space. The following are examples of feedback from teachers, students and parents of schools participating in the TSQP project.

Learning Management in the COVID-19 Era and Learning Loss Recovery: Case Study of Baan Pla Dao School and Expansion With Network of Partner Schools



#### Baan Doi Kaew School

**Student** : It's fun, I enjoy learning through hands-on practice and take pride in my own work.

**Teacher**: It's teaching in a new way that hasn't been used before, which helps to develop students in all aspects. It is knowledge and experience that stays with students for a long time. And students normally who don't want to learn are more interested in learning and enjoy learning more.

Parent : I'm glad to have participated, and that my child wants to learn and inherit local wisdom.





#### Baan Pa Muad School

Student : I like it because I have my own box of school supplies and I can choose from a variety of activities.

**Teacher**: It is a box that is suitable for the current situation – social distancing keeps children safe from infectious diseases. It can be used for a variety of activities, is convenient to use in different places and students are able to practice the responsibility of taking care of their own Learning Boxes.

Parents : My child has all the school supplies that are used to continue activities at home. Parents do not have to provide anything extra because the box has all the equipment that children need.



#### Baan Den Mai School

**Student** : I'm happy every time I study and do my favorite activities. I can do new activities by myself, get excited and want to do more.

**Teacher** : Encouraging students to learn and practice on their own as they like makes them learn more than from teachers only teaching the content of the lesson. In addition to the content of knowledge in textbooks, learning materials and challenging learning activities keep students active and eager to discover new knowledge.





### Baan Mae Ka School

**Student** : You have the opportunity to learn by yourself according to your own interests. The teacher made a lot of Learning Boxes in various subjects. I can pick up a box to learn with friends at any time. When I saw it for the first time, I was excited. I wanted to try it out.

**Teacher** : The feelings resulting from Learning Box activities can be used as a learning medium for interested students; they can learn on their own, increase skills and knowledge at any time, and stimulate interest. Students are interested in participating in the Learning Box activity. Both teachers and students are happy to do the activities.

Parent : Children love to learn from the materials the teacher brings. I think that is very beneficial to the children. Parents try to use this box with their children, learn with them and have fun.



#### Baan Mae Pang School

We observed that teaching and learning by using the Learning Box led to students being satisfied, interested and happy to study, and during the activities teachers will see the development of students' skills according to the actual conditions individually. Teachers can capture development that has occurred to assess children's 21st century skills and see that some children should be encouraged to learn or promote some skills to arm them and foster development, which is good for students, From discussions with the parents of students, they see that children are more assertive and are able to express their needs and have reasons to support parents' answers to questions, including seeing the benefits in the work and being happy to do activities.





#### Baan Na Liang School

**Student** : I have fun learning by using the STEAM Design Process and the use of Learning Box activities to help organize learning because we can do activities that interest us.

**Teacher** : Combining the STEAM Design Process and use of Learning Box activities helps to organize learning as something new for teachers and students to study together. Students can use this in their lives as well as as a basis of thinking, for students to have confidence, be assertive and see their selfworth more clearly.

**Parent** : I see the educational development of my child. They are more creative and rational.



Baan Ruang Rua School

Student : It improves knowledgable characteristics, i.e. being curious and eager to learn, having the courage to express themselves, loving learning and self learning. It features analytical thinking, critical thinking, and creativity. Skills attributed to it are learning and innovation skills, life and work skills and media and technology skills. Its moral features are conscience and good values, public consciousness, honesty, discipline and responsibility for ones' self and society.

Teacher : Managing teaching and learning with the STEAM Design Process is an improvement. Students are encouraged to use problem-solving and thinking skills. By integrating into Active Learning activities, students have a thought process and are able to solve problems systematically and effectively.

**Parent :** We are proud to take part in activities that extend from school to home, which makes us see that students have a step-by-step thought process, better analytical thinking, and are able to measure and evaluate results from observations and operations.





#### Baan Huay Khao Leep School

**Student** : I have fun doing activities by doing the real thing with trial and error – learning to cook various dishes, for example. With self-planning It can be used to build a career and use it in daily life.

**Teacher** : It's an activity that allows teachers to develop themselves by managing new teaching methods, gain experience and learn with the children. This activity also encourages students to acquire skills in many areas such as life skills, career skills, etc.

**Parent**: It's a good activity that makes children more interested in school activities. They learn how to plan step by step and also apply the acquired skills in the family/community.





# Pa Jee Wang Daeng Wittaya School

There are examples at the early childhood level that need to be promoted in all 4 areas. The school has organized on-hand teaching and created a Mini Learning Box set along with distributing worksheets. so that the home can be a creative space for early childhood. It is also a device to help parents find activities to do with their children; we receive feedback from parents in sending photos of work or works that students have designed and created by themselves. Therefore, it is an activity that can build relationships between families as well and is an aid in promoting the development of early childhood both physically and intellectually, as well as making children happy and having fun with activities from the Mini Learning Box set, which helps to pull the child away from the screen of mobile phones and television for a good period of time as well.



#### Phrao Burapha School

**Student** : Learn through an Active Learning process where group members exchange ideas and create their own works through the cooperation of members with roles within the group, present their own group work with members in the class, assertively express their opinions, problems, and suggestions in the work of their own group; use diverse skills and learning competencies, have leadership qualities.

**Teacher** : Act as facilitators in learning for children; recommending various devices for use by children properly and safely. By observing the skills of students, teachers saw cooperation and the development of each student's 21st century skills clearly during practice. They try to be a mentor, but not a guide. As a result, the outcome for the children is the development of analytical thinking, decision making, and learning to solve problems clearly. The teachers assessed students' skills from real conditions and participation in activities closely to encourage all learners to play a role in cothinking through Active Learning. During student activities, teachers act to stimulate thinking and to provide students with moral skills, kindness, cooperation, and generosity with each other and between groups in the use of tools and equipment.



**Parent** : Serve to support students in organizing activities. They observe skills that arise in students that improve, along with facilitating learning with the daily duties of students staying at home.



#### Wat Pa Daet School

**Student** : Learn in a variety of forms; in addition to online learning, they can also create works they have planned on their own. Learning is fun and not boring, but one problem may be a shortage of equipment. The teachers must solve this problem by advising so that the materials can be substituted in the context of each student's home.

**Teacher** : In this new style of teaching and learning management, they are able to design and plan work according to the subject matter and teach for students to come up with solutions to problems by themselves and for Active Learning learning management to occur even if online teaching is required.

**Parent** : Contribute support to the teaching and learning management of teachers. Be a facilitator for students and learning management with the Learning Box as a working device; notice changes in students by spending more time on crafting and creating works, and less time playing video games. They are very impressed and like to organize more activities in this format.





#### Wat San Klang Nuea School

**Student** : Have an opportunity to do things that are of their own interest and be happy in what they can do creatively. The work results with pride along with with the development of thinking, improved social skills, and assertiveness.

**Teacher** : Has adjusted their teaching style to be more interesting, and develop themselves with self-improvement regularly. Practicing can yield real results.

**Parent** : Participate in the development of the school, be a supporter and encourage their children, be proud to see their children have talents and professional skills that can be applied in the future.





### Sahamit School

**Student** : Students can choose equipment used to create their own works and find a replacement for something that they don't have to make something that they want to do on their own, can reflect and tell about twork.

**Teacher** : Change their roles as facilitators of learning; recommend various tools for students to use properly and safely for student activities. Teachers can see the development of children's skills individually in real conditions and can assess various skills that develop in children.

**Parent** : Collaborate with teachers; support in organizing their children's activities; observe the skills that arise in students over time; When parents ask questions, children are able to answer questions and give advice on the tasks they can do. Parents can see that the child is happy.



#### Wittaya 79 School (Baan Nong Aarb Chang)

**Student** : Have fun, want to reduce study time and increase learning time in order to get to design a piece and learn while doing it. There are materials that are ready to make workpieces other than the ones that we prepare ourselves.

**Teacher** : Students are able to systematically design their work due to their familiarity with the 5-step STEAM Design Process; adapt when working with peers in a group. Responsible for collecting and maintaining equipment.

Parent : See that children know the value of things at home, and want to go to school more. Pay more attention to what their children are doing.



**Parent**: Use the Learning Box and spend time doing activities with children. Participate in helping to prepare supplies for children to take to activities.



### Baan Gong Kaek School

Student : Study in various subjects and have more fun. When a teacher taught, it was difficult to remember; now when they learn by acquiring knowledge they remember more, such as learning a proverb that they couldn't remember in the past. Once they designed material and find a way to present it to their friends. It helps them to learn more. They don't have to study only in books, but learn by doing it themselves.

**Teacher** : Once students understand the STEAM Design Process, most classroom activities are fun to work with. This allows teachers to prepare less worksheets and reduce their roles because the teacher will only be the person asking questions about the topic of activities that students learn. Students learn using a 5-step STEAM Design Process. Observe that students are more assertive and work step-by-step.



#### Baan Aen Jatsaan School

**Student** : Use trial and error and create for themselves; have fun and wish they had more time to do Makerspace activities.

**Teacher**: When students understand the STEAM Design Process, they are assertive, have creative skills and are more confident in speaking. Most of the children are ethnic minorities who don't speak Thai at home, but presenting work gives them confidence.

**Parent :** Observe that their children are more confident in speaking, try new activities while at home. For example, trying to grow peppers in different ways and bringing things in the house to invent as toys for self-use.





#### Baan Bon Sibrae School

**Student** : Have fun, have materials for doing a variety of activities. They are able to design work according to their own preferences and interests and learn by doing. Some bring home materials other than the ones the teacher has prepared.

**Teacher** : Teachers understand Makerspace activities and can design Learning Boxes that are appropriate for the school context. Learning Boxes can be used to organize activities with students through the STEAM Design Process.

Parent : Parents are involved by providing school materials when requested by the teacher. Children have to bring the finished work for the parents to see. Children are more eager to learn.



#### Baan Muser School

**Student** : It's a fun activity and they like it a lot. They have equipment to choose from to work, can do what they like the most and also are confident in talking to tourists.

**Teacher** : Now they organize activities in the classroom for students to enjoy doing on their own. Teachers reduce their role in teaching, turning them into counselors / coaches, enabling children to follow their own ideas even more.

**Parent** : Observe that children are confident to speak Thai, tell stories and invite travelers to come and visit the community.





#### Baan Yang Pao School

**Student** : Have fun, have materials for doing a variety of activities. Are able to design work according to their own preferences and interests and learn by doing. Some bring home materials other than the ones the teacher has prepared.

**Teacher** : Teachers who understand Makerspace activities can design Learning Boxes that are appropriate for the school context, with local wisdom integrated into the design of activities for students using the STEAM Design Process.

**Parent** : Parents are involved by providing school supplies when requested by the teacher. The children have to bring the finished work to the parents to check. Children want to learn and are more active.



#### Baan Pla Dao School

**Student**: Students develop reading, writing and numeracy skills by integrating each subject, such as Thai language, math, English, social studies, arts, etc. They develop physically, emotionally, mentally, and socially. They can help themselves, want to stay in school, have a systematic thought process and can create works according to their interests through the STEAM Design Process. Students are able to research, design, plan, exchange ideas, create and develop their work, which leads to innovation. Students develop cognitive and 21st century skills. They get to know themselves and discover their aptitudes and specialties, and develop according to their own potential. They have the ability to think and solve problems step by step, to be a thinker, problem solver, and rational person. They have systematic thinking skills for Active Learning, planning, problem solving, researching, collecting information, creating, improving and presenting to the public Through integrated learning, students can

learn on their own using an innovative Learning Box.

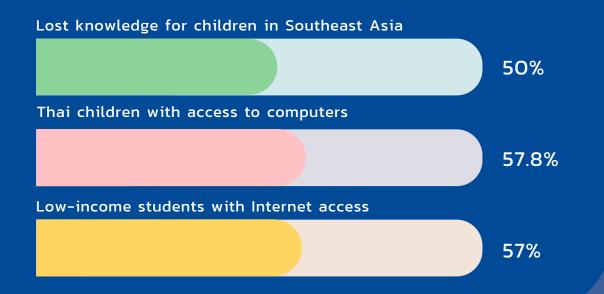
**Teacher** : Teachers have skills to develop learning materials suitable for the present situation and focus on hands-on practice (Active Learning), which results in new learning innovations that allow students to learn on their own. Teachers and staff participate in the field to help promote and support students and design the school van to be a mobile classroom along with explaining and introducing the role of parents as participants in student learning through the Learning Box. This is an innovative model that can be applied to the context of each educational institution. It is an example of the concept of caring and helping students who have problems that cannot come to school to study. due to the coronavirus disease 2019 (COVID-19) situation.

**Parent :** Parents are involved in helping, supporting, and guiding students to complete activities and achieve their goals. They get to know the learning process of the school, resulting in improved student aptitudes and help promote development according to their potential, recognize, learn, exchange, share and engage with the school. There is a volunteer spirit to help take care, support and guide students in nearby areas by acting as volunteer parents in each community.



A report by the Organisation for Economic Cooperation and Development (OECD) together with faculty from Harvard University's Graduate School of Education stated that remote education in Southeast Asia cuts roughly 50% of children's knowledge each year. In Thailand, only 57.8% of Thai children have access to a computer, and among the poorest students only 57% have access to the Internet.

(Refer to the report here: https://www.eef.or.th/news-regional-conference-on-teachers-and-equitable-education-bangkok-2021/)



Starfish Education sees the need to revitalize learning for children. Therefore, measures to restore Learning Loss in children have been established as a framework and strategy for designing learning in conjunction with online learning, as the case study from Baan Pla Dao School has shown.



The implemented measures help to create a better learning experience through the Learning Box, enabling students to practice life skills, critical thinking skills and problem solving on their own. Freedom to experiment with learning along with volunteer parents and older students helps prevent students from falling out of the system and reduce inequality in accessing education during the COVID-19 pandemic as well as to follow up on solving specific problems encountered in each family, especially for young children who need special attention and assistance from parents to stimulate development. Older children can also learn online, along with activities from the Learning Box. These measures also create a connection between teachers, parents, schools and communities, which is important for students while learning at home.

Measures to help restore children's Learning Loss and help prepare them to return to school when the pandemic situation subsides includes the following components:

#### Landscape Assessment

In order to understand the problem and assess the situation and the context around the child, a knowledge test is issued to determine whether the child's knowledge has declined or not, and if so then in what nature it has regressed. Teachers conduct a family survey of living conditions, makes a schedule for home visits, and surveys to assess readiness for online learning that each family has, including internet access and device availability, access to learning resources, and exploring basic needs in communities to support children's learning.



#### Whole School Planning

Children's basic information is brought into planning by building a team to create readiness and confidence among school personnel. Since any plan to recover Learning Loss cannot be performed for specific teachers or certain classes, and since all children are affected, school-level planning can therefore be helpful to tailor learning for each grade level and subject. In addition, operational safety measures have been put in place, as well as plans to manage resources, budget, and timeline in order to be in line with the school's management. including asking for cooperation amongst the director, teachers, the community and parents all working together.





#### Professional Development Support for Teachers

In restoring knowledge and recovering from Learning Loss, it must be clear what the issues are. What exactly is Learning Loss? From Baan Pla Dao School's perspective, it consists of 3 topics: is academic learning according to the curriculum? Has childrens' development being appropriate to age change? Finally, have childrens' social skills/development changed? For example, some students may be an only child. In that case, does staying at home for long periods of time change their behavior when returning to school?. Therefore, Learning Loss does not mean the recovery of academic loss only. Teachers need to be trained to understand the learning gaps or barriers in children's learning to help slow learning loss, as well as to support teaching tools and equipment for teachers and to prepare for teaching and learning in all forms, including learning via the Internet (online), studying at home (on-hand) and learning at school (on-site), and creating a network for teachers to develop themselves.





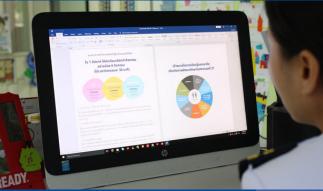
#### Intervention and Support for Students

#### 1) Individual Learning Plans

Teachers must plan children's learning individually, because children have different learning regressions as well as environment and family conditions. If unable to do so individually, teachers must at least help groups based on need to help take care of issues both at home and the school itself. They must take into account the design of activities to answer the questions of individual students.

#### 2) School Supplies and Health Support

Baan Pla Dao School provides equipment and learning innovations such as the Learning Box, which is one method that promotes the development of learning and important skills for children who do not have access to online teaching. The Learning Box contains age-appropriate learning materials, a 3R Booklet, Makerspace activities and life skills activities. They vary according to the age range, namely throughlout primary levels. Each box includes activities that promote children's well-being like the 'Fun Activities' book that collects 10 activities to create happiness, 10 activities to promote physical health and 10 activities to create good childrens' practices. In addition, Baan Pla Dao School has an activity called 'The psychologist comes to play' once a month for 50 minutes to talk and do activities with students in grades 4–6, in order to promote physical and mental health.





#### Intervention and Support for Students

#### 3) Family Support

Baan Pla Dao School sends teachers to visit and help take care of children in the community by coordinating with volunteer parents and older student volunteers in the community to help and explain the use of the Learning Box to children. In the event that the parents are unable to teach the child, a school team visits the area in 2 groups. Each line will have both kindergarten teachers and primary school teachers going to the area together. If there are any travel restrictions in an area, there will be volunteer parents in that area that help instead.





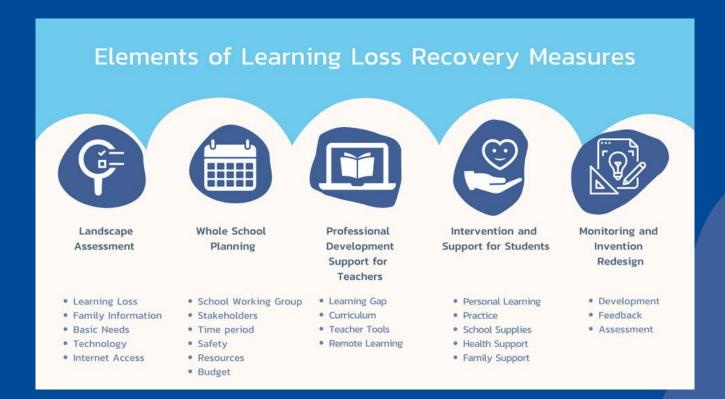
#### Monitoring and Invention Redesign

In order for Baan Pla Dao School to be assessed systematically, it must be monitored and assessed based on what has been done in accordance with various measures, and by assessing in parallel with work outcomes. Because the pandemic is still in a critical situation, there may be changes that need to be adjusted to keep up with the situation. However, after the assessment measures must be taken to develop the process in a timely manner. The important thing is assessment of learners to determine how progress has been made in the process of restoring learning regression, how developed and rehabilitated children are, and to improve and connect the learning management process when children go to school again.





#### Monitoring and Invention Redesign



The above 5 measures are a framework to recover from Learning Loss in all sectors of the education system. Baan Pla Dao School has started to implement and expand to the School Self-Development Group (TSQP), which has set up measures to support schools and chosen to plan for development. The expected result is when schools are aware of these issues and are able to prepare itself as a whole system, it will help children to learn from home happily and prepare them to adjust to school conditions after a long absence.



Starfish Education hopes that this case study from Baan Pla Dao School implementing 5 measures for children to recover from Learning Loss serves as a starting framework and a strategy for working in similar situations. It gives directors, teachers and educators some ideas and a model to use tools so that teachers, parents and children can benefit from adaptive learning and change teaching in a new way to better suit the development of children.







### Focusing on the school context is

### crucial for the education recovery

plan.

