

LIFE SKILLS

WHAT LEARNERS NEED TO SUCCEED IN SCHOOL, WORK, AND LIFE

STORIES OF THE 2021 PRINCESS MAHA CHAKRI AWARDEES

Juan Miguel Luz Chatree Faikhamta Onpawee Koonpornpen Sitthikorn Sumalee Udomluk Koolsriroj Wandee Kasemsukpipat Chawapan Pettkrai

Princess Maha Chakri Award Foundation



LIFE SKILLS

WHAT LEARNERS NEED TO SUCCEED IN SCHOOL, WORK, AND LIFE

STORIES OF THE 2021 PRINCESS MAHA CHAKRI AWARDEES

Juan Miguel Luz

Chatree Faikhamta Onpawee Koonpornpen Sitthikorn Sumalee

Udomluk Koolsriroj Wandee Kasemsukpipat Chawapan Pettkrai

Princess Maha Chakri Award Foundation

LIFE SKILLS

What Learners Need to Succeed in School, Work, and Life Stories of the 2021 Princess Maha Chakri Awardees

ISBN 978-616-93648-7-0

Editor: Juan Miguel Luz Lead Authors: Juan Miguel Luz and Udomluk Koolsriroj Layout: _____

@PMCA2023

Published by: Princess Maha Chakri Award Foundation Email: secretariat@pmca.or.th Website: www.pmca.or.th

Copyright: Princess Maha Chakri Award Foundation & Juan Miguel Luz

Photo Credits

- 1. Ministry of Education of ASEAN and Timor-Leste
- 2. All the 2019 Princess Maha Chakri Awardees
- 3. Dr. Chawin Chantharasenawong
- 4. Mr. Sunchai Nongtrud

Princess Maha Chakri Award

The Award for Outstanding Teachers who Change Students' Lives.

The Princess Maha Chakri Award is an international award given to teachers in Southeast Asia every second year. The teachers are from Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, Timor-Leste, Thailand, and Vietnam. These teachers are recognized for their work in the classroom and in their schools, helping students do well in life. The Princess Maha Chakri Award aims to promote excellent teaching practices and inspire teachers in Southeast Asia.

The Princess Maha Chakri Award was set up in 2015 at Her Royal Highness Princess Maha Chakri Sirindhorn's 60th Birthday Anniversary Celebration to recognize HRH's dedication as a teacher and her life-long contributions to education both at the national and international level.

Teachers who receive the award are nominated by their respective ministries of education. The main criteria is that they are teachers who change students' lives and whose work has contributed to education in their country. The more specific criteria of selection are based on the context of each Ministry of Education's desire to acknowledge the commitment and dedication of their outstanding teachers. Final approval of the Princess Maha Chakri Award recipients is made by the Princess Maha Chakri Award Committee, chaired by HRH Princess Maha Chakri Sirindhorn.

The Award is given every two years to one best teacher from each of the eleven countries in Southeast Asia (Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, Timor-Leste, Thailand, and Vietnam).

The award recipients will receive US\$10,000 in prize money, a gold medal, an honorary brooch, and a certificate of honor. The award is administered by the Princess Maha Chakri Award Foundation in cooperation with the Teachers' Council of Thailand, the Ministry of Education, and the Equitable Education Fund.

Starting in 2024, the PMCA Award will extend to three more countries, namely Bangladesh, Bhutan, and Mongolia.

FOREWORD

Teachers play an important role in students lives. This book is the story of eleven outstanding teachers from ASEAN and Timor-Leste who received the Princess Maha Chakri Award (PMCA) in 2021. The Award was established in 2015 on the occasion of Her Royal Highness Princess Maha Chakri's 60th Birthday Anniversary in recognition of HRH's work as an educator, a teacher, and a great contributor to children and educational development in Thailand and many countries in the world.

The Princess Maha Chakri Award is given to teachers for their commitment and dedication, which have changed students' lives for the better. They believe that education leads to quality of life. Thus, these eleven teachers do not just teach; they take care of the students beyond their role in the classroom. They look after the well-being of the students and nurture them to ensure that they develop the necessary life skills that lead them to a good future and success in life. This book looks into how these teachers use teaching techniques to help their students learn, how they support their students to apply the knowledge in their lives, and how to overcome the challenges. In the meantime, they reach out to the community and work with them to help the students acquire relevant skills and knowledge that can be used to help the community.

The Princess Maha Chakri Award Foundation acknowledges their hard work, commitment, and dedication. Thus, create opportunities for teachers to share experiences and learn from each other. This book is one of the channels for sharing knowledge among teachers. Through the process of sharing and collaborating, teachers can improve their skills and knowledge. It is the hope of the Foundation that the stories and journey of these teachers can be examples of best practices for teachers to help more students in Southeast Asia and beyond.

TABLE OF CONTENTS2021 PMCA Recipients

Introduction	i
Foreword	ii
Dr. Krissanapong Kirtikara	
Brunei Darussalam	1
Pg Haji Mohd Wahab bin Pg Haji Abdullah	
Teaching How to Cook with Heart	
By Onpawee Koonpornpen	
Cambodia	11
Norn Dary	
From a Dream of Being a Doctor to Becoming a Teacher	
By Chatree Faikhamta	
Indonesia	21
Khoiriah	
Socio-Scientific Issues-Based Learning	
By Juan Miguel Luz	
Lao PDR	33
Sengphet Khounpasert	
Physics Can Be Fun and Easy	
By Chawapan Pettkrai	
Malaysia	47
Norhailmi Abdul Mutalib	
Inquiry-Based Science Education	
By Juan Miguel Luz	

Myanmar	61
Kyaw Zin Aung	
Teaching in a Challenging Milieu	
By Juan Miguel Luz	
Philippines	79
Marcelo T. Otinguey	
Teacher, Counselor, Community Worker	
By Wandee Kasemsukpipat	
Singapore	91
Yok Joon Meng	
Action Research to Anchor Good Teaching	
By Juan Miguel Luz	
Thailand	101
Dr. Pratin Lianchamroon	
Developing Student-Entrepreneurs	
By Sitthikorn Sumalee	
Timor-Leste	115
Vicente Marcal da Silva	
School and Community	
By Juan Miguel Luz	
Vietnam	131
Ha Anh Phuong	
Creating the Borderless Classroom	
By Udomluk Koolsriroj	
About the Authors	178
Acknowledgements	180

BRUNEI DARUSSALAM PG HAJI MOHD WAHAB BIN PG HAJI ABDULLAH PMCA 2021

Story written by Onpawee Koonpornpen, Kasetsert University

Teaching How to Cook with Heart

"A good teacher creates lessons and activities that give students the opportunity to learn."



"My mother was my first teacher," says Mr. Pg Wahab. "She was a cook and my inspiration as a chef came from her." When he was a child, his mother would prepare a variety of dishes with her signature taste and flavor. His appreciation of his mother's cuisine sparked an interest in expanding his knowledge in the culinary field. Mr. Pg Wahab has over 20 years of experience in the kitchen and in the hospitality industry as both an educator and a chef. Before he became a teacher, he worked in hotels and airlines starting in 1989. "With the experiences, skills, and perspectives that I gained from these industries," he said, "why not share this with the younger generation. I started my teaching career after I was visited by a friend of mine who asked if I would be interested in teaching. So, in 1995, I decided to become a technical instructor teaching young students the art of cooking."

To prepare for this change in career, Mr. Pg Wahab earned a diploma in Hotel Management from the Japan Hotel School in 1993 and a certificate in Technical Education from the University of Brunei Darussalam (UBD) in 1999. In 2005, he graduated from the Birmingham College of Food and Tourism in the UK. Upon returning home, he taught at the School of Hospitality and Tourism of the Institute Brunei Technical Education (IBTE) Sultan Saiful Rijal campus, previously known as the Sultan Saiful Rijal Technical College (MTSSR) in the Department of Technical Education under the Ministry of Education Brunei Darussalam.

About the school

The Institute of Brunei Technical Education (IBTE) was established as a post-secondary institution providing technical and vocational education in Brunei. IBTE was established in 2014 from the merger of the Department of Technical Education and seven technical and vocational schools nationwide by the consent of His Majesty Paduka Seri Sultan and Yang Di-Pertuan Brunei Darussalam during the May 2014 Celebration. IBTE's role was to replace the responsibilities mandated to the Department of Technical Education, in terms of transforming the existing administrative structure, to a system that was based on the Board of Governance Constitution. The rationale for the establishment of IBTE was to restructure the technical education system to be more responsive and relevant to the needs of the country. IBTE was to continuously contribute to the government's agenda to make Brunei Darussalam a country that has educated and highly skilled people in addition to being economically dynamic and resilient. The national goal was to help create a high-quality standard of living in line with Vision Brunei 2035.

Since 2016, IBTE's seven schools have been reorganized into two clusters of schools: IBTE Central and IBTE Satellite schools. The schools have included the terms 'IBTE' and 'Campus' as part of their new names to better reflect their consolidation under a single umbrella institution.

The School of Hospitality and Tourism, where Mr. Pg Wahab is as an Assistant Senior Technical Instructor is in the Sultan Saiful Rijal Campus and offers the following programs:

- HNTec in Hospitality Operations (Higher National Technical Education Certificate)
- HNTec in Travel and Tourism
- NTec in Culinary Operations (National Technical Education Certificate)
- NTec Apprenticeship in Professional Cookery and Services

The students who participate in the program come from different backgrounds. Some of them have just finished their secondary education while others already have professional experience under their belts. The ages of participants range from 16 to 32 years old.



What is learning?

Mr. Pg Wahab looked around his kitchen-classroom wiping his hands on his apron. "Engaging and connecting all students to inspire a passion in their learning can be a challenge," he said. "I want to ignite a spark of interest and inquiry within the students, which leads them to be more inquisitive in their learning."

"Learning," Mr. Pg Wahab thought deeply, "is not being afraid to fail. Rather, it is about trying again and again. When new knowledge is acquired regardless of whether in theory or in practice, having trial and error to test run what works is best as well as having the self-confidence to explore opportunities." For him, learning is more than just knowing something. "When a question leads to a discussion of why, students have an "Aha!" moment – a sudden insight, or a lightbulb that goes off in their head. When that occurs, it is a satisfying experience," he explained. Hence, his teaching methods emphasize practical application by having students complete the necessary tasks with him ensuring that they are aware of their learning while he monitors them at the same time.

On the other hand, Mr. Pg Wahab also learns from his students. "For me, the student is also a teacher," he explained. "I learn a lot from my students – from their different backgrounds, from their different viewpoints, and from their different perspectives. Sometimes what they show me, I have never seen before. So, I ask them, how did you do that? And then we exchange notes. That is how we get the interest of the students and how to get them to understand the lessons."

To make sure that the students are learning, a combination of summative and formative assessment are used to measure their progress. Mr. Pg Wahab added, "I would rather use formative assessment because I am confident that each stage of learning is carried out using the right steps and techniques."

Ways to better student engagement

Student-centered learning

Student-centered learning transforms students from passive-information receivers into active contributors to their own learning process. As part of the program, students go through 10 weeks of being supervised and guided while running the training restaurant and production kitchen.

Mr. Wahab focuses on three main processes:

- Planning: Students are given the opportunity to plan, manage, and run the training restaurant and production kitchen during the final 2 weeks of their training. Teachers assist students in setting goals for themselves and provide self-directed activities through which students can develop both self-confidence and kitchen management skills.
- Monitoring: Students carry out their prepared plans and assess their performance on certain tasks. Teachers encourage students to determine how they learn most effectively and then employ strategies that are geared to each student's needs.
- **Reviewing:** Students reflect on their operations and performance to identify things that went well, what could be improved, skills that they must work on, creating a way forward, and identifying what they have experienced that could help them in the future. The teacher becomes a facilitator who reviews student-set criteria, timelines, lists of resources, and collaborations.

"Sometimes, we are likely to see students using technology in students-centered learning approach," said Mr. Pg Wahab. "Blended learning or personalized learning models, such as a flipped classroom, may be implemented in my student-centered learning classes as well." Here, students use video tutorials at home before the class (especially during the pandemic) to prepare for discussion in class. In this way, they begin each lesson with great degree information that is digested during the class hour.

Mr. Pg Wahab mentioned one situation during the pandemic that was instructive. "Unable to physically be in the same room with students was definitely a challenge," he said. "However, by recording the lessons for them, the students were more engaged in the activities that prepared them for practical lessons. Students were able to review the recordings at their own pace to further their understanding of skills and techniques."



Real-world setting

"I teach young people how to cook", Mr. Pg Wahab claimed. "I see this as a chance for them to learn a skill that could lead to a better life. Today, cooking has become a skill that is in demand."

"Instructors in the program are people who used to work in the industry. They bring real-world experience into the classroom," says Mr. Pg Wahab. "Additionally, the school collaborates closely with the industry to ensure that the curriculum meets industry requirements and standards."

Mr. Pg Wahab makes every effort to relate what his students are learning to the actual world. This helps them conceptualize what they learn. "Using real world learning experience and relatable examples helps in keeping the students engaged," said Mr. Pg Wahab.

He continued, "this is essential for students to visualize what they will face before they step into real world."

As a concrete example, he takes on his students as caterers for special events. His students also have a chance to join several competitions to improve their skills. One of his proudest achievements was when his students assisted in the launching of Universiti Brunei Darussalam's Halal restaurant in Danang, Vietnam in 2017 (which was closed due to the pandemic). "These are the outcomes of assigned tasks which demonstrate that students have developed an expertise and ability in hotel and restaurant management and hospitality industry," he said with pride.

The inclusive classroom

"Another way to keep students' engagement high is through an inclusive classroom," Mr. Pg Wahab explained. "An inclusive classroom is one that fosters a positive learning environment for all students, including those who have different levels of learning competence." Inclusion means valuing individuals of all backgrounds and cultures. Mr. Pg Wahab explained, "students have different levels of experience. Subsequently, designing beneficial lessons and classroom activities based on their contexts facilitates the learning of all students."

Mr. Pg Wahab continued, "although, I have trained a few of the students to compete in a cooking competition in Indonesia, Malaysia, Thailand, and Vietnam, I have also always included students who did not do well or were not as good in the academic subjects." Many of these students by him now work in restaurants and hotels as chefs, and even as general managers in the industry.

When he encounters some difficult students, he begins by asking what they already know. "Students have various attitudes and behaviors because of their varied backgrounds," Mr. Pg Wahab says. "If there is a disagreement, I will exchange information with them and learn from them."



The special innopreneur project "Beeskut"

The term Innopreneur comes from the concepts of innovation and entrepreneurship. Mr. Pg Wahab teaches and involves students in entrepreneurial action in order to generate new knowledge, develop useful products and services from this new knowledge, and bring them to the market. One of this teaching method is to focus on hands-on experiences by doing practical tasks together.

His goals for the Innopreneur project are:

- To provide students with knowledge and skills in entrepreneurship.
- To create a new commercial product or service.
- To be an entrepreneur both an online and an offline platform.

An example of a culinary and hospitality business run by Mr. Pg Wahab and his students is one called "Beeskut". "Beeskut" or "Beescuit" is a cookie product that is made from stingless bee honey from local farmers. In the process, Mr. Pg Wahab helps students develop an entrepreneurial mindset. "The world is changing and growing so

rapidly that an entrepreneur's ability to think creatively is essential for staying ahead of the competition," he continued. "Being an entrepreneur in the 21st century is challenging and thrilling for students. This means students in this 21st century must constantly think, plan, and upgrade their skills to be relevant and employable."



Key 21st century skills critical for setting up a business:

Critical thinking

- Analyzing the product
- Improving the product design or process design
- Constant testing and refinement
- Consulting with people, experts from the industry to get their opinions

Social skills

- Create rapport with customers and potential partners
- Key to helping expand marketing

Digital literacy

- Using social media for the business
- Analyzing feedback to see if they are reaching the market. Understanding the market niche.
- Using IT for the business
- Digital marketing
- Collaboration
 - Listening to each other
 - Optimizing each other's skills and strength to complete common goals.

Reference: https://sg.indeed.com/career-advice/career-development/21st-century-skills

Challenges

"In Brunei, cooking and hospitality are not a career choice for most, and the country has limited teaching and resources for it. But the country has good hotels, and many are five-star," Mr. Pg Wahab said.

"I consider the primary challenge to be parents' reluctance about sending their children to culinary school," he stated. To address this, Mr. Pg Wahab has worked to reshape the the community's perception of culinary school, which is often viewed as a lower-class educational option. To address this, he holds teacher-parent encounters to persuade parents to keep their children in school and encourages parents to allow their children to pursue a career based on their interests and abilities after graduation.

Mr. Pg Wahab contributes to his community by supporting those with limited opportunities by helping the vulnerable who want to get jobs in the hotel and hospitality industry. He is involved in teaching a cooking course in IBTE's Continuing Education and Training Program to assist job seekers improve their cooking skills and hence, their chances for employment in the industry. This has helped the community gain a better understanding of the culinary and hospitality industry.



"My goal is to change the community mindset through all the activities I have done for students over years," Mr. Pg Haji Mohd Wahab Bin Pg Haji Abdullah says with pride. "The art of cooking is to cook with your heart."

Spurring Growth for Hospitality, Food Industry *Borneo Bulletin* January 28, 2021 By Lyna Mohamad

The tourism and hospitality industry contributes to the economic growth of any country including Brunei Darussalam.

This was stated by Institute of Brunei Technical Education (IBTE) Acting Director Dr Haji Mohd Zamri bin Haji Sabli during the signing of a memorandum of understanding (MoU) for the NTec Apprenticeship in Professional Cookery and Services for the July 2020 session at Banquet Hall of The Garden's Veranda in Rimba Garden Central yesterday.

The MoU was signed between the hospitality and food services industry and IBTE. He added that the services and food industry through the hospitality industry has the potential to be expanded further.

In the programme, apprentices will undergo a six-month learning session at IBTE School of Hospitality and Tourism during their first and second year, followed by a six-month job placement at participating companies under the scheme.

Dr Haji Mohd Zamri said they will gain skills, increase confidence, and develop their decision-making skills.

Seventeen companies signed the MoU yesterday. They are – Adika Restaurant, The Brunei Hotel, Coco Café, Country Patch Café, Entrek (B) Sdn Bhd, Le Apple Bakery and Mart, Makan Ceria Sdn Bhd, Olies Café, PAR Group of Companies, Radisson Hotel, The Rizqun International Hotel, Royal Brunei Culinary Sdn Bhd, Serikandi Café and Restaurant, Sun City Bistro Sdn Bhd (Millennium Restaurant), The Empire Brunei, The Garden's Veranda and Wafa Hotel and Apartment. Since its first signing on September 16, 1996, the programme has produced some 800 apprentices. It was initially known as RBC-MTSSR Joint Apprenticeship Programme.

Deputy Labour Commissioner Haji Shariful Bahri bin Haji Sawas witnessed the signings. IBTE's signatories were Dr Haji Mohd Zamri and IBTE Central Campus Principal Armi Durani bin Haji Durhman.

Reference:

Ministry of Education, Brunei Darussalam https://www.moe.gov.bn/SitePages/Post%20Secondary%20Education.aspx

CAMBODIA NORN DARY PMCA 2021

Story written by Chatree Faikhamta, Kasetsart University

From a Dream of Being a Doctor to Becoming a Teacher

"The main goal of a teacher is not just teaching students but nurturing them, so they have a good future and a good quality of life."



Norn Dary is a primary school teacher at Quach Mengly Toulbeng Primary School in Kampong Cham Province in Cambodia. He graduated from the Provincial Teachers Training College of his home province before taking his Bachelor's Degree in Biology at the nearby university. Being a teacher was not his dream when he was a young child. However, Mr. Norn dreamed of becoming a medical doctor. Unfortunately, pursuing a degree in medicine cost too much and took too long. "Studying to be a medical doctor was my dream career," he said quietly, "but due to financial limitations, my family could not support me to pursue that line of education."

With the support of his family, however, Mr. Norn went on to higher education. His father and mother looked for a solution to fund his studies and encouraged him to pursue a degree in the field of education. They believed that, being a teacher, he could be a driving force for the development of society and the country.

For Mr. Norn, being a teacher was not just about being technically trained; there is a spiritual element to being a teacher. From his pre-service and in-service training to his half dozen years as a primary school teacher in rural Cambodia, his perspective of his profession has changed compared to his mindset back when he first followed his parents' advice and pursued education. "Working in a rural area setting gave me a sense I was helping and providing opportunities for children," he said, "as well as sharing with them what I knew and studied to help them with their future lives and careers."

Mr. Norn continued to speak as he walked around his classroom, "I remain determined to continually improve my teaching. I see that by trying out new techniques and enhancing my professional abilities, I can best support students to feel happy and valued in school and in life. I am so proud to be a teacher."



Students' quality of life, the key goal of teachers.

"The main goal of a teacher," says Mr. Norn with emphasis, "is not just teaching students but also nurturing them so they have a good future and a good quality of life." As he paced back and forth in his classroom, he continued, "I strongly believe that a teacher can change children's lives and bring them opportunities. So, I have worked with many underprivileged children in Cambodia who previously lacked quality education."

As a primary school teacher who can be a change agent for young children, Mr. Norn organized his teaching around a number of pedagogical elements, motivating students using real-life situations so they can connect their learning to community life. "Doing this will help them achieve their goals and be recognized among the education community in the country," he said.

Shaping students based on their own learning styles is an important approach to Mr. Norn's teaching. "I analyze each student and their answers, behaviors and



skills, and then adjust my teaching to fit their learning styles," he offered. "Developing students' 21st-century skills such as analytical thinking, critical thinking, problem-solving, and citizenship will help them to be capable of competing globally."

"A teacher is a change agent," Mr. Norn believes. "He or she can transform society in all dimensions by nurturing their students and imparting their knowledge on them. This enables students to grow into individuals who will flourish in society."

Real-world situations drive student learning.

21st Century skills are key goals of student learning in recent years. These skills include fundamental new age skills:

- Critical thinking
- Problem-solving

- Communication
- Collaboration
- Creativity

They also include other skills needed to function in a modern age: life skills, media literacy, technology skills, and social skills.

Mr. Norn believes that teaching is not only for understanding but also preparing students to have these life skills for the future. In his perspective, analytical thinking, critical thinking, and problem solving are very important for students' future careers and daily lives. Therefore, Mr. Norn has searched for new teaching methods such as Project-based Learning (PBL) to develop students' skills. He noted, "I do not stop developing my teaching techniques and skills. As I would like my students to develop 21st century skills and have better lives, I use various constructivist teaching approaches that are based on real-world situations."

Constructivism in Education

Constructivism is the theory that says learners can construct knowledge rather than just passively take in information. As people experience the world and reflect upon those experiences, they build their own representations and incorporate new information into their pre-existing knowledge or schemas.

https://www.buffalo.edu

Project-Based Learning (PBL)

Project-based Learning is an instructional approach designed to give students the opportunity to develop knowledge and skills through engaging projects set around challenges and problems they face in the real world.

Typically, PBL takes students through a number of phases or steps:

- Identifying a problem.
- Agreeing on or devising a solution or potential solution path to solving the problem; and,
- Designing and developing a prototype of the solution.

https://www.powerschool.com https://www.bu.edu



Mr. Norn's designed activities include:

• Use of **Project-based learning** (PBL) to provide students opportunities to investigate and solve problems in real-world settings and the community.

• Use of **educational technology** such as learning tools from websites, online games etc., to help students with a comprehensive understanding of the subject matter.

• Individualized instruction by not using only one teaching method but also applying teaching methods based on students' individual learning needs.

• New teaching methods from research: Doing classroom research for seeking new teaching methods and teaching materials such as PBL and online games.

"I find that students learn better when academic knowledge in the classroom is integrated with the development of social skills," said Mr. Norn. "So, I believe my students can develop their personal and social skills and have good interactions with people in a diverse, global society, not just in Cambodia but, more generally, around the world."

School and community partnerships

"Teaching and being a teacher is not easy," says Mr. Norn. "There are a variety of challenges and difficulties." He is aware of these issues and has faced these challenges before. Since his school, Quach Mengly Toulbeng Primary School is a small school and there are a small number of students enrolled, the financial support is less than that of other larger schools. Mr. Norn deals with this challenge by creating school and



community partnerships to help generate resources to improve his school's quality of education.

"Creating partnerships with the community is important for improving the quality of education," he stressed. "I have seen the growth and progress of my own school which used to be very small, had few students, and lacked funding and resources. Now, it has become a high-quality school that has gained greater recognition and acceptance, thanks largely to the support from the community and external organizations."

Reflecting on his learnings about school and community, Mr. Norn listed a number of principles to guide himself and others, regarding partnerships.

• Partnership can develop the school.

• Partnership can reflect the strength of collaboration among schoolteachers and between school and community.

• Partnership motivates teachers to collaborate, work together, and prove themselves to the community.

• Partnership encourages society to take an interest in the school's activities and support teachers' efforts.

According to this perspective, Mr. Norn noted, "I dedicated myself to my work both during and outside of official working hours, which resulted in my recognition and eventually an opportunity to work as a lecturer for the Ministry of Education. Then I can share my knowledge of teaching techniques with other teachers, including those in training, as well as my experience in building community.

Based on his reflection, Mr. Norn Dery views himself not only as a teacher but also as a contributor to the community and the country. "Teachers are change agents who can transform society in all dimensions by nurturing their students and imparting their knowledge on them, thus enabling those students to grow into individuals who will flourish in society."



How Cambodians Came Together to Protect Education in 2020

As a challenging school year ends, we celebrate the Cambodians who worked heroically to protect children's education no matter the obstacles. Seng Daravatey and Jaime Gill/UNICEF

Kampot, Cambodia. "It's been a difficult year for students and everyone working in education," Tak Hab told us back in September as schools re-opened for the first time since COVID-19 reached Cambodia. He would certainly know, as Director of Education for Kampot Province, responsible for 700 schools. "The most difficult thing was speaking to students who really cared about their education and were due to take their exams. Some were upset and would ask me, 'will I even be able to finish school?' I reassured them that, yes, we in the Government were completely committed to their education. But it was a hard time."

The rest of the school year proved equally challenging, with virus outbreaks necessitating two further temporary closures. Nonetheless, grade 9 exams have now been successfully administrated and the school year officially completed at the end of November, with only grade 12 exams remaining to be taken at the start of 2021. This achievement was only possible because of the heroic efforts by teachers, community leaders and parents to keep education alive for Cambodia's 3.2 million students during the school closures. They helped children use distance learning materials produced by the Royal Government of Cambodia, UNICEF, and other education sector partners, and encouraged students to stay engaged with their education.

"Maintaining inclusive and high-quality education services to Cambodia's children in 2020 has been a truly united and quite extraordinary effort," said Katheryn Bennett, UNICEF Cambodia's Chief of Education. "Individual Cambodians, local and national government authorities, international agencies, grassroots organisations, and schools have all collaborated and made every effort to ensure all children could learn, even during times when schools were closed." A great example has been the lengths teachers went to ensure that children in remote areas without Internet access did not lose out on education, by taking paper-based assignments to their door, no matter what obstacles lay in their way. Cherm Bunny, a teacher at Krang Snay Primary School in Kampot, is a prime example. "The biggest problem was getting to the houses of distant students," she remembered. "The roads could be very difficult, and, worst of all, there were sometimes dogs. I am very frightened of dogs, so then I would have to run to their door. Still, I would always do it because I was even more afraid my students would fall behind in their studies and maybe drop out. I was so sad because two of my students did drop out, one went to work on a farm to help with his family's bad financial situation, and another moved away to Koh Kong."

Community leaders and parents were essential participants in this battle to keep education alive. Oum Sophal is both, as one of the parents at Krang Snay, as well as the village chief. "Even when the schools were closed, I managed to make sure my children continued to study every day," he explained, giving credit to the Government and UNICEF for the learning programmes broadcast on TV during the school closures. "But I was very glad when the schools re-opened at last. I can see for myself that children just do not concentrate so well on lessons when they are at home. I really want all the children in this community to learn, because we only get one chance to study. That is what gives us choices for the rest of our lives."

Most children also agree that in-school learning is better. Cheuon Chanmot, a grade 5 student at Krang Snay, said, "I am so happy to be back in a classroom to study. When I was studying at home, I missed my teacher's jokes and the chance to discuss things during the lesson." Chanmot's father is a construction worker, and neither he nor Chanmot's mother finished high school, which is one of the reasons they encouraged her to study no matter what disruptions she had to deal with. Çhanmot told us, "In school, we get teachers to guide us, and can work towards a better job and a better future. If you do not have a good education, you will not have a good future."

Tak Hab agrees. "Education is the only path to a better life," he says. "I have three daughters, and I have made sure they all study hard and go to university. That is what will give them the independence I want them to have as women. I do not want them to depend on anyone else."

Mr. Hab does, however, recognize that some children come from families who are struggling financially and find it more difficult to prioritise education for their children. "I have seen it myself this year. Many kids have disappeared from the school system and are now working. Right now, their families think they need money more than an education and I do understand, but it makes me sad. That is why I tell all the teachers to try and engage with students who might want to drop out, to go to their homes and try to persuade them to return to school. I want to say to those families, 'We understand your situation. We care. But schools are here to help you. Invest in your children's education now, so that they can look after themselves and you in the future.'"

Mr. Hab reminds us that the battle to champion education will not end in 2020 but will continue into next year, particularly for children who have dropped out during this turbulent time. Such children are fortunate to have passionate advocates like Mr. Hab, Mrs. Cherm and Mr. Oum ready to continue the fight on their behalf.

* Donors included the Government of Japan, the Government of Denmark, and the Capacity Development Partnership Fund, which included the United States Agency for International Development (USAID), Global Partnership for Education (GPE), the Swedish International Development Cooperation Agency (SIDA) and the European Union (EU)

https://www.unicef.org/cambodia/stories/how-cambodians-came-together-pro-tect-education-2020

INDONESIA KHOIRIAH PMCA 2021

Story written by Juan Miguel Luz

Socio-Scientific Issues-Based Learning

"Learning is a process of changing students' thoughts, feelings, and behaviors to improve the quality of knowledge as a result of interacting with the learning environment.



The mountainous rainforest that is Bukit Barisan Selatan National Park on the southern tip of the island of Sumatra is situated along the Bukit Barisan Mountain range covering some 3,563 square kilometers across the provinces of Lampung, Bengkulu, and South Sumatra. Together with the Gunung Leuser and Kerinci Seplat national parks, it forms a World Heritage Site – the Tropical Rainforest Heritage of Sumatra.

The national park is a long narrow strip of mountainous rainforest, 45 kilometers wide and 350 kilometers long. The park covers a range of natural habitats – a montane forest, a lowland tropical forest, a coastal forest, and a mangrove forest. The park is home to a number of endangered species.

The Sumatran Elephant is native to the park. Only 500 remain there today, about 25% of the total remaining population.

The Sumatran Striped Rabbit is a little known and studied herbivore with only a few recorded in the park.

The Sumatran Rhinoceros lives in the park though only an estimated 17 to 24 have been recorded. There is a total population of fewer than 100 of these species in the three national parks in Sumatra.

The Sumatran Tiger, of which there are 40 adult tigers (10% of the remaining tigers) roam the park.

Other less endangered mammals include the Malayan Tapir, the Siamang (an arboreal, black-furred gibbon), the Sumatran Surili (a primate), the Sun Bear, and the Lesser Mousedeer.

The park is visited or inhabited by over 300 species of bird life or avifauna. The most critically endangered is the Sumatran Ground-cuckoo.

This is the working environment of Teacher Khoiriah, a junior high school STEM teacher in Lampung. She has used the national park as a teaching resource for her class in natural history.

The path to becoming a teacher

Dedicated to helping students with low motivation in learning, Teacher Khoiriah focuses on students with low literacy skills. "I use poetry writing and short essay writing as well as other fun activities to build students' interest in learning," she says.

Teacher Khoiriah began her teaching career in 1995. Her first college degree was a bachelor's degree in Mathematics Education and Biology. This she followed with a master's degree in Teaching Science and Education from Universitus Lampung and is currently pursuing a doctorate in Education at the same university.

"My motivation to choose the teaching profession," said Teacher Khoiriah, "stemmed from my interest in sharing knowledge, particularly in science." No one in her family came from a teaching background though. Her father worked as an administrative staff at a local office.

"My dream from a young age was to become a doctor," she continued, "but as I am the seventh of nine children in a big family, we lacked the financial resources to pursue further education in that field." Her father had other ideas believing that women may work as teachers but not as doctors. "Teaching, my father believed, was a sufficient occupation for a woman to manage." It was for this reason that she took the entrance exam and pursued studies in the field of education.

A role model for a good teacher

While there are who helped her become a teacher, a key person who influenced her perspectives on teaching was Dr. Trijalmo, a professor of Education and her advisor in her studies. "He was calm and composed," Teacher Khoiriah said, "and I was continually impressed by his teaching. He was a model of how a good teacher should behave."

Dr. Trijalmo was a source of inspiration in many ways. "He could explain complicated concepts in ways that made them simple and understandable," Teacher Khoiriah said. "Dr. Trijalmo dedicated a great deal of his time to giving advice to students with the goal of helping them grow and deliver high-quality teaching. He was equally skilled at teaching science subjects where he would first lay out the principles that were to be taught and learned. He would then relate these to students' life experiences to make a point. In all cases, he often patiently waited for students to answer or input allowing them time to create their own understanding of the subject matter."

"I gained a lot of life experiences as a teacher from Dr. Trijalmo," she continued said with a smile. "Teaching has inspired me to be the best person I can be. I am able to devote my abilities and knowledge to teaching, and I encourage my students to grow into good people who contribute to society." In addition, Teacher Khoiriah has been able to prove herself in the field of science education and break down gender barriers in the process.



Challenges in teaching

SMP Negeri 32 in Bandar Lampung is the public school that Teacher Khoiriah is currently assigned to. "The students in my school come from the local community as well as from outside the immediate vicinity of the school," she says. "The parents have diverse backgrounds. The majority of them work as laborers, traders, and farmers, while a small number are government employees."

The problem that Teacher Khoiriah faces is a problem of low motivation to learn related to the wider context of her school. SMP Negeri 32 is located in an area that has a high poverty level, low socio-economic standing, poor economic background, and low standards of living. "This leaves students feeling insecure and lacking confidence in themselves and their abilities to attain a stable career in the future," she says frankly.

The main challenge she faces is teaching students to know and appreciate their value. She tries to uncover her students' potential through different ways. "Often," she observes, "I find they are strong at reading and writing. So, I promote and support students to have their own books. Everyone can write stories and pen their own works freely, which boosts their motivation to learn and builds their self-esteem. I believe that even in students' small achievements, this builds their confidence, transforms potential to actual achievement, and helps them accept themselves as members of society."

The challenges faced by Teacher Khoiriah's students include cultivating good habits in learning, in interacting with peers and others, in active listening, observation, expressing opinions, respecting others, and more.



Perspectives on student learning

"Learning based solely on knowledge or memory may not be enough in today's world," Teacher Khoiriah believes. "Because of this, I have changed my teaching style and student assessment to focus more on essential skills, accompanied by a general evaluation of knowledge." Lessons have been redesigned to be learning activities with questions that encourage students to practice analytical thinking, create scenarios, and generate conclusions independently.

In addition, she also places importance on the development of students' attitudes by providing opportunities for group work centered on communication. "These support students' problem-solving skills," she explained, "which are crucial to their development to become well-rounded individuals."

As Teacher Khoiriah shuffled students' written assignments on her desk, she continued, "Learning is a process of changing students' thoughts, feelings, and behaviors to improve the quality of knowledge as a result of interacting with the learning environment." To assess whether students have truly learned, competency tests on the learned concepts can be conducted. Additionally, observing students' behavior in applying their knowledge can also provide insights.

"The best way to measure learning is through continuous assessment throughout the learning process," she concluded. "This allows both students and teachers to directly identify strengths and weaknesses in learning, enabling them to improve subsequent learning experiences."

Innovations in the classroom

One teaching innovation Teacher Khoiriah brought into the classroom is the ARISE learning model based on socio-scientific issues.

Socio-scientific issues are societal challenges which are both scientific and social in nature. An example of these would be climate change and water pollution. Both topics involve a wide range of topics that cannot be studied in isolation. They must be studied as an interrelated set of topics that are not only scientifically significant but also have social consequences. These are complex issues that require an interdisciplinary approach to analyzing the problems and seeking solutions. Students cannot approach these issues through the narrow subject-specific approach that was the traditional approach. Today, Teacher Khoiriah teaches students to follow the 5E Instructional Model (NASA):

- Engage Ask the right or good questions.
- Explore Investigate, study, test.
- Explain Seek meaning, share information.
- Extend (or Elaborate) Dig deeper to find root causes or foundations.
- Evaluate Determine the significance, worth, or value of the topic studied.

Within socio-scientific issues, specific phenomena that are embedded in the issue can be used to drive lessons learned. Teacher Khoiriah identifies a phenomenon to be studied or discussed. Students then use specific science ideas and related systems to study and explain what they are observing or uncovering.




A classic case used as a topic of study in the United States involved the failing water system in the city of Flint, Michigan. High levels of lead found in the water in that city led to an outbreak of dangerous bacteria affecting health. Students studying this phenomenon could work to make the connection from phenomenon to biology to health and wellbeing, looking at it in an interdisciplinary scientific manner. The ideas generated could then be applied to finding solutions to fix the problem(s) at its roots. This could be redesigning the relevant system for providing drinking water. Breaking this further into essential components, students could apply design thinking, structural planning, chemical treatment of water, natural resource management of water sources and water run-off including sewerage, ecosystem dynamics, and even resilience and risk planning. The provision of water and sanitation being a public good (even if privately provided), requires that there be the necessary oversight by government. Therefore, students must also be aware of and study government systems and how they function and where they break down. This example demonstrates how the process of making sense of the phenomenon is embedded in a socio-scientific issue that drives both scientific learning as well as social science learning (Ewing & Sadler, 2020).

Model-based learning, the second of Teacher Khoiriah's teaching innovation, is the formation and subsequent development of mental models by a learner. Mental models are attempts to organize information, especially that of dynamic systems (i.e., systems that are constantly changing, uncertain, ambiguous, and complex) and how the components of these systems interact to produce the dynamic phenomena observed.

Mental models often require the integration of multiple aspects and/or multiple levels of a system or situation. This integrates prior knowledge and new information learned into a new mental model of the situation. This new model is evaluated for its utility in performing the task at hand. If the mental model is deemed useful, it is reinforced and documented for repeated use. If the mental model is deemed inadequate, it may be rejected and another model formed, or it may be revised and then used to try again. Revisions may involve making changes to an element of the model or it may take the form of elaboration – adding elements to the model to better accomplish the task. Ideally, model-based learning results in rich, multilevel, interconnected mental models that are extensible (can be extended or stretched) and is useful for understanding the world (Buckley, 2012). Modeling gives students opportunities to construct their own models and use them through the learning process to formulate hypothesis, make investigations, explain scientific phenomena, and communicate and justify their ideas. Using such pedagogy helps develop scientific literacy in science education.

Teacher Khoiriah doubled back to explain how she applied all these in her science classes especially during the period of pandemic and limited lockdowns. "Learning is conducted online using various applications according to the technological equipment capabilities of the students," she said. Implementing activity-based learning was used with available learning materials and equipment at home. Activity-based science textbooks and a remote learning series for science subjects were made available. Both types of books could be downloaded by students and teachers using an internet connection. The activity-based science textbooks and remote learning series for science subjects have components that facilitate independent student learning.



Disseminating innovation and inspiring other teachers

Teacher Khoiriah not only teaches at school but also takes responsibility for curriculum development concerning student literacy. As a result, her innovations in promoting students to write stories are spread and shared with other teachers. "There is great potential in this," she explained. "The impact on students exceeded my expectations with the initiative clearly increasing their motivation to learn." Aside from that, Teacher Khoiriah is also determined to develop as a professional and seek new knowledge to constantly challenge herself. As a result of all she learns, she produces research papers and academic articles, mostly related to Classroom Action Research. "I am proud to share what I know and my skills with other teachers," she says with a smile. She finds this aspect of her career greatly rewarding.

Besides providing learning guidance to students, Teacher Khoiriah has engaged in personal and peer development by actively participating in various activities organized by the Ministry of Education at both the provincial and national levels. Collaboration takes place through subject-specific teacher forums at the school level, as well as with the community. These activities include developing teaching materials for distance learning during the COVID-19 pandemic, creating a learning series of books for teachers, webinars for elementary education teachers and staff, exploring the role of teachers in the new normal era, workshops on innovative teaching methods for high-achieving teachers, writing scientific papers for accomplished teachers, competence and performance enhancement training programs for teachers' scientific papers, continuing professional development programs for teachers, and more.

Teacher Khoiriah's books have been published by the Directorate of Teachers and Education Personnel of Basic Education, and the Directorate General of Teachers and Education Personnel, Ministry of Education and Culture.



References

Buckley, Barbara C. (2012). "Model-Based Learning". In: Seel, N.M. (eds) Encyclopedia of the Sciences of Learning. Springer, Boston, MA. https://doi.org/10.1007/978-1-4419-1428-6_589

Ewing, Molly & Troy D. Sadler (2020). "Socio-scientific Issue Instruction: An Interdisciplinary approach to increase relevance and systems thinking". National Science Teaching Association. *The Science Teacher*, November/December 2020.

https://www.nsta.org/science-teacher/science-teacher-novembersecember-2020/ socio-scientific-issues-instruction https://www.nasa.gov

References on the Sumatran rainforest

"Tropical Rainforest Heritage of Sumatra." UNESCO, November 2007. "Bukit Barisan Selatan National Park." Ministry of Forestry, Indonesia. "Projects: Bukit Barisan Selatan." WWF, 2018.

Blended and Project-Based Approaches to Deepen Teaching and Learning for the Planet in Indonesia.

UNESCO

9 September 2022

The Covid-19 pandemic presented educators and students worldwide with unforeseen challenges: Teachers needed to ensure continued delivery of quality education despite different student needs, including socio-emotional well-being, and varying access to the internet and digital devices. For students, it was important to keep connected to their teachers and classmates and that lessons remained engaging even if held online. At the Public Senior High School 19 in Tangerang in Indonesia biology teacher Upi Fitriani took up these challenges and created a new way of bringing her students together and her subject matter across.

"I will call it the Eco-Friendly Project" decided Teacher Upi Fitriani when she programmed a website for students to learn and take action on climate change, water, energy, and food security. She built the website content on Indonesia's core curriculum and UNESCO resources, allowing students to access different topical information, complete tasks and document their actions. For example, to apply their newly gained knowledge in the area of water security, students are asked to clean up a river, inform their community about conserving water, or to start a social media campaign on using water sustainably. The project has allowed students to learn about different aspects of climate change and motivated them to take action. Student Bias Danang Ahmadi: "I realized through this project that climate change is real, and humans have a critical role in minimizing the impact of climate change itself."

Teacher Fitriani complements students autonomous work on the website with regular online meetings in small groups to exchange knowledge, experiences and give each other feedback, especially related to their community-based action projects. "Students can choose a specific issue or problem to tackle in their local community," teacher Fitriani explains and student Danang underlines "I usually

learned biology concepts in the classroom, but through the Eco-Friendly Project I was able to explore the environment around me, and it was fun." Furthermore, through the project-based approach, students see the application of the information directly and experience self-actualization. This action-centered approach also led to the students taking their learning experience further as student Ahmadi describes: "The project encourages me to reduce plastic consumption and apply the 'reuse and recycle' concept in daily life. I am also more confident to encourage my parents, my brother, my sister, and my friends to take part in this action."

The project has also allowed students to explore and work with online tools. This is an important skill as teacher Fitriani emphasizes: "The digital world is a part of our world, especially for students nowadays." She encourages her students to be creative and to develop "21st century skills, including critical thinking and problem solving, creativity and innovation, communication, and collaboration." She explains how she turned one of the difficulties created by the Covid-19 pandemic into a learning opportunity: "In the normal conditions, I directly guide the students, I help them with the activity, but in online learning I try to focus on the group activities. The basic foundation of the project is collaboration." Despite the different challenges she encounters, teacher Fitriani is motivated by the students' reactions to continue her project: "It is a blessing when you see the smiles from the students and they say: 'Wow this is good, this is a new way to learn!' This is something that supports me." Mrs. Fitriani is currently planning to develop the project further and to apply it to other subjects.

Reference:

https://www.unesco.org/en/articles/blended-and-project-based-approachesdeepen-teachers-and-learning-planet-indonesia

LAO PDR SENGPHET KHOUNPASERT PMCA 2019

Story written by Chawapan Pettkrai, Kasetsert Univeristy

Physics Can Be Fun and Easy

"I want to help students apply scientific knowledge to advance the economic development of the country."



She is calm and soft-spoken. She is friendly, offering tea to her visitor as we sat in her classroom. Mrs. Sengphet Khounpasert has devoted her life to educating students so that they could live better lives.

Mrs. Sengphet opened the conversation by sharing the story of her early life. "I was born into a middle-class family that was descended from the Lao Theung," she explained. The Lao Theung are one of the traditional divisions of ethnic groups living in Laos known as the 'midland Lao'. "My parents were traders who sold meat in the fresh market. I have four siblings." Mrs. Sengphet's family economic status was one of the limitations she had to live with. "My family's income was limited. If I would like to study more, my extra class was more like listening to some friends reviewing the lesson rather than actual learning from books or in study tutorials." She was interested in science even at an early age even if the subject was beyond her understanding. "I was never discourage," she said. "My dream was to be a teacher. And my mother understood and supported that dream."

Mrs. Sengphet continued, "Every problem in the world has a solution. If I cannot find a solution, I will quickly seek clarification from friends or teachers. Moreover, whenever I sense the need to gain additional knowledge, I look for opportunities to do so." This was when she discovered and fell in love with science. "I fell in love with science when I was young because Science is the only subject that enables one to comprehend nature and the world around us. Science also allowed me to experiment systematically, make inquiries, and seek answers through study and research."



Walking along the educational path was straightforward for Mrs. Sengphet. She was given the opportunity and encouragement to pursue her dream and she took it on. "I had the opportunity to take the smart student scholarship in my elementary school and discovered that I liked math," she said proudly. "Math was my favorite subject until high school when I was first exposed to Physics. I was good at memorizing the various formulas and did well in Physics examinations." she said. Soon after, she became a representative for the metropolitan area in physics competitions and was encouraged to pursue physics studies at the university level.

Education and self-development

"I graduated with a Bachelor's degree in Physics Education from the National University of Laos," Sengphet explained. "I then began working as a physics teacher for several years before realizing that I lacked the knowledge necessary to develop my students. At that time, I had an interest in learning about new educational technologies and using them to learn physics more effectively. This made me interested in pursuing my studies at the master's level in Technology and Educational Communication in the Faculty of Education at Kasetsart University in Thailand. It made me see a new perspective in education and made me realize that age is not a limitation to start learning new things."

That was not the end of her learning journey, however. Mrs. Sengphet continued to keep up with new developments in physics and in teaching, and learning all the time. "I participated in many academic trainings both locally and abroad. I took courses in Education and in scientific training organized by SEAMEO QITEP in Indonesia. I felt it was an opportunity to develop myself to have up-to-date knowledge which I could bring into the classroom and share with my students."

Every beautiful handicraft originates from a mold or pattern, Mrs. Sengphet likes to say as an analogy. She had a role model who inspired her. "Mr. Bounkhong Lachiamphone was my role model in teaching physics," she said. "Mr. Bounkhong, a provincial leader in Oudomxay province in northwest Laos, was a dedicated Physics teacher who gave his students his undivided attention. Before beginning any lesson, he would observe his students individually so that he could design his teaching to reflect their personalities. Mr. Bounkhong would say "Let's look at physics as fun and easy." That became my saying, too. I used that concept to teach physics and I wanted to give my students the same opportunities I got from him." She said this with a touch of gratitude.



A teacher's working life

Mrs. Sengphet's journey to become a teacher was not all easy. She was first hired to teach at Udomxay School, the same school where she attended secondary school. "I worked hard until I finally got the opportunity to be the head of the physics department where I am responsible for teaching and developing a physics curriculum for high school students," she said with a smile.

But there were other obstacles Mrs. Sengphet had to overcome to prove her abilities as a successful teacher. "Lao society does not accept female teachers," she explained. "I, therefore, had to endure many obstacles. To cope, I had to adhere to the guidelines of teachers who taught me not to give up on problems and overcome the criticisms and even insults that came with the work. To this day, I am very proud of myself. I have worked in this profession for sixteen years and will continue to strive to do more and do better."

The school community

Oudomxay School is a large secondary school. It is a district municipal school located in an urban area where there are other schools including several private schools in the neighborhood and a provincial school on the other side of the river. There are 80 full-time teachers in Mrs. Sengphet's school and approximately 1,600 students, with more male students than female students. There are 45-50 students per classroom. Student's financial backgrounds range from high-income to middle-class. Most parents are civil servants, business owners, and farmers.

"My school belongs to the public school district in a densely populated area," said Mrs. Sengphet. "Most of the students live in communities near the school and belong to various ethnic groups such as the Lao Loum, Lao Sung, and Lao Theung."

Most of the Lao Loum live in the nation lowlands and belong to the Lao ethnic group. Typically, the Lao Loum people live along the Mekong River. Many of the ethnic groups that make up Lao Loum are thought to be descended from the Tai people (not to be confused with Thais from contemporary Thailand).

The Lao Sung, which include more than 30 tribes in Laos hilly areas, are the nation's smallest ethnic group. The Hmong (also known as Meo or Miao occasionally) and the Yao (also called Lu Mien, Man, or Mien occasionally) are the two main ethnic groups which descended from ethnic tribes that were formerly present in Southern China.

The second largest ethnic group in Laos is the Lao Theung, who live in the highlands of the country. This ethnic category includes people of Austroasiatic ancestry who speak the Mon-Khmer language family. The Khmu are the largest ethnic group among the Lao Theung and live mainly in northern Laos. There are over 20 other ethnic groups besides the Khmu, including the Makong and Katang.

Before the Indochina wars¹, there were over 60 population groups. After the wars, the number had been significantly reduced through displacement or extinction. The area was home to a population with some communities as small as a few thousand members.

¹ A series of wars waged in Southeast Asia from 1946 to 1991. The term 'Indochina' included the states of Vietnam, Laos, and Cambodia in a geographic region is the southeastern part of the Greater Mekong River Basin.

Late in the 20th century, the numerous peoples of Laos were officially classified into three groups based on language and location: the Lao Loum ("Lowland Lao"), the Lao Theung ("Lao of the Mountain Slopes"), and the Lao Soung ("Lao of the Mountain Tops"). These classifications simplified public administration. Even people in the most remote villages now typically introduce themselves to visitors using this classification.

The company of teachers

Over the years, Mrs. Sengphet has developed good relationships with everyone in her school and faculty. A close colleague is her subordinate who is also an assistant teacher in charge of physics majors. "I have many good colleagues who work as a team and support each other," she says. "They value the positives of students, schools, and communities."

There are older and younger teachers on the faculty, some more conservative, others more moderate. Mrs. Sengphet sees that the conservative and moderate-generation teachers cope with the work differently. "The older teachers work hard so that they can develop the school in all aspects," she says. "While the younger generations teachers are more flexible and focus on the quality of work. They specialize in new technology. I admit that many times and, in many ways, younger teachers teach me a lot."

To improve teacher quality, the government provides grants and benefits to teachers in programs, activities, projects, and training. "The Laotian government supports teachers in many ways. Additionally, it offers suggestions for teaching and learning and promotes the importance of professional development as a teacher by hosting competitions with prizes to improve morale at work," she expressed.



Making physics an interesting subject

"Physics is a complex subject that if you don't understand it, you will become bored and unsuccessful in your studies," Mrs. Sengphet explained as we sat in her classroom. But one gets the sense that this will not happen in her physics class. She knows how to make physics fun by not starting from a hard theory but rather by encouraging students to learn little lessons from everyday life. "Students will be motivated to learn more once they realize how simple physics is, which will help them succeed in their academic learning. I inspire the students and point out the value and advantages of learning physics if they feel like giving up. If they do not study, they won't be able to keep up with the modern world's changes or comprehend the world cycle that needs scientific explanation."

"For example," Mrs. Sengphet continued, "when I teach force and motion, I pose the questions and encourage discussion. Why did the object fall to the ground? Why did the glass break? Why do we hear? Let students first seek the answers through the scientific process to construct reliable reasoning and credible answers. I will not teach them to memorize the formulas to use for exams, but combine these with other methods, so that students can apply them in different problem-solving ways."

Mrs. Sengphet creates learning materials about physics topics in the form of conceptual maps or mind maps. These, she posts where students can see them frequently. When they see these enough times, they begin to internalize these concepts. To improve their memory, she created an activity called the "Formulas Writing Competition."

"I would adjust teaching strategies to work for the students if they are still unable to recall the information from the activities," Mrs. Sengphet explained. "If they cannot recall the formula, I get them to write it down. Getting students to explain the lesson is another way to check if they understood it. If they do not, then I would ask them to observe. By doing this repeatedly, students will eventually learn something."



On class activities, Mrs. Sengphet continued, "I usually apply the science show as a class introduction activity to stimulate students to know, experiment, and seek answers. I try to make the classroom exciting by using competitive games to facilitate the connection of ideas between science theory and science praxis."

Mrs. Sengphet then moved on to explain the difference between knowing and learning. "To know," she started, "means to perceive what has been delivered, while to learn is to gain knowledge through study. Learning and knowing are dissimilar since everyone who receives information does not necessarily know it. If a student has learned something, the teacher will recognize it as the student will show enthusiasm, interest, and eagerness to know more. Thus, assessment is needed to allow the teacher to understand if the student has actuality learned something."

How to measure and evaluate students' learning outcomes in her subject is the next question. "I give a monthly quiz to collect points throughout the semester," Mrs. Sengphet explained her methods of student assessment. "I measure and evaluate students using tests, assignments, attendance, and affective scores. Students must receive at least 50% of the possible points to pass. In Laos, those who achieve more than 70% will be rewarded, and those who fail the exam will need to retake the exam. For the retest, a student has two chances to pass."

Physics is not an easy subject to learn for everyone. Some students failed the exams. "I help students by creating physics lesson review manuals," said Mrs. Sengphet. "I also set up a project called 'Senior assists Junior with Lesson Review'. Free make-up classes are also offered for those who struggle with the lessons."



To help demystify the physics subject, Mrs. Sengphet takes it step-by-step. "I start using a virtual laboratory to teach students the scientific method," she explained. "After introducing the scientific method, I introduce topics from the real world. For example, I get students to invent things or conduct scientific experiments from waste materials. I give students the opportunity to compete in a science Q&A contest."

Over the years, Mrs. Sengphet has developed a high school physics curriculum with teacher training on how to use technology and scientific research. This she has offered for teachers both in her school and in other schools in the country. During the pandemic, she held online science courses for teachers. "This was to raise the quality of the science teacher profession in Laos," she said. In addition, promotional activities were designed for students and excellent teachers to work together to raise funds for the school.

During the COVID-19 pandemic and the ensuing school lockdown and limited face-to-face instruction, many types of technology were used such as free media resources for distance education and online channels for contacting students.

The value of a person is measured by the results of their work.

Mrs. Sengphet's academic work focuses on developing physics teaching materials and manuals to be fun and easy to comprehend. It is an instant science experiment guide with lead questions and clear answers showing the relationship between daily life and physics.

She described the piece she is proudest of: "the guide I developed will be used for low-level learners and learners who want to review lessons after school. The materials and manuals are distributed to fourteen other schools in the network at Xay city." To help raise the standards of physics teaching in the country, Mrs. Sengphet served as a supervisor and provincial master speaker on science which led her to be awarded the Third-Class Xay medal from the Ministry of Education of Laos."

When asked about her accomplishments in changing the lives of her students for the better, she mentioned a family who did not want their daughter to study because she was a girl. The parents' perception was that girls should get married and help with the housework. "I had an opportunity to talk to her parents," Mrs. Sengphet said. "I gained their confidence and explained how important it was that all genders benefit from education. Finally, the parents were convinced and allowed their daughter to continue her studies until she graduated from university," she said proudly.

"I have encouraged and pushed my students to complete their degrees and find occupations that would allow them to serve their local communities. Some of them have even become my colleagues," she added. All her students are expected to succeed in their careers, live better, and not be a burden to society. "All these things mean a lot to me."

"The highest point of one's life is to prove what we have done for others." Mrs. Sengphet Khounpasert has worked hard to reflect that statement. And here, there is an interesting side story to herself as a person. Her name in Lao translates to "the light of diamonds that shines". To her students, she is the embodiment of the meaning of her name in Lao, given by her mother.

What Makes a Good School?

Lao PDR rolls out study to understand why certain Lao schools outperform others to help identify better practices.

Siriphone Siriphongphanh, UNICEF 13 January 2021

Over the last decade, Lao PDR has made steady progress in expanding access to education. However, the 2017 Learning Assessment conducted by the Ministry of Education and Sports (MOES), found that many Lao students currently do not meet the expected learning standards. Only one in three Grade 3 students met literacy standards for promotion to Grade 4, and only one in five students met the standards for mathematics. In addition, the 2019 Southeast Asia assessment of learning outcomes show Lao Grade 5 students are not mastering reading, writing, math skills they need to learn at Grade 5. The Southeast Asia-Primary Learning Metrics (SEA-PLM) results show only 2.5% of Grade 5 students have reached the minimum proficiency level for the grade, and 0% in math.

The very low student achievement continues in lower secondary education. The latest assessment of student learning outcomes in 2019 revealed that 90 percent of Grade 9 students perform at basic proficiency level in Lao Language and about half of Grade 9 students do not meet the basic level in science and hardly any meet proficiency level.

To address this learning crisis, the quality of education must be enhanced while also expanding its access. Evidence suggests that the academic performance of students from some schools in Lao PDR exceed those of their peers from other schools in similar contexts and with similar resources, even in the most disadvantaged areas of the country.

UNICEF is supporting the Ministry of Education and Sports (MoES) undertake a study to identify those 'positive deviant' schools in order to learn why they are highly effective and are doing so well despite the challenges. It is expected that

this research will contribute to increasing the efficiency and effectiveness of the education system.

The study is a part of the EU-funded Partnership for Strengthening the Education System of Lao PDR (PSES) programme. Sixty enumerators from teacher training college and MoES are deployed to survey 120 primary schools in eight selected provinces across the country: Houaphanh, Xieng Khouang, Bokeo, Luang Prabang, Champasak, Savannakhet, Vientiane Province and Vientiane Capital.

Ms. Thippphaphone Vongxay, an officer from MoES, is involved in the planning of the positive deviant school study and testing the questionnaires. She was also responsible for a teacher interview on a pre-trial at Nongsonghong School in Xaythany District, in Vientiane capital.

"This study aims to identify best practices applied by the high performing schools with similar contexts and with similar resources," says Thipphaphone. "I believe this study will make a significant contribution to improving the effectiveness of the education system."

Before being deployed to the schools, the enumerators received a three-day training on six different questionnaires for students, teachers, school principal, Village Education Development Committees (VEDC), District Education and Sports Bureau (DESB) and Teacher Performance and School Block Grant. Participants also learnt to use technological equipment such as Tablets to record data. They were deployed to schools for trials.

For the actual data collection, UNICEF engaged teachers from Teacher Training Colleges (TTC) as enumerators aiming to build their capacity in data collection and their understanding on critical issues and good practices in schools.

Mr. Sengsoulee Dindavong is one of the enumerators deployed to collect data. He went for his pre-trial in Nasala Primary School in Vientiane, where he encountered a few challenges. "Communication is always an obstacle while interviewing students from Grade 3 to 5. They are usually shy and silent," says Sengsoulee. "So, I ask questions in a more child-friendly way, so these young children respond," he added.

This co-created and co-implemented MoES-UNICEF study is co-funded by the EU Partnership for Strengthening the Education System of Lao PDR (PSES) and the Global Partnership for Education (GPE)/International Development Research Centre (IDRC) Knowledge Innovation Exchange (KIX) initiative. It is part of the multi-country Data Must Speak (DMS) research initiative on positive deviance approaches: a research study aimed at understanding why certain schools outperform others and help identify better practices to improve learning, carried out by the UNICEF Office of Research-Innocenti involving nine other countries across Africa and Asia.

By identifying 'positive deviant schools' and the 'good practices' behind their success, essential lessons for improving the education system in Lao PDR can be extracted. The research sets out to identify the policies through which MoES can incentivize the implementation of such "good practices" to improve teaching and learning in all schools – particularly those most disadvantaged while promoting more efficient management of the school system.

Reference: UNICEF, 2021 https://www.unicef.org/laos/stories/what-makes-good-school

The challenges Laos faced here as a lower income developing country.

Laos (officially the Lao People's Democratic Republic – Lao PDR) is a least developed country with the ambition to reach middle-income status by 2024. While impressive economic growth rates of 7-8% have been achieved and poverty halved over recent years, poverty rates are still substantial. Laos is reported to have made significant achievements in access to primary education with the net primary enrolment rate at 98.7% in 2018.

The enrolment rate in lower secondary reached 83.1%, while enrolment in upper secondary education remains very low at 53.3%. Education quality remains a huge challenge as literacy and numeracy remain low (root of the problem: teachers are not qualified enough to deliver quality teaching and are not trained to modern pedagogical methods).

Malnutrition is also a major national development concern in Laos, resulting in about 1 in 3 deaths of children under 5 years. While the recent Lao Social Indicator Survey (LSIS II, 2017) reported a decrease of the prevalence of children under 5 years of age with stunted growth (low height for age) from 44% in LSIS-I (2011-2012) to 33% in 2017, significant disparities remain across the provinces: 8 out of 18 provinces record very high levels of stunting (\geq 40%).

Children in rural areas without road access, whose mothers have no education, are 2 to 3 times more likely to suffer from stunting than children in urban settings. Besides its nutrition challenges, the country is further exposed to natural disasters which impede sustained growth and are aggravated by climate change.

Reference:

https://international-partnerships.ec.europa.eu/countries/lao-peoples-democratic-republic_en

MALAYSIA NORHAILMI ABDUL MUTALIB PMCA 2021

Story written by Juan Miguel Luz

Inquiry-Based Science Education

"I get my students to collaborate with STEM agencies in Malaysia. This is very good for students who come from a very rural background."



STEM education (Science, Technology, Engineering, Mathematics) was introduced in Malaysia under the Malaysian Education Development Plan (PPPM) covering the period 2013-2025. The plan's intent was to ramp up STEM education in the country to build the human resource base necessary for a technology-driven economy.

"There is a need to build a robust STEM ecosystem that includes industry, academia, research institutions and the government," said Science, Technology, and Innovation Minister Chang Lih Kang. "A strong ecosystem can provide students with access to mentors, tech companies and internships, and help them transition smoothly into the workforce." (The Straits Times, March 23, 2021)

It was within this context that Mr. Norhailmi Abdul Mutalib, a high school science teacher in Kedah State, entered the teaching profession challenged by the task of training a new generation of young scientist-engineers.



The making of a STEM teacher

Armed with an undergraduate in Chemistry (2005), Mr. Norhailmi began his teaching career in the state of Sarawak before transferring to Kedah in the northwest part of the country. In 2020, he attained his Master's Degree in Science Education.

With formal training and participation in high level science programs within the ASEAN region and in the United States and Europe, Mr. Norhailmi has been recognized as a Master trainer in Inquiry-based Science Education by the National STEM Centre (2020), integrating digital technology in education. International trainings have taken him to different parts of the world. "It's not about the travel experience, however," he said with smile, "it's about what I can learn and then share with my students."

Notable among these international trainings was the CERN International Teachers training in Geneva (2019) and the Honeywell Educators camp at the Space Academy (2018).

Challenges in teaching STEM

As a science teacher in a rural high school where 95% of the students enrolled are from low-income backgrounds, there are many challenges Mr. Norhailmi is faced with daily. "(But) I can relate to them because my background is similar," he explained. "My father is a farmer, and my mother is a housewife. Therefore, I think I have a good connection with my students."

The challenges are not all social or demographic, however. "Science subjects can be complex," Mr. Norhailmi said. "Young minds do not readily grasp abstract concepts. Teachers need to help students learn the discipline of thinking scientifically. Otherwise, boredom sets in as a response to inability to comprehend."

Education is the process acquiring knowledge, skills, beliefs, and habits. It is a dynamic process which also expands with the changing times. There are researchers who have observed the problem of students becoming disinterested or demotivated to learn science at a young age as they fail to keep up (Imagine Learning, 2021).

Approaches to STEM

The key to becoming proficient in STEM is to develop a disciplined mind around scientific thinking. "The student is the agent who can transform his or her own condition through their learning and actions," Mr. Norhailmi believes.

In developing his curriculum based on the MOE standards and guidelines, he uses four approaches to learning:

1. Inquiry-based learning

Inquiry-based learning is a learning process that engages students in making real-world connections through exploration and high-level questioning. It is learning that encourages problem-solving and experiential learning.

Examples: Science laboratory experiments, hypothesis-based research projects.

2. Project-based learning

Project-based learning (PBL) is an instructional approach that engages students through projects set around the challenges and problems faced in the real world. (PowerSchool)

Examples: One-to-One computing projects, collaborative classroom projects, community service projects, field trips.

3. Digital learning

Digital learning is any type of learning accompanied by technology or by instructional practice that makes effective use of technology, including blended learning.

Examples: Online courses, internet research, watching online videos, using digital tools and devices.

4. Technology-based instruction

Learning in which teachers use technology to teach and learners learn with the aid of technology.

Examples: Computer-based learning, multi-media materials used to supplement in-class activities.



Inquiry-Based Science Education

The introduction of Inquiry-Based Science Education (IBSE) is inspired by constructivist learning theory. Constructivism refers to the idea that learners construct knowledge and concepts for themselves rather than passively take in information. As students experience what they are doing, they reflect on these and build their own representations incorporating new information into their pre-existing knowledge. IBSE provides a criteria and framework required for this type of learning such as creativity, critical thinking, communication, and collaboration. (SEAMEO-RECSAM)

Inquiry, applied in science, is a process that requires students to understand the nature and properties of science through hypothesis and experimentation. The objective of inquiry-based science teaching is to improve students understanding of concepts and procedures (Minner, Levy & Century, 2010). There are five stages or phases of inquiry (Pedaste et al., 2015):

- Orientation
- Conceptualization
- Investigation
- Conclusion
- Discussion

IBSE is age-specific when it is being applied to science education. Young students in primary school are not yet able to conduct scientific research independently compared to secondary school and university students. Therefore, it is necessary for teachers to develop the students' skill gradually and systematically based on their abilities in IBSE. Students play an important role in inquiry-based science strategies that need to actively engage them as investigators that can collect information, curate knowledge, and develop their own skills. The most important factor in developing the understanding of the student is to make observations and conduct their own experiments (Khalik, Talib, and Rafi, RECSAM).

In IBSE, teachers encourage pupils to conduct a self-designed, interest-guided inquiry in order to answer their own research question. During this process, the important role of the teachers is directed towards facilitating, supporting, and supervising learners.

According to Banchi and Bell (2008), there are four levels of inquiry which are confirmation, structured, guided, and open inquiry.

Confirmation inquiry. At the beginning of implementation, students look at, study, and learn laws and theories that can guide the inquiry. The aim of the teacher is to develop observational, experimental, and analytical skills of the students. Students follow the teacher's instruction when conducting experiments.

Structured inquiry. When a teacher helps students by asking questions and providing guidance. While the teacher controls the lesson procedures which should be followed and asks leading questions, it is the students who make decisions, look for solutions using their inquiry, and explain the answer based on the evidence obtained. If this stage is well learned, it develops the potential of students to perform high-level of inquiry.

Guided inquiry. When a teacher flips the classroom allowing students to take the lead. Here, the teacher plays less of a role in guiding students. Instead, he or she cooperates with them in defining research questions and giving an opinion on procedures to be implemented by the students themselves. This increases the level of confidence of students to independently seek solutions.

In **Open inquiry**, a question is posed, methods and procedures are followed, and decisions made, all of which are or to be experienced by students (Taraban et al., 2007; in Shen et al, 2017). This reflects real scientific research and requires a higher level of scientific and cognitive thinking by students. Not all can attain this, but it should be in a teacher's framework to build a scaffold for students to work towards this last level of inquiry.

The four levels of inquiry represent an increase in the level of student agency, inquiry-based education, as they move from one level to the next in what should be a learning continuum. The role of the teacher along this learning continuum therefore shifts from instructor to guide to collaborator to facilitator.

"Inquiry-based learning is a possible solution to address the issue of students' low motivation for learning science subjects," said Mr. Norhailmi.

To help by putting method and process into Inquiry-Based Science Education, a 5E Model of Inquiry was constructed as one instructional approach (Bybee & Landes; Biological Science Curriculum Studies [BSCS]). The "Five Es" represent:

- Engage
- Explore
- Explain
- Elaborate
- Evaluate

In the **Engagement phase**, teachers work to build curiosity among students about the subject being studied. Teachers initiate the subject, lay out learning resources and sources of information, and invite students to construct their own questions about the process of scientific inquiry. The main objective of the teacher is to form an 'inquisitive mind' among students.

During the **Exploration phase**, students start 'working with questions'. This is an interaction of students with the materials and ideas through classroom as well as small group discussion. Students construct their understanding by observing, recording, describing, and comparing as well as sharing their experiences and ideas with other students (Llewellyn, 2005).

The **Explanation phase** involves 'conducting a scientific investigation'. This is an opportunity to provide students the opportunity to connect their previous experience with their current learning through student-to-student discussion where they can explain their ideas before debating with others. This previous experience can be described easily through formal language, terminology, scientific terms, and content information.

The Elaboration phase involves 'extension of conducting a scientific investigation'. Students can apply introduced concepts to their new learned experiences to deepen their understanding of the experience (Llewellyn, 2005). It enhances the use of scientific terms and descriptions of the students who can draw or make a conclusion from evidence and data obtained.

In the **Evaluation phase**, the process of 'pulling it all together' is placed centrally in the model where it provides a summative assessment of what students know and can do (Bybee, 2002). Teachers can assess a student's progress by comparing their current understanding with previous knowledge and using rubrics. Other means of evaluation by teachers include teacher observation structured by a checklist, student interviews, portfolios designed with specific purposes, project and problem-based learning products, and embedded assessments.



Innovations in the classroom

"Given our situation today of unlimited opportunities to learn, but with limited resources," said Mr. Norhailmi realistically, "we have to be innovative and improvise."

To this end, he has adopted his teaching strategies to the resources he has on hand. Materials for science experiments and projects come from the home and the surrounding community such as foods like flour and bread, soap and detergent, and including used containers and bottles. Do-it-yourself (DIY) STEM was devised by Mr. Norhailmi to bring STEM into everyday student life. Low-cost STEM kits were designed using common-use off-the-shelf materials. Among the kits developed have been human skeletons from straws, a blood group compatible simulation, and a rocket launcher.

Mr. Norhailmi's training in STEM has seen him marry science with digital technology. "This develops digital literacy among students," he believes, "as well as brings science to life using ICT. STEM plus digital technology is the future."

Science, however, need not be confined to the classroom only. Science project-based learning can occur in the community as well. To bring home this point, Mr. Norhailmi introduced coding in his classes and in the community. Two initiatives he introduced to his students he calls 'Science@Home' and 'Science@Community'. "In Science@Home," he explained, "we use materials from home and students need to involve their parents and family such as in calculating usage of electric energy in their house for 6 months. Science@Community is where students need to do some collaboration with the community around them to increase awareness about what they learn in the classroom. This could be a contagious disease campaign or project-based learning about obesity and a healthy lifestyle.



Spreading STEM

To spread the message of STEM and its importance in the future development of Malaysia, Mr. Norhailmi has gone to social and online media to reach a larger audience. He has started his own blog and makes YouTube videos to teach science focused on projects that can be done by anyone of any age group. His latest foray is into using TikTok for education.

Collaboration in STEM is still in its early stages but is critical, he believes. In this regard, Mr. Norhailmi set up a school-based Digital Hub, a collaboration between schools and STEM centers and agencies. "Digital is where we are heading in the future," he says with great enthusiasm.

The second critical component in spreading STEM education are teachers. Here, the Quality Teachers' Project has been introduced. Over the last three years, Mr. Norhailmi has worked with colleagues on more than 400 talks and workshops, and 100 webinars on STEM-related subject matter.



Drivers of good education

"I believe a good education can change everybody's life," says Mr. Norhailmi Abdul Mutalib with conviction. "I believe in equality and equity in education. Students may be from a very rural part of Malaysia, but if they can have quality education, anyone can be successful. A good education can transform their lives and even that of their families."

As he walked around his classroom rearranging the workspaces of his students and picking up their submitted work, he stopped to say, "Good education starts with a good teacher. That is why I always work hard to improve myself."

"I believe it is our task as teachers to work with our students to realize their full potential. I get my students to collaborate with STEM agencies in Malaysia, such as National Nuclear Agency and the National Science Center, and I think this is very good for my students who come from a very rural background – to show other students in the country that they can excel in STEM if given the opportunity and training."



References

Bell, R., Banchi, H. (2008). "The Many Levels of Inquiry". Science & Children, 46(2), 26-29.

Chen, L.C., Huang, T.W., and Chen, Y.H (2017). "The effects of inquiry-based information literacy instruction on memory and comprehension: A longitudinal study". Elsevier, *Library & Information Science Research*, Volume 39, Issue 4, October 2017, pages 256-266.

Imagine Learning, blog. "Challenges in STEM education and how teachers can overcome them". https://www.twigscience.com

Llewellyn, D. (2007). *Inquire within: Implementing inquiry-based science standards in grades 3-8.* Thousand Oaks, CA: Corwin Press.

Mazura Khalik, Corrienna Abdul Talib, & Intan Bidayu bte Mohd Rafi. "Implementation of Inquiry–Based Science Education: Issues, Exemplars and Recommendations". SEAMEO RECSAM, Penang, Malaysia.

Minner, D., Levy, A.J., and Century, J (2010). "Inquiry-based science instruction: What is it and does it matter? Results from a research synthesis (in) years 1984 to 2002". *Journal of Research in Science Teaching*, 47(4): 474 – 496.

Pedaste, M., Maeots, M., Siiman, L.A., de Joong, T., van Riesen, S.A., Kamp, E.T., Manoli, C.C., Zacharia, Z. C., and E.T. (2015). "Phases of inquiry-based learning: Definitions and the inquiry cycle". Elsevier, *Educational Research Review*, Volume 14, February 2015, pages 47-61.

TeachThought (2019). "What is The 5E Model? A Definition for Teachers". Blog: September 9, 2019. (https://www.teachthought.com/learning/5e-model/)

STEM Education in Malaysia

Marlina Binti Ali, School of Education, FSSH Posted on August 26, 2021 ·

STEM was first introduced in Malaysia under the Malaysian Education Development Plan (PPPM) (2013-2025). According to Ministry of Education Malaysia (2016), STEM refers to subjects, packages, and teaching and learning approaches. First, STEM refers to the subject field consisting of Science, Technology, Engineering and Mathematics. Examples of subject field includes Science, Physics, Chemistry, Mathematics, Additional Mathematics and Biology, while university subjects such as Electrical Engineering, Civil Engineering, Mechanical Engineering, Medicine, Biochemistry and Computer Systems and Information. In addition, Engineering and Vocational Education Technical (TVET), which is also an integral part of STEM and have high added value in industries such as oil and gas, aerospace engineering, shipping, and green technology.

Secondly, STEM refers to packages or learning pathways that offer STEM elective subject packages. There are three STEM packages being offered to the students which are STEM Package A, B, and C. STEM A package includes all pure Science subjects of Physics, Chemistry, and Biology and Additional Mathematics. In Package B, students will take (i) any two subjects of pure Science and Additional Mathematics; and (ii) at least one STEM elective (Applied Science and Technology) or non-STEM elective subjects. Package C takes at least two STEM elective subjects (Applied Science and Technology) or takes any one vocational subject (MPV) Upper Secondary Vocational Education (PVMA).

Finally, STEM refers to teaching and learning approaches that integrates STEM knowledge, skills, and values. This method encourages students to ask question, investigate, make analysis, and use computational thinking in their learning. Example of STEM approaches that can be carried out during class are as inquiry-based learning, problem-based learning, and project-based learning.

https://people.utm.my/marlina/stem-education-in-malaysia/

Malaysia wants more STEM students and engineers to drive tech ambitions.

Hazlin Hassan Malaysia Correspondent, The Straits Times Updated March 23, 2021

KUALA LUMPUR - Over nine months last year, a million people aged between seven and thirty took part in tech-based competitions across Malaysia as part of the Techlympics 2022.

In rural areas, workshops are bringing 3D printing, robotics, and drone technology to youth to help them close the gap with their urban counterparts, and expose them to careers in science, technology, engineering, and mathematics (STEM).

"We hope with this kind of set-up, we can help to create innovation among Malaysians," said Science, Technology, and Innovation Minister Chang Lih Kang, whose ministry organises programmes such as the Techlympics, MakersLabs and National Science Week – all part of the country's push to become a high-tech nation by 2030.

In 2021, Malaysia said it wanted to raise its proportion of STEM students to as high as 60 percent, to meet the future need for science, engineering, and tech professionals. In 2020, the percentage of students in Stem was 47.18 percent.

Malaysia also needs more engineers. At the end of 2022, there were around 187,900 engineers registered, according to the Board of Engineers Malaysia. This leaves the country's engineer-to-population ratio at one to 170.

This is lower than in developed countries such as Germany and France, where the ratio is at one to 100, said Mr. Chang, who studied civil engineering at the Universiti Putra Malaysia.

To fulfil its 2030 ambitions, Malaysia needs to double its current number of engineers, he added, admitting that there are several key challenges.

~ ~ ~

Mr. Chang said the government is working to attract high-quality investment in STEM sectors to create jobs and raise salaries, to form a cycle in which rising demand for STEM talent can stimulate students' interest in those fields.

~ ~ ~

Mr. Chang said there needs to be collaboration between the Education Ministry and his Ministry of Science, Technology, and Innovation to create a cohesive STEM education system.

"To solve this problem, we have to start all over again," he said.

Complaints from industry include graduates who do not meet the demands of the sector.

"There is a need to build a robust STEM ecosystem that includes industry, academia, research institutions and the government. A strong ecosystem can provide students with access to mentors, tech companies and internships, and help them transition smoothly into the workforce," said Mr. Chang, who expects the process to take at least five to 10 years.

"It is not going to be straightaway from zero to 100. What is important is the direction, to be on the right track."

https://www.straitstimes.com/asia/se-asia/malaysia-wants-more-stem-studentsand-engineers-to-drive-tech-ambitions

MYANMAR KYAW ZIN AUNG PMCA 2021

Story written by Juan Miguel Luz

Teaching in a Challenging Milieu

"Students should have priority to learn happily, continuously, safely in times of crisis."



The northern Shan State of Myanmar is an ethnically diverse state. This large state has as a very young population. In the 2014 census, about one third of its 5.8 million population was 14 years of age or younger.

The area is part of a region called the Golden Triangle where farmers plant poppies that are manufactured into illegal drugs elsewhere. Because of this, armed groups involved in the drug trade are many. Its remote, hard-to-reach areas are therefore subject to conflict between these armed organizations and the Myanmar Armed Forces such that the number of internally displaced persons (IDPs) needing humanitarian assistance has grown up through 2021. Humanitarian aid for over 12,000 IDPs, including 4,800 children has been extended by UNICEF and its various partners in essential WASH services (Water, Sanitation, and Hygiene) to surrounding communities, including hard-to-reach areas; in COVID-19 information, education, and communication (IEC) materials; and in social protection through a Mother and Child Cash Transfer program to support pregnant women and mothers. (UNICEF Myanmar, 2021)

Lashio, the town where Mr. Kyaw Zin Aung is based as a teacher, is the largest town in northern Shan State in Myanmar, about 200 kilometers (120 miles) north-east of Mandalay. Lashio is situated on a low mountain spur overlooking the valley of the Yaw River. It is the administrative center of Lashio District and was once the administrative center of northern Shan State. It had an estimated population of 131,000 inhabitants in 2009, mostly made up of Shan, Chinese, and Burmans.


Beginnings as a teacher

"I have been a teacher now for over 10 years," said Mr. Kyaw. "I first started teaching in middle school, before transitioning to high school. My focus area is English."

Mr. Kyaw is not from a line of teachers. Neither of his parents nor any of his family members save for a younger sister are teachers or have strong educational backgrounds. It was his younger sister, in fact, who encouraged him to become a teacher. "My sister decided to become a teacher first and is currently working at a University of Education in Myanmar," he confessed. "I decided to follow her into this profession."

After high school, Mr. Kyaw went on to get his Bachelor of Education in 2013 followed by a Master of Education in 2018, while teaching at the same time. It was after his first degree that he entered the teaching field at the middle school level. And it was after he received his graduate school degree that he transitioned to high school where he was appointed a Senior Assistant High School teacher.

What motivated him to become a teacher? "There were many teachers I had who inspired and encouraged me," Mr. Kyaw said. "I have fond memories of them in my youth and this fueled a passion to be like them and make a career for myself as a teacher."

His family was not wealthy, however, so he had to work hard to stay in school. He had neighborhood friends who, due to their social standing, were not permitted to attend school. He remembered this and took it seriously every time he saw them as children and in their teens. "That is why I always wanted to be someone who could teach children like them," he stated with conviction.

Going further, Mr. Kyaw continued, "I admire anyone who can improve education standards since these are crucial to a nation's success. Since I was a young boy, I wanted to visit and instruct children in rural countries. These ideas inspired me to become a teacher, and so I did." Despite now being a senior teacher in his school, Mr. Kyaw sees more training ahead for himself. Despite earning his bachelor's and master's degree in education, he has been attending many professional development courses and trainings. After six years of training to become a professional teacher at the University of Education, he took additional teacher training classes to help him improve his skills, pre-COVID-19 and after the Covid 19 Pandemic. To improve on his English teaching, he participated in TEFL association webinars (Teaching English as a Foreign Language) and online conferences. "There is no end to learning," he believes. "So, now I am pursuing a PhD in education."

From teacher to teachers' teacher

"The path to becoming a good teacher can be different based on the nation and the educational level they want you to teach at," Mr. Kyaw explained.

His pathway as a teacher was marked by the credentials and degrees he earned in university. He first obtained a bachelor's degree in education majoring in English. He completed a four-year BEd program for teachers (now a five-year program). At that time, he was not required to have a teaching license because he successfully completed a BEd and was eligible to enroll in a master's programs. In addition to that, he was appointed as a middle school teacher automatically. After a year in middle school, he was given a promotion as a high school teacher. He then passed the Master program admission exam in order to pursue continuing professional education. In Myanmar, one can apply for teacher educator's position in educational institutions if they have at least a master's degree. With his qualifications and experience, Mr. Kyaw was qualified to apply for a principal position, but he to remain in teaching and in the classroom.

In 2021, he moved to the College of Education applying to be a member of the Department of Teacher Education. "Being a high school teacher and a teacher educator are quite different roles to play," he explained. "Higher level students require more creative instruction than I can provide with our current resources. Here, we have to be very creative and innovative."

Role models

"There have been a few teachers who have been role models for me," admitted Mr. Kyaw. "I recall university professors and my elementary school teachers. Their kindness, understanding, inventiveness, dedication, and empathy had an impact on me. I was motivated by their abilities to establish a relationship with students, comprehend their requirements, and personalize education for each learner."

He talked about their different approaches to teaching and their effective classroom management which allowed them to establish a secure and effective learning environment. Their high standards inspired him to improve as a teacher by encouraging students to reach their full potential. "One professor regularly updated and enhanced his teaching strategies," said Mr. Kyaw, "because he viewed his students as lifelong learners. Most of all, he had great communication skills using this to instruct students with concepts that were clear and concise."

"In addition," Mr. Kyaw said, "there were my parents who served as exemplars as well. They supported my career goals, especially my father, who had hoped to see me become a teacher. To this day, my father assists me in finding books to read."

Teaching philosophy

What defines learning? The teachers' teacher in Mr. Kyaw explained, "there are many reasons why learning is vital," he said. "It helps people in gaining the knowledge and abilities necessary for both their personal and professional success. It enables people to comprehend and make sense of their surroundings, as well as to change with the times and adapt to new conditions."

Learning is not static. It is constantly happening because the world is constantly evolving, changing. "Learning can result in human development and growth on a personal level," he explained. "It can assist people in developing new interests and activities and enhance both their mental and physical health. Additionally, it can assist people in achieving their ambitions and goals, like improving employment opportunities or expanding their professions." Learning is crucial for the growth and development of cultures and civilizations on a social level. "It supports the creation of new knowledge and technology," he continued, "as well as the tackling of issues and difficulties, in society. It also helps society to change for the better and adapt to new situations."

"Furthermore," Mr. Kyaw stressed, "learning is now essential for lifelong development in order to keep up with the rapid speed of technological advancement and to fulfill the demands of a work market that is continuously changing. People can also use it to go around in a world that is changing quickly."



Learning versus knowing

"Knowing something," explained Mr. Kyaw, "refers to having information stored in memory, while learning refers to the process of acquiring and applying that information. There are several ways to determine whether children are truly learning, rather than just memorizing information." Mr. Kyaw explained this further.

1. Assessment

"One way to determine if children are learning is to assess their understanding and application of the material through various methods such as tests, quizzes, projects, and presentations. These assessments can help determine if children are able to recall and apply what they have learned, rather than just memorizing it."

2. Transfer of learning

"If children are able to apply what they have learned in one situation to other situations, it is likely that they have truly learned the material. For example, if a child who has learned about fractions in math class is also able to understand and use fractions in everyday life, it is likely that the child has truly learned the material."

3. Metacognition

"If children are able to reflect on their own learning process, they are more likely to have truly learned the material. For example, if a child is able to explain how they solved a problem or can explain the main idea of what they have learned, it is an indication that the child has understood the material on a deeper level."

4. Self-directed and independent learning

"Another way to determine if children are truly learning is to observe whether they are able to work independently and take initiative in their learning."

5. Retention and recall

"It can also be looked at as their ability to recall and retain information over time. If children are able to remember and recall what they've learned days, weeks, or even months after the initial instruction, it is a good indication that they have truly learned the material."

In conclusion, Mr. Kyaw said with a warm smile, "it is important to note that learning can be a complex process, and it is not limited to just mastering certain information, but also making sense of it, applying it, generalizing it, and even adapting it for different contexts."



Measuring learning

How do you best measure learning? "Because learning is a diverse, complex process," Mr. Kyaw explained, "measuring it can be difficult. The ideal method would be to rely on the precise learning objectives, the kind of material being taught, and the environment in which it is being taught. There are, however, many different techniques to assess and evaluate learning." Mr. Kyaw laid out some assessment methodologies and pedagogies that he uses to measure students' learning.

1. Formal assessments

"Formal assessments such as quizzes, tests, and exams," he said, "are one of the most common ways to measure learning. These assessments can be used to evaluate the recall and application of information and can also be used to measure progress over time."

2. Performance assessments

"Performance assessments, such as projects, presentations, or demonstrations," he continued, "can be used to evaluate the application of knowledge and skills. These assessments provide an opportunity for students to demonstrate what they have learned in a real-world setting."

3. Self-assessments

"Self-assessments, such as reflective journals or self-evaluation forms, can be used to evaluate students' understanding and engagement in the learning process," he stressed.

4. Observation

"Direct observation of students in the classroom or in other learning settings," he observed, "can provide valuable information about students' understanding, engagement, and problem-solving strategies."

5. Longitudinal studies

"Longitudinal studies, which measure students' learning over time, can be used to determine the effectiveness of a particular instruction or program," he stated.

6. Learning analytics

"With the increasing use of technology in education," he said thoughtfully, "Learning analytics is becoming a powerful way to measure and evaluate student learning, tracking progress and identifying areas of difficulty, which can be used to improve the instruction."

In closing, Mr. Kyaw said as he stood up to refill the teacups, "it's crucial to take into account combining different measurement techniques and to triangulate the data. Doing so enables a more precise and complete picture of student learning. The assessment of learning should also be continuous and formative, giving information about the student, the instructor, and the learning process."

The teaching milieu

Mr. Kyaw was a senior teacher at the Number 8 Basic Education High School in Lashio before transitioning to the College of Education. The school, in northeast Myanmar, has nearly two thousand students and more than 50 teachers, occupying seven one-story buildings, two two-story buildings, and a three-story building. There are classrooms for ICT, a language learning room, an assembly hall, a stadium, and a school farm inside the campus.

The school is situated in an area of Lashio City where there are a number of ethnically diverse communities of various religions who attend classes. The majority of the students come from poor families that own small businesses. In speaking of the demographics of his school, Mr. Kyaw said, "parents appear less interested in their children's education and the growth of the school since they must concentrate on their own economic jobs."

Despite being located within a city, the Number 8 Basic Education HS is in a less developed area. Some students are required to work during their holidays at their parents' jobs. They also help their parents at work before they go to school. After class, they still have to assist their parents with a variety of tasks. The family can only support themselves by working together as a unit.

The majority of the students' parents are migrant workers or day workers. Because of the school's location on a main roadway, local students can easily access it. Some children travel to school on foot, while others arrive by motorcycle or tuk tuk (motorcycle -driven pedicab).

Poverty is a major concern in the region. Many students lack the support needed to support or pursue an education. "Many students are denied an education due to of their family and political situations," explained Mr. Kyaw. "Many students have lost the chance to learn, particularly during the Covid-19 pandemic."

The learning environment and instructional practices have also been difficult for students. "There are many students learning in classrooms that are too small for the number of students," Mr. Kyaw pointed out. "A lack of supplies in the classroom hinders students from learning well. Additionally, it is impossible to motivate students to learn if current, up-to-date, organized teaching techniques are not available. Students may grow bored as a result of outdated teaching techniques. Academic performance will not increase or improve if they are unable to concentrate when learning."



"One last thing," he pointed out, "is the problem of examinations. Students are not engaged in learning but are solely concerned about their tests. These are the challenges most students are currently facing. Their main goal is to pass the exam with a good score rather than be interested in genuine learning or getting an education. As a result, they don't focus as much in school."

To address this last point, teachers in Mr. Kyaw's school work together "like a family". Teachers regularly consult with other instructors and administrators, as they collaborate on specific programs. Because he is the leader in several of the school's team associations, he conducts himself in a way that respects his fellow teachers. He takes the lead to get others involved. Every month, the teachers come together and have discussions on students' academic achievement looking for methods to assist them get better. They exchange teaching strategies and explain these to each other in teacher conferences and planning sessions. "We look for ways to assist everyone else in finding solutions when we run across issues and challenges at work. We respect one another and recognize each person's rights."

Innovations in the classroom

"There are many new methods of teaching that can make learning more exciting and interesting for students," Mr. Kyaw offered. In class, he has used a number of teaching innovations:

- Project-based learning
- Game-based learning
- Flipped learning
- Personalized learning
- Collaborative learning
- Problem-based learning
- Nature-based learning
- Experiential-based learning

Mr. Kyaw encourages students to work on real-world projects that are relevant to their interests and passions. Sometimes, he uses games and simulations to make learning more engaging and interactive for students. During the Covid-19 pandemic, he engaged students in a flipped classroom. He recorded lectures and delivered these to the students to learn at home. They were then to perform related activities and present these as homework.

For personalized learning, he uses technology to create customized learning experiences for each student based on their strengths, weaknesses, and interests. He encourages students to work collaboratively with one another in order to develop 21st century abilities in education. With this approach, students are encouraged to collaborate in small groups to solve issues, finish tasks, or carry out activities.

By taking the students outside of the usual classroom setting to learn in natural settings, he sometimes develops outdoor learning experiences. "This is good for the students' mental and physical health," Mr. Kyaw believes, "as well as for the development of their critical thinking, problem-solving, and creativity skills."

"Problem-based learning," he continues, "also makes students more knowledgeable by conducting student-centered work where the students actively engage in solving a problem or completing an assignment." Additionally, he innovates with hands-on instruction. Based on their prior knowledge and experiences, students can learn by doing, using this approach of instruction-led activity. "Compared to the old approaches, these new ones for learning are more effective," Mr. Kyaw explained. "But some of them require more time and money."



In time of pandemic

During the COVID-19 pandemic, many schools and educational institutions had to adapt new teaching methods to comply with social distancing guidelines and to accommodate students who learned remotely. In Myanmar, schools were closed for a year due to COVID-19 and the machinery of teaching-learning was interrupted.

"As education is important for the children," Mr. Kyaw offered, "you cannot close schools and keep the learning environment still for a long. Therefore, we had to think about how to do teaching and learning during that time period. We had to think about the ways of learning that were convenient for both teachers and students. Students also had to be provided with material to make them aware about how to live without the risk of infectious diseases. The period of COVID-19 was a great challenge for teachers." Beyond conventional classrooms, opportunities to innovate teaching styles have opened up. Mr. Kyaw tried to carry out the teaching and learning process in various ways. He developed a way to elicit synchronous (real-time) and asynchronous (self-paced) instruction delivered through online platforms like Zoom, Google Classroom, and Blackboard. For some of the students, it was conveniently delivered by blended learning. This method of learning combines online learning with in-person instruction. Students can perform by alternating between in-person and online learning. When the schools were reopened again during low infection rate periods, they used hybrid learning of online and in-person instruction, while allowing students to attend in-person classes on a rotating schedule.

Another way is that of micro-schooling for small group learning. Mr. Kyaw explained this model. "To achieve this," he said, "I group students in a small group setting, usually in a home or another location and taught them the lessons under special awareness of COVID-19."

This period of pandemic and school lockdowns have forced teachers and school administrators to think outside the box. "I have tried to familiarize myself with these modes of learning," he said as he grappled with his thoughts, "and apply them differently for students outside of the typical classroom. These approaches must be flexible and adaptive to diverse conditions during pandemics. But now we have learned that we need to be flexible and adaptive in all situations."



The way forward

In 2016, Myanmar introduced a new K-12 curriculum spread out over 13 years: Kindergarten plus five years of primary followed by seven years of middle school and high school.

With his teaching experience at the middle and school level, Mr. Kyaw Zin Aung has the right perspective, training, and skill set to train future teachers in his new position in the College of Education. Myanmar needs this kind of instruction as it works to professionally develop its next generation of teachers armed with content, pedagogy, language, and communication skills, as well as modern teaching technologies.

Learning

Ensuring all children learn and develop their full potential.

UNICEF, 2022

The challenge

Prolonged lack of access to learning jeopardizes children's futures. Childhood passes quickly and the opportunity to learn is short. Many who miss out on education will struggle to catch up and, in fact, may never have a second chance to learn.

Safe, continuous learning is every child's right

Children need to learn, and they have the right, not only to an education, but to learn in a place that makes them feel safe. In Myanmar, students, teachers, volunteer teachers and facilitators and staff must be respected and consulted, and able to learn and work on their own terms, and with dignity.

Long-standing threats to learning

Even before the COVID-19 and the current crisis began after February 2021, children in Myanmar already faced huge barriers to learning.

One in 10 children between the ages of six and nine were not going to school. By age 15, just 7 in 10 children were still in school.

COVID-19 pandemic and social crisis

Across the country, children's learning is being hampered by conflict, the COVID-19 pandemic, and the social and political crisis which has displaced more than 200,000 adults and children.

As a result, almost 12 million school aged children and young people have had their education disrupted.

The consequences of missed learning for their development, mental health and future prospects are profound and growing. Meanwhile the health risks associated with COVID-19 remain high.

The provision of safe and continuous learning opportunities is still threatened. Reports continue of attacks on places of learning and their staff, and military use of education facilities.

The solution

Flexibility is needed to counter the threat to children's learning in Myanmar posed by the global pandemic, and the current crisis.

UNICEF delivers support nationwide but with special focus on Chin, Kachin, Kayah, Kayin, Mon, Rakhine and Shan States and Yangon Region, where the challenges are most acute.

We aim to deliver good quality flexible learning opportunities for children, making the most of the resources available to us and our partners.

Developing and maintaining learning opportunities

With non-governmental partner organizations, UNICEF is focused on reaching the most vulnerable. The aim is to put the opportunity to learn within the reach of the poorest children in cities and rural areas, children living in camps for displaced people and those in hard-to-reach locations.

UNICEF aims to support early childhood care and development for 700,000 children between the ages of three and five.

It also aims to support learning opportunities for one million children aged 6 to 15.

Non-formal education is targeted at a further 8,000 children, most of them adolescents who have been excluded from organized learning opportunities.

Practical help

Learning materials are being provided for primary and middle-school-age children. Partners are also being trained to assist children's learning and language development, and to support their mental health and psychosocial well-being.

UNICEF is also supporting training for ethnic language teachers and the distribution of storybooks in local languages.

Progress so far

UNICEF, the co-lead of the Education in Emergencies sector, is supporting basic learning opportunities and getting teaching materials to the children most acutely affected by conflict and crisis, particularly those displaced and living in camps.

In May 2021, UNICEF and partners began giving additional learning support to more than 25,500 children aged 3 to 17 in Kayin and Kayah States and the regions of Ayeyarwaddy, Bago and Tanintharyi.

It is also working to help educate more than 16,000 displaced children in central Rakhine State, more than 12,000 children in Kachin State, and 4,600 children in northern Shan State.

We are expanding our reach and adapting our programmes quickly to help children caught up in the country's rapidly evolving humanitarian challenges.

In all its efforts, UNICEF draws upon its 70-year track record in Myanmar. Throughout, support has been delivered even during times of conflict and crisis.

Reference: UNICEF Myanmar, 2022 https://www.unicef.org/myanmar/shan-state

[1] Myanmar, Department of Population, Ministry of Labour, Immigration and Population, 'Provisional Results of 2019 Inter-Censal Survey, 31 August 2020

PHILIPPINES MARCELO T. OTINGUEY PMCA 2021

Story written by Wandee Kasemsukpipat, Kasetsart University

Teacher, Counselor, Community Worker

"The key to the success of our school is building a strong relationship with our community."



A devout Christian, Marcelo Otinguey, a teacher from Benguet Province in the Cordillera mountains of Northern Philippines, read from scripture in the Bible to help explain his mission as a teacher. Quoting Jesus Christ, he read, "For I was hungry, and you gave me something to eat. I was thirsty, and you gave me something to drink. I was a stranger, and you invited me in. I needed clothes, and you clothed me. I was sick, and you looked after me. I was in prison, and you came to visit me."

This quote from the Bible has been a guiding light for Mr. Marcelo in his journey to becoming a teacher devoted to his students and community. He thinks that considering this quote, he should help those who are most in need and who are in a state of despair. "I am just an instrument," he says. "I want to be an example of how to strive through the ups and downs of life for my students and the community."

The journey

A native of Benguet, a province in the mountain region of north Luzon Island in the Philippines, Mr. Marcelo is a teacher at the Governor Bado Dangwa Agro-Industrial School. After completing high school, he continued his studies attaining a Bachelor's degree in Secondary Education at the Benguet State University in Baguio City. Even though most of his cousins worked in the education field, he is the only teacher in his family. He decided to pursue Education since it was the most affordable course of study for his family.

After a year as a student-teacher doing his practicum teaching and passing the Philippine Board Examination for Teachers which is the prerequisite for becoming a teacher in the Philippines, Mr. Marcelo was hired as a contractual teacher for a year in the Department of Education before he got his permanent teaching position. Throughout his 27 years in the teaching field, he worked as a classroom teacher for 23 years and as a head teacher for the last 4 years. Through that period of time, he rose from Teacher I (the entry level position) to Teacher 2 and 3 before being promoted to Master Teacher I. Today, he is Head Teacher V supervising the senior high school department of his school.

After receiving his bachelor's degree, Mr. Marcelo returned to work as a teacher at the Governor Bado Dangwa Agro-Industrial School which he attended as a high school student. "I chose to teach in this school," Mrs. Marcelo explained, "because I wanted to help the local indigenous people here who are my community. I am from the same ethnic community – the Kankanaey Ibaloi. I am from this community of indigenous people. That is the reason I understand their needs." Mr. Marcelo continued without missing a beat, "Teaching is my passion – to serve the young and my community. Teaching is a life of service to empower people."



The school context

Governor Bado Dangwa Agro-Industrial School is a public high school that is in the mountainous area of northern Philippines. The school sits on 6.3 hectares of land, a large site for a school, but on rugged terrain. There are 782 students from the seventh through twelfth grades (409 males and 373 females). For the grade 12 students in Mr. Marcelo's senior high school class, the following programs are offered:

- Technical and Vocational Livelihood (TVL)
- Science, Technology, Engineering, and Mathematics (STEM)
- Humanities and Social Sciences (HumSS)
- Accountancy and Business Management (ABM)

"Our school has 68 teaching and non-teaching employees," Mr. Marcelo explained. "The majority of them belong to various ethnic groups in the Cordilleras¹, just like most students. Most of the students are locals. However, some of them come from neighboring villages such as barangays² in Benguet province as well as from other nearby provinces. Most of the parents are farmers who are from the lower income class. Students who live in remote areas commute by foot or by public transportation. A number of students stay in dormitories or boarding houses outside the school campus.

¹ The Cordilleras is an administrative region in the Philippines, situated within the island of Luzon.

² Barangay – The native Filipino term for a village, district, or ward. It is the smallest administrative/ political unit in the Philippines.

Mr. Marcelo is a passionate teacher who is committed to helping his students learn and grow. He knows that learning is a lifelong journey, and he is always looking for new ways to inspire his students and help them reach their full potential. He knows that learning is not just about acquiring knowledge, but also about changing one's behavior. He creates a school environment where students are encouraged to learn and grow, both academically and personally. "Before we can say that someone has learned anything," he explained, "they should have undergone change as a consequence of all the knowledge, skills, and values they have acquired. I agree that action speaks louder than words, thus children are learning when they internalize and apply what they have learned into action."

The issue with his students is their lack of attendance and attitude toward studying since they do not think these are necessary. "Discontinuing their education," he says, "can hamper a student's promising future." Thus, he reached out to drop-out students pairing them with the good students who could provide them with support in their studies. He would visit them at home and in their boarding houses to check on how they were doing and help them overcome the challenges they face, encouraging them to return to school. He would conduct after-school classes once a week to help students catch up and learn, and assist students get scholarships to fund their high school education or go on to university.

"The school which is a community has to help students be successful in life," Mr. Marcelo believes. To this end, he has mobilized his community of parents and teachers to work together on joint projects. Every year over the past decade, his school has participated in Brigada Eskwela (the National Schools Maintenance Week) at the start of each school year to get schools ready for student enrolment and classes. The Brigada effort has spilled over to other projects during the school year, such as the Cleanest and Greenest School Implementer search, Best in Partnerships (with NGOs, local government, and the local business community), Linkaging and Networking with other organizations, and TAWID – a program to enhance digital literacy of learners to strengthen skills in communication and collaboration to enhance employability.

Mr. Marcelo is proud of the work that his school has done to create a community that is committed to helping students succeed. He believes that the school can only achieve its goals when it collaborates with the community, and he is committed to continuing to build strong relationships with the community members. "The key," Mr. Marcelo said, "is to build strong relationships with the community members. I have a good working relationship with my co-workers even if we have differing perspectives or opinions about things. Collaboration is critical to success."

The story of Mr. Marcelo's school is a reminder that communities can achieve great things when they work together. The school has been able to achieve its goals because of the hard work and dedication of the students, teachers, parents, and community members. This story is a testament to the power of community and the importance of collaboration. Mr. Marcelo is an enthusiastic advocate for education and community development. He has initiated a number of programs that have had a positive impact on the lives of many people.



After school literacy programs

Mr. Marcelo believes that education is the key to success, and he is committed to providing educational opportunities for all students, regardless of their background. He has initiated several after-school literacy programs that aim to provide students with the skills and knowledge they need to succeed in school and in life.

- *Technical-vocational community-based training.* This program provides students with training in technical and vocational skills that can help them find jobs and earn a living.
- *Cultural heritage education.* This program teaches students about the cultural heritage of their community. This helps students to develop a sense of pride and belonging, and it also helps them to understand the importance of preserving their culture.
- *Books and a Learning Center for the Barrios.* This program provides books and other learning materials to primary and secondary schools in rural areas. This helps to ensure that all students, regardless of their location, have access to quality education.

On-site outreach projects

In addition to his after-school literacy programs, Mr. Marcelo has also initiated several on-site outreach projects that aim to help the community in a variety of ways.

- *Share-A-Joy/Share Your Blessings.* This project provides food and other necessities to families in need.
- *Help Empower the Lives of the Poor (HELP).* This project provides financial assistance to families in need.
- *Project Wheels*. This project provides wheelchairs to people with disabilities.
- *Prison Visit.* This project provides support and resources to prisoners and their families.



Mr. Marcelo is also committed to helping at-risk students. He initiated the IWAS Learning Support Program, which provides tutoring and other support services to students who are struggling academically. The program has been successful, and it has helped many students to improve their grades and stay in school.³

For the love of books and reading

Mr. Marcelo is a strong advocate for literacy. He initiated a Reading Bus program that provides books and other reading materials to remote communities. The project has been popular, helping to increase literacy rates in communities served. Support has been generated from local private businesses. An old bus was turned into a mobile library that could reach remote communities bringing books for children to read.

The Reading Bus is stocked with books for all ages, and Mr. Marcelo and his team of volunteers visit schools, community centers, and parks to provide free reading materials. A California (US)-based NGO – "Books for the Barrios" – provided the initial donation of books for the mobile bus. Since then, book donation drives for primary and secondary learners have provided resources for community reading centers. The end-goal of the project: To increase access to books, promote literacy, and inspire a love of reading in children from all backgrounds



³ *Iwas* (Pilipino; noun) – avoidance, evasion; (verb) – to avoid.

Working with the community

"As a teacher, I want to be resourceful in soliciting resource materials for people, particularly for those in rural areas," Mr. Marcelo said. "My school is in a remote area and there is a lot of poverty there. I want to help address that poverty through projects." As he shifted papers on his desk, Mr. Marcelo explained what he meant by this. "I see myself not only as a teacher, but also as a counselor for the community."

Many students' families struggle with financial problems in Mr. Marcelo's school. As the head teacher, he started by preparing a proposal to get funding from the Technical Education and Skills Development Authority (TESDA)⁴ to provide training courses for students such as in food processing skills, hair dressing, and computer skills.

In the regional center of Baguio City, Mr. Marcelo approached Narda's for a partnership. Narda Capuyan is an entrepreneur who started a weaving business in 1972 in La Trinidad, Benguet province. Initially weaving blankets from recycled acrylic yarns, Narda was a family planning nurse who took her hand-knitting bobby to her community and encourage the women there to get into weaving so as to earn and, by her design, keep them busy from having more babies. Fifty years later, Narda's produces a wide range of woven goods from cloth for dresses, home furnishing, and decorative woven art. Its products are now exported widely, and she has received numerous design awards. Working with Narda's has given Mr. Marcelo's students the opportunity to gain experience in a traditional Filipino craft and learn new skills they can use in their future careers.

Teaching citizenship is another important lesson for young people in Mr. Marcelo's school. It teaches them about their rights and responsibilities as citizens, and how they can make a difference in their community. "I would like to teach them to help the poor and indigenous groups," he stated with intention. While implementing projects, he realized that there were other groups that were also in need such as persons with disabilities (PWD). To address this new community, he started initiatives to provide them with food, clothing, and school supplies. He also established connections between PWDs and PWD support groups who could provide wheelchairs and pairs of crutches for disabled indigents. Workshops on skills and livelihoods were organized to encourage self-reliance, entrepreneurship, productivity, and income generation for them.

⁴ TESDA is the government agency tasked to manage and supervise technical education and skills development in the Philippines.



Mr. Marcelo's initial strategy to get funding was to knock on the doors of people he knew asking for funding support. Later, he learned how to approach the private sector and private businesses. For him, building trust was the key to success in any partnership. He built trust in his partnerships by reporting to his partners on a regular basis, showing them progress reports, and producing receipts for expenses. Here, transparency was crucial so that they understood and were aware of what he was doing to help students and the community. By maintaining this trust, his school has received support from TESDA for the past 15 years.

During the COVID-19 pandemic, he undertook several initiatives to help his students and the neighborhood. "Our learners are supported in their studies despite the challenges brought by the COVID- 19 pandemic," he stated. "We have a number of initiatives in place to help students and families succeed." One of these was a program that provided food rations and medicines to teachers and volunteers who were delivering learning modules to students in various communities. The program was funded by donations from the community. "We know that many of our teachers and volunteers were struggling to make ends meet," he said. "This program helped to ensure that they have the resources they need to continue their important work."

Mr. Marcelo also helped to secure a used ambulance and a second-hand bus for the community. The ambulance is used to transport students to and from the hospital, and the bus to deliver instructional materials and other supplies to nearby villages. "These vehicles have made a huge difference in our community," he explained. "They have made it possible for students to continue their education, even during the pandemic." His story is a reminder of the importance of community during times of crisis. It is also a reminder of the power of one person to make a difference.

Because he is from the area, Mr. Marcelo was aware of his community's challenges and needs. Mr. Marcelo Otinguey has been an inspiration to his school and community – a passionate teacher committed to helping his students learn and grow and a tireless advocate for education and community development. "Teaching is a life of service to empower people," he says quietly. "Teachers have the power to make a difference in the world."

School Dropouts in the Philippines

Samuel John Parreño

In a report published by the Philippine Department of Education, on the average, within the school years 2005 to 2013, 26% of elementary school students drop out before the sixth grade, and 23% did not graduate from high school. In general, 6% of elementary school students drop out of school. Between SY 2006-2007 (6.4%) and SY 2011-2012 (6.38%), there was only a slight decrease in the overall elementary school dropout rate (UNESCO, 2015). Since 2008, the elementary dropout rate has been at or below 6%, whereas the secondary dropout rate has remained in the 7% range since 2007.

Additionally, it has been noted that, though slowly, since 2007, dropout rates of elementary and high school levels have been increasing. The dropout rate increased progressively from 5.99% in 2007-2008 to 6.81% in 2012-2013. The secondary level dropout rate also shows a similar pattern, increasing from 7.45% in 2007-2008 to 7.82% in 2011-2012 (Amoroso & Bajo, 2014). According to reports, 3.8 million Filipinos, or 1 in 10 of those within the ages of 6 and 24, did not go to school in 2016. Fifty-three percent of the 3.3 million people in this age group, who should already be in senior high school or college, come from the poorest families. They are between the ages of 16 and 24 (Golez, 2018).

As of 2018, it was noted that 18% of junior high school learners did not proceed to senior high school, compared to roughly 8% of sixth grade pupils who do not graduate and enter seventh grade (Cervantes, 2018). Given a rising enrollment rate, the Department of Education asserted that the numbers actually show improvement, noting that it is positive that enrolment rates are rising while dropout rates are nearly unchanged (Amoroso & Bajo, 2014). However, a high dropout percentage indicates issues with the internal effectiveness of the educational system, so the optimal dropout rate should be close to zero percent (UNESCO, n.d.).

The Philippine Statistics Authority (PSA) defines dropout rate as "the percentage of students who left the school during the school year because of any reasons, as well as those who finished the previous grade level but did not enroll in the next grade level the following school year" (Dropout rate, 2006). The Philippines has been dealing with a high percentage of this situation since 2005, when 26% of primary school students did not complete the sixth grade and 23% did not complete high school (UNESCO, 2015). Additionally, it has been noted that, though slowly, since 2007, dropout rates at the primary and high school levels have been increasing. The dropout rate increased steadily from 5.99% in 2007-2008 to 6.81% in 2012-2013 (Amoroso & Bajo, 2014). Some have linked this high dropout rate to the "ill-planned" and "haphazard" implementation of K-12 education. According to data, 3.8 million Filipinos, or 1 in 10 of those within the ages of 6 and 24, did not go to school in 2016. Fifty-three percent of the 3.3 million people in this age group, who should already be in senior high school or college, come from the poorest families. They are between the ages of 16 and 24 (Golez, 2018).

The research findings indicated that among the causes of dropping out, the high cost of education has the highest proportion in 2008 and employment or seeking employment has the highest proportion in 2013. Thus, high cost of education and employment or seeking employment were the root causes of dropping out in the years 2008 and 2013, respectively. The common reasons for dropouts that were shared by the different regions in the Philippines were employment or looking for work, family income not sufficient to send a child to school, high cost of education, and lack of personal interest. This suggests that some regions have the same characteristics and factors affecting the root cause of their dropouts.

Reference:

Parreño, Samuel John, "School Dropouts in the Philippines: Causes, Changes and Statistics" (January 17, 2023). *Sapienza: International Journal of Interdisciplinary Studies*, Vol. 4, No. 1, January 2023, Available at SSRN: https://ssrn.com/abstract=4327840

SINGAPORE YOK JOON MENG PMCA 2021

Story written by Juan Miguel Luz

Action Research to Anchor Good Teaching

"If students are learning, they can see the relevance of what they have learnt and apply these to solve problems."



The meeting of teachers had just ended at the Yu Neng Primary School in Singapore giving Teacher Yok Joon Meng a chance to reflect on the program they would soon be launching – *Destination Imagination:* A multi-disciplinary STEAM (Science, Technology, Engineering, Arts, Mathematics) competition.

Tall, lanky, and boyish looking with his short, cropped hair and a ready smile, Teacher Yok is the Head of English Language and Social Studies in his school where he has been a teacher for 16 years. There, he handles mixed progress subjects for P4 and P5 students (11- and 12-year-olds).

Teacher Yok's focus area is infusing technology into English language teaching and learning. In addition, he started a program introducing computational thinking and coding in the school curriculum.

The school setting

Yu Neng Primary School located on the south end of Singapore island is an old school established in 1935 by its early founders. At that time, the city-state was a collection of villages, this one nestled in the heart of Bedok.



In 1934, the late Mr. Ng Huay Leng, along with four villagers, came together to plan how to nurture and educate their young. With resources contributed by the community, they built a modest school they called Yeu Nerng School. Lessons were conducted in Mandarin. That first year, Yeu Nerng had an enrolment of twenty students from the neighboring villages. Despite poverty and challenging times, the students of Yeu Nerng did well in the final examination results.

After World War II and the Japanese Occupation, the school was restored and reopened. By 1960, the school had an enrollment of about hundred pupils. This grew seven-fold to 693 students in 1978 with a staff of twenty-three teachers. By then, a new management committee had built a 9-classroom, double-session school. Over the years, the school had a consistently high overall percentage of student passers above the national average in the Primary School Leaving Examinations.

In 1982, the school moved to its present site at Bedok North Street 3 to cater to a fast-expanding student population. The school was upgraded from an aided school to a government school and renamed Yu Neng Primary School. English was adopted as the school's main language medium in the curriculum. In the early 2000s, the school underwent more changes and merged with another school to be what it is today.

In recounting the school's history, Teacher Yok repeated the school's mission statement: "Together, we create an inviting and enriched environment to nurture passionate learners, creative thinkers and caring leaders." Students, from P1 to P6, are expected to develop and imbibe the school's core values spelled out in the acronym: GR3IT.

- Graciousness
- Respect
- Responsibility
- Resilience
- Integrity
- Teamwork

The school community

The students of Yu Neng Primary School are between 7 and 12 years of age and come from around the neighborhood. Most have stable, supportive families. There are, however, a small number of students with special educational needs who may face more challenges at learning. During the pandemic, these special needs presented more challenges than during normal times.

"Most of the new challenges our students faced were with regard to the learning environment and interface during the pandemic when we had Home-Based Learning (HBL)," said Teacher Yok. "While most of our students had access to technology, some might have issues with the home environment when all or most members of the family were at home engaged in HBL or working from home."

As primary school students, they also required more guidance and supervision for learning tasks and activities, and not all parents were prepared to provide this guidance or had the time to help their children. This problem or situation was not unique to Teacher Yok's school, however. Many, if not most or all schools in Singapore faced the same dilemma or challenges. "This is where we had to be innovative, work smarter, collaborate more closely as a faculty," he said.



Beginnings as a teacher

"I have been a teacher since 2006," Teacher Yok admitted. "No one from my family was a teacher and in fact, teaching was not my first job. I first started working in a commercial bank."

Upon graduating from university, Teacher Yok found a job working in a local bank. At the same time, however, he volunteered at a family service center and provided funds for the tuition of children from single-parent families. "I did have a childhood dream of becoming a teacher," he said, "and this dream, together with the volunteer work, eventually led to a decision to make the switch to teaching."

Teacher Yok already had a Bachelor's degree in business (Information and Communications Technology, ICT), so he proceeded to take a Post-graduate Diploma in Education at the National Institute of Education (NIE) at Nanyang Technological University in Singapore, specializing in primary school English Language and Mathematics.

Upon attaining the post-graduate degree, he was assigned to his current school, Yu Neng Primary School. While there, he was selected as a Research Activist for the school. A research activist is a schoolteacher who is assigned to lead the school in undertaking action research to enhance and add new thinking to the teaching in the

school. "During that time," he said, "I learned more about educational research and completed a research project based on a school innovation."

In 2008, armed with this research experience, Teacher Yok embarked on a Master's Degree course in Technology and Learning Sciences at NIE. While there, he authored a research paper titled: "Effects of Technology-Mediated Peer Feedback on Improving Primary School Students' Oral Reading Performance."

In 2010, he was promoted to the position of Subject Head in English Language, and in 2012, he was appointed as the Head of Department for Info-Communications and Technology (ICT). In 2016, he was appointed as Head of Department for ICT as well as the English Language Department head. Four years later, he assumed the role of the Head of Department for English Language and Social Studies.

Role models

Role models are exemplars who influence others by serving as examples. They are admired by others who try to emulate them because of their perceived personal qualities, behaviors, or achievements even if they do not provide direct instruction. For Teacher Yok, he admitted he had three role models.

"My first role models were my parents," Teacher Yok said. "They might not have been well-schooled, but they were certainly well-educated in values. They impressed on me the importance of education through hard work and resilience."

His second role model was his Primary Three English teacher, Mrs. Chong, who introduced him to the world of reading for pleasure through Roald Dahl's Fantastic Mr. Fox in late 1980s. "She was instrumental in developing in me the love for language as she read stories to us during her lessons," he admitted. Henceforth, he fell in love with Roald Dahl's books and made it a point to collect and read as many as he could get his hands on. "Because of Mrs. Chong," he added, "I also make it a point to read to my students stories to excite and enrich them."

Roald Dahl (September 1916 to November 1990) was a British author of children's books and short stories as well as a poet. His books have sold more than 300 million copies worldwide and Dahl has been called "one of the greatest storytellers for children of the 20th century".¹ Dahl's short stories are known for their unexpected endings, and his children's books for their unsentimental, often darkly comic mood, featuring villainous adult enemies of the child characters. His books championed the kindhearted and featured an underlying warm sentiment. These were the qualities that endeared these books to Teacher Yok.

A third role model was his lecturer and tutor during his teacher training at the National Institute of Education, Dr. Ruth Wong. "Her passion in teaching primary school English through children's literature could be intensely felt and inspired me to begin my collection of children's picture books," he said. He endeavored to collect as many books for his school library and teach language with as much enthusiasm as Dr. Wong once he graduated.

Teaching philosophy

Learning, for Teacher Yok, is when students can connect and apply what they have learnt in the classroom to the real world. "If students are learning," Teacher Yok explained, "they can see the relevance of what they have learnt to their lives and apply what they have learnt to solve problems."

To assess and measure the degree of learning, he looks to different assessment techniques and methods. "There is not just one way of measuring learning," Teacher Yok pointed out. "It can be measured using examinations which is the most traditional way. However, learning is continuous and formative assessments, beyond just pen-and-paper tests or examinations, should be used often."

"Sometimes, we can set performance tasks (e.g., presentations, show-and-tell and discussions)," he continued, "so that students can demonstrate their learning. Technology, with its affordances, can also be leveraged to monitor students' learning. The data will be of use to teachers for the planning, delivery, and evaluation of lessons."

¹ The Independent, December 12, 2010.



Innovations in the classroom

With his background and training in ICT, Teacher Yok has incorporated the use of technology pervasively in his lessons. "This new generation of students are 'digital natives'," he says. "They are at home with the technology and devices. Therefore, I like to harness the affordances of technology to design lessons or experiences which allow for blended learning. Students can therefore be more self-directed for parts of the lesson. Technology is also key to monitoring the progress and assessing the understanding of students' learning."

During the pandemic when schools had to be closed for some time (full school closures in 2020 was 4 months and partial school closures in 2020-21 was 10 weeks², in the case of Singapore), teachers had to make adjustments in terms of teaching instruction, coaching and mentoring of students, and in assessing their online work and home-based learning. "Primary school students typically require more guidance and supervision for learning tasks and activities," Teacher Yok stressed. "Hence, a good way to circumvent some of the challenges associated with HBL is to provide customized and differentiated instruction to students in smaller groups online."

Teacher Yok's class usually has about 40 students. During the pandemic, it was a challenge to reach all 40 students over Zoom when he conducted his lessons online. To ensure that his students learned well, he regrouped them based on their

² Conference paper for equitable education 2021 – Part 1 Juan Miguel Luz & Joseph H. Batac September 27, 2021. Equitable Education Fund (EEF, Thailand; UNESCO; Princess Maha Chakri Awards Foundation (PMCA).

needs and progress. In the smaller groups, he was able to customize and differentiate his instruction so that students could benefit from the greater attention given to them. In the end, this method worked out better than a webinar-style, one-size-fits-all approach.



Over the years, Teacher Yok used different forms of education technology (edtech) in teaching English Language. Some of these examples included *Newsmaker*, *Classpoint, Tricider, Classkick, and Google Classroom*. The adoption of any edtech would usually mean some kind of learning curve but for his students, as they got used to using edtech and got better at it, there were fewer problems. "The more important thing," he stressed, "is that the pedagogical and content knowledge considerations are sound before any edtech is used."

Innovative programs

A program Teacher Yok designed with fellow teachers was "Innovations in Learning" where students could design and conduct projects of their own interest. One project was in introducing rice planting as part of a multi-disciplinary project for P5 students. "The program goal is to develop student agency in problem-solving," said Teacher Yok. "That particular project was to teach students not only about the biology of growing food, but also about food wastage and sustainability." Another project was introducing new English language programs to promote a reading culture through extensive reading and library activities.

Yet another program is "Destination Imagination", a multi-disciplinary STEAM (science, technology, engineering, arts, mathematics) competition. Teacher Yok, along with two Senior Teachers, recruited a group of Primary 5 students as changemakers who would give back to society through their project. The students had to brainstorm solutions to solve a community problem and present it as a sci-fi story. In the end, these young changemakers introduced maggots to convert canteen food waste into compost. When they presented their project, they put on an amazing sci-fi skit to inform the audience what they had done. "What was great," as Teacher Yok recalled, "was that from conceptualisation to implementation, the students were fully in charge and the role of teachers was as facilitators of their learning.
For the school library, Teacher Yok worked with others to procure iPads for use in digital learning. These were made available to students with no digital resources.



Introducing change in the system

As the then Head of the ICT Department, Teacher Yok saw through the implementation of the ICT Masterplans 3 and 4 in his school and developed an Applied Learning Program which focused on multimedia production and computational thinking.

A key success factor in introducing and cementing institutional change is stakeholder buy-in and collaboration from fellow teachers and parents. Over the years, Teacher Yok's approachability and professionalism has allowed him to build good relationships with other teachers, many of whom he has worked with for a number of years. "Teachers in Yu Neng Primary School, my school, are highly dedicated and supportive of the work we all do," he explained. "We collaborate often, especially during our weekly Professional Learning Team (PLT) sessions. This is when we get together to look at the needs of our students and plan and design lessons or experiences that would support their needs."

Earlier, in 2009, he was the Research Activist for his school and his colleagues, and he studied the impact of using one of the innovations, Scrawlies, in which teachers used a tablet to record online lessons to tutor students in spelling and to record their achievement. For this project innovation, his action research team was given the bronze award at the Ministry's Innergy (School) Awards which recognizes school-based innovations in the education service.



Teacher Yok has also been recognized for his leadership and the use of technology in teaching and learning when he was conferred the Inspiring Teacher of English (Leadership) Award and was shortlisted as a finalist for the President's Award for Teachers.

Learning from action research

"Action Research and Development," stressed Teacher Yok, "can add value to teaching and the school culture if done well."

A research topic he has recently engaged in with other teachers in the fraternity is a project on writing based on customized lessons to motivate students to write, stemming from the experiences of teachers and students regarding writing during the pandemic. "We wanted to investigate the motivations and emotions of students during blended writing lessons, so we created playlists which allowed students to choose what and how they wanted to learn writing through online games, videos and face-to-face lessons," Teacher Yok recounted. Through the research findings, they learned that students were more motivated to write when playlists were used and they tended to write better, too.

Not one to rest on his laurels, Teacher Yok Joon Meng has already mapped out future plans. "I want to develop new English Language programs focusing on oral communication," he said with a boyish smile. "I want to collaborate with other school heads on multi-disciplinary learning and to promote student agency through project-based learning. But my latest dream is to forge partnerships with overseas schools and institutions (WorldClass@YN) to bring the world into the classroom."



THAILAND PRATIN LIANCHAMROON PMCA 2021

Story written by Sitthikorn Sumalee, Kasetsart University

Developing Student-Entrepreneurs

"No one should be left behind. I encourage individuals in the community to pursue vocational education to improve their quality of life."



In southern Thailand, in Tambon Tham Nam Phut, Phang Nga Province, by the Andaman Sea, sits the campus of Phang Nga Technical College, educational service area 2. The college covers an area of 38 rai¹. There are 500 students in the Science-based Technological College project, 200 of them commuting students and 300 boarding school students. All of them have Vocational Innovation Scholarships project provided by the Equitable Education Fund.²

¹ A rai is a Thai unit of area equal to 1,600 square meters (16 ares, 0.16 hectares, 0.3954 acres), and is used in measuring land area for a cadastre or cadastral map.

² EEF conducts studies and research to develop a body of knowledge on human development, and then to promote and support the application of this knowledge to reduce inequalities in education in order to respond to workforce needs to upgrade the capabilities of the Thai people. (https://www.eef.or.th)

Dr. Pratin Lianchamroon is the head of the science-based technological college project and the head of the vocational innovation scholarship project. She teaches marketing, economics and entrepreneurship. Within the program, Dr. Pratin has pioneered a science and technology-based vocational learning track using project-based learning in an innovative curriculum that combines science, arts, and vocational education.

A passion for teaching

Dr. Pratin graduated with a Bachelor of Business Administration Program, majoring in Marketing, from Srinakharinwirot University. Later, she took a Master of Public Administration from the National Institute of Development Administration (NIDA) and a Doctor of Philosophy in Curriculum Research and Development from King Mongkut's University of Technology in North Bangkok.

Her working principle is to work with her heart, not just with technical expertise. "Do it together and do it as a role model" is Dr. Pratin's definition of being a good teacher. This has not changed for over 30 years. The idea has been transmitted from generation to generation of students under her guidance.



"Because vocational education is not popular in Thailand, it is difficult to obtain parental acceptance," mentioned Dr. Pratin. "In previous times, parents did not want their children to pursue vocational education due to the negative perceptions held by the majority of society. They believed that vocational students were students who were not strong in academics, had nowhere to study, could not enter a secondary or high school, and were mostly students from poor, low-income families." To address this concern, she pioneered a new program on science-based technology with her colleagues, integrating science, mathematics, and arts to encourage students to become innovators.



Dr. Pratin began as a volunteer in the local community in 1993. This ultimately led her into a teaching career. "I believe no one should be left behind. I encourage poor individuals in the community to pursue vocational education so that they can improve their quality of life," she said. She is a teacher not just in the classroom, but also in her community, where she teaches the community to start their own businesses by first writing simple business plans. Basic accounting and how to promote local products are the first courses taught to these students.

"I give my all to my students because I believe they will make the world a better place when they become decent citizens building successful professions for themselves, giving back to their communities," Dr. Pratin said, citing this as her mission as a vocational educator. Many people have asked Dr. Pratin how and why she chose vocational education as a career. With a ready smile, she replied, "being a vocational teacher was my life goal, and I love the profession of being a teacher."

Self-development as a teacher

In Dr. Pratin's point of view, vocational educators should keep up with professional development in three areas: (1) teaching or instruction; (2) research; and (3) community service. She focuses a lot on self-development in the three mentioned areas to become a better educator.

Dr. Pratin has been developing her skills in teaching design and management, gaining knowledge, and training students. "This is due to the fact that knowledge is changing so quickly," she explained. "In order to have new ideas about alternative teaching strategies to serve students with diverse learning styles and needs, I need to study new developments in my field and in teaching methodologies."

She is now on the next level of self-development which is researching to create new knowledge. Her perspective is that research is essential for the profession of teaching since it paves the way for advancement and prosperity. It combines what is already known with what is not yet known. The pursuit of knowledge ultimately leads to advancement and prosperity. The knowledge that already exists, which was obtained from prior research, is the basis for the acquisition of new information. She has collaborated on such research with other institutions and colleagues. One such research was entitled, "Core Competencies Development of Tourism and Service Personnel in Vocational Colleges in Krabi and Phangnga".

From the research, Dr. Pratin and others developed guidelines for developing and standardizing the potential of vocational colleges that instruct tourism and services, including the methods of teaching, curriculum development, and related instructional development. "Teaching a good student to be a decent person is easy, but you are something exceptional if you can change a bad one to be a good one," she emphasized. "Besides, being a teacher is a lifelong process of learning, researching, and self-improvement so that the teacher can pass on knowledge to students with the hope that they will be able to apply the knowledge in their daily lives and become morally upright members of society."



Understanding students' family background

Dr. Pratin has a strong determination to succeed, even in the face of overwhelming challenges. The majority of her students under her supervision as the head of the science-based technological college project and the head of the vocational innovation scholarships project come from low socioeconomic backgrounds and have limited access to education. Because of their poverty, most families cannot afford to send their children beyond the secondary level of education. Some students come from a divorced family or a violent background. Some parents are addicted to drugs, some are in jail, and some are wandering families who live on the boss's construction site. Some students are sent from orphanages. Parents send their children to Phang Nga Technical College, which is a boarding school, because there are programs provided for scholarship students who will receive welfare benefits such as accommodations, meals, tuition, a stipend, and so on. "Being a student here," Dr. Pratin says, "can help reduce the family's burden since they can be on scholarship until they receive a Vocational Certificate (Voc. Cert.) or High Vocational Certificate (High Voc.Cert.) and work and earn a living."

Some of these poor and underprivileged students suffer from psychological issues such as stress or depression. Because students come from diverse families, it is the role of the teachers to solve a wide range of difficulties, including not only supporting subject knowledge and working skills but also behavior and social manners. In some cases, Dr. Pratin provides financial support to parents in order to prevent them from compelling her students to resign and seek employment to support their families.



A disaster reshapes commitment

Thailand was one of the countries affected by the Indian Ocean earthquake and tsunami in 2004. Because of the proximity of Thailand's Andaman beaches, which are located around 500 kilometers east of the earthquake's epicenter, the tsunami took only two hours to arrive and strike the country's western shore. The Thai government recorded 4,812 verified deaths and 8,457 injured, with another 4,499 missing after the country was rocked by a tsunami caused by an earthquake in the Indian Ocean on December 26, 2004.

"I felt truly guilty that I sent my students for a hotel training program in Phuket," Dr. Pratin said. "It was the time of the tsunami, and I only wanted to help parents find their children. We were constantly looking for them around every corner we could imagine they would be – every corner of the hotel and of the island. After 3-4 days, we began looking for them in temples where there were more than a thousand bodies. Only six bodies of my students have been found. I have been blaming myself the entire time, even though many people said it was not my fault but that of a natural disaster."

After her loss, Dr. Pratin committed herself to all her students, putting their education above her own work. If students did not show up for class, she would reach out to them at home, no matter how far or tough it was. She would try her best to communicate with students and parents to understand what would happen in the future if they did not have the knowledge to apply for work.

Project-Based Learning (PBL)

As a vocational educator, Dr. Pratin serves as a coach and facilitator. But more than that, she is steadfast in looking for opportunities for her students and communities. "I am pleased when my students successfully apply their knowledge for the benefit of others," she stressed.

According to Dr. Pratin, "A teacher imparts both academic knowledge and professional skills to help students succeed in their jobs and their future businesses." Project-based learning allows them to learn while working through projects and product practices that will eventually be used commercially.

Project-based learning or project-based instruction is a teaching approach that allows students to build knowledge and skills through interesting projects that are based on challenges and problems they may face in the real world. Project-based learning involves more than just "doing a project." PBL requires students to "investigate and respond to an authentic, engaging, and complex problem or challenge" with deep and continuous attention. (Gonzalez, 2016)

What is Project Based Learning?

Comparing PBL to what we consider to be "traditional" instruction makes it the simplest to understand: In a conventional classroom, we present material to students, give them chances to practice or apply what they learned, and then conduct a summative assessment. This could be in the form of a test or it could be more of a performance assessment, like an essay, a speech, or some other kind of project. Careful, though: The "project" is frequently only a poster that repeats the information that was presented to the pupils during the course.

Project-based learning embeds knowledge within a long-term project, a real-world problem that students must solve in a creative and realistic manner. Students satisfy required requirements while tackling the challenge, but this effort is integrated into the project rather than separate from it.

Take, for example, the study of viruses. In a PBL project, students can be asked to educate their peers on the best ways to avoid the spread of viruses in the classroom. To do so, students would need to study microbiology to understand how viruses function, then explore prevention measures and use their writing and speaking skills to find the most effective way to persuade their peers to change their habits. This could take the shape of a video or poster series.

Reference: Gonzalez (2016)

Knowledge is put to use in the creation of a plan, such as the Ban Bangpat Homestay Project. According to Dr. Pratin, the following are instances of knowledge applied in this project:

1. Entrepreneurship skills. Students begin by drafting a business plan, managing the homestay business, producing, and providing services, developing a marketing plan, engaging in public relations, preparing simple accounting, and so on.

2. Sufficiency economy principles. The objective is to empower people in the community to rely on their own natural resources.

3. The preservation of natural mangrove forests in the community. This will serve as a source of marine animals for consumers. According to the Ban Bangpat homestay's business plan, a portion of its profits will be contributed to mangrove reforestation, where this will support those pregnant crabs, released by the community, to grow the population sustainably.

The idea has been extended to surrounding towns and is being utilized to help the tsunami-affected population recovery in a way that encourages sustainable living.

The Ban Bangpat Homestay Project.

Ban Bangpat Community is located in Tambol Bang Toey in Muang District, Pangnga Province. It is a fishermen's village on a small island in Pangnga Bay. The island hosts 216 houses in a row in the middle of water with a population of around 280 people. Everyone is Muslim and speaks in a southern dialect. The Ban Bangpat Community is close to Panyee Island, Pingkan Mountain, and Lod Cave. There is a mature mangrove forest but no land for planting. Because there are so many monkeys in this area, the inhabitants used to refer to this island as "Ban Bangling," which translates to "Monkey Community." Later, the name was changed to "Ban Bangpat." Before 2004, the main source of income for every household in the community was fishing, catching crabs, shellfish, and selling shrimp paste. Ban Bangpat is regarded as the poorest hamlet in Muang District, Pangnga Province.

The Ban Bangpat Community was one of the areas that suffered from the 2004 Tsunami catastrophe. Fish cages, clam cages, and other working tools, including fishing boats, were all ruined because of the disaster. Consequently, the locals could no longer fish or gather crab, and the quantity of sea animal harvesting in that area significantly decreased. This was a situation the people had never witnessed before. The government and civil society organizations stepped in to assist in providing fishing tools and equipment to work to revive and promote a sustainable local economy. Fortunately, the Ban Bangpat Community is in a lovely natural environment in Phangnga Bay that could be promoted as a tourism destination.



Promoting the community's tourism was initiated by Miss Aree Hassanee, who had the training to start a business by herself. Later, she was convinced by Dr. Pratin to study for a High Vocational Diploma (High Vocational Certificate), majoring in Marketing. At that time, many Thai nationals and foreigners came to help Tsunami victims and stayed overnight at Aree's house, where her father was the village headman. Aree's inspiration for starting a Ban Bangpat Homestay project came from the kind hospitality her family extended to those visitors. Guests could stay in comfortable rooms and enjoy fresh seafood meals while learning about local culture and customs and touring Pangnga Bay and the surrounding area by boat. Studying with Dr. Pratin through project-based learning helped Aree run her Homestay business more concretely.

Ban Bangpat Community is now the community where people can help conserve the mangrove forest, which is a source of shelter and breeding for water animals that allows people to eat all year around. Any unsold production for the homestay market can be sold to the local markets in nearby communities in Pangnga Province's Muang District.

Project-Based Learning: Assessment methods

"Science projects and business plans will help students develop their potential," Dr. Pratin believes, "and the teacher needs to be the facilitator."

Assessment of learning is essential to determine how effectively students have learned and whether they have acquired entrepreneurship skills. Dr. Pratin stated, "The first step in learning is allowing students to identify and analyze problems: Social, community, and consumer issues. When students gather the necessary information, allow them to develop creative solutions." She practices teaching them to observe, predict, and inquire about things around them. She tries her best to stimulate them to come up with unique and creative ideas. She also trains students to consider the worthiness, value, and break-even point of producing innovations. "Last but not least," she says, "networking is essential for fostering the growth of work and innovation."



Dr. Pratin applies performance assessment and authentic assessment to analyze the learners' efficacy. There are some differences between authentic and performance assessments. Students in performance assessment display the desired behavior to be measured; students in authentic assessment not only demonstrate the desired behavior but also demonstrate it in a real-life environment. (Meyer, 1992)

Vocational education focuses on practical learning with both knowledge and practice to advance expected working attributes. Vocational students are required to learn how to be entrepreneurs by making a business plan, which links to other subjects such as marketing and economics. The students link, combine, and apply theoretical knowledge to create a product that can be used in business. Therefore, teachers can evaluate their knowledge, abilities, and attributes through their output.

"In the past, we memorized the lesson for the exam, but it doesn't work nowadays," emphasized Dr. Pratin. "We have to allow students to acquire and apply their knowledge in preparation for future jobs that need critical thinking and problem solving in the real world."



Inspiring other teachers

Dr. Pratin was aware that many students in her neighborhood did not have the financial means to continue their education after completing their secondary schooling. Because of this, she set out to find financial aid opportunities for disadvantaged children in the provinces of Phang Nga and the surrounding areas so that they may attend a vocational college. She did this so that she might entice students who were unable to continue their education due to financial constraints and provide them the opportunity to do so.

In addition, the way in which she initiated a science-based, technology-based vocational learning track through the use of project-based learning has influenced a lot of educators. This innovative curriculum blends science education with arts education as well as vocational education. "Science projects and business plans will help students develop their potential," Dr. Pratin believes, "and the teacher needs to be the facilitator."

Teachers from other technology vocational colleges in the province pay her a visit to learn about her innovative approaches to learning and teaching, specifically the model of an innovative curriculum that combines science, arts, and vocational education, and makes use of project-based learning, adapting it to their own teaching, learner management, and community development. This results in the formation of positive relationships between Dr. Pratin and her colleagues, as well as educators from other institutions. The sharing of best practice has led to the establishment of a network for academic collaboration.

Paying forward

Dr. Pratin has become a role model for many of her students, who "pay it forward" by assisting their own communities, such as by hiring and supporting locals to earn a living. Many of her students and their families were severely impacted by the 2004 tsunami. She made certain that her students completed their studies despite the challenges. Through the project-based learning approach, the "Ban Bangpat Homestay Project" has been developed as a community-based rehabilitation model. The model is now celebrated for its success as an exemplary model for ecotourism and sustainable community-based business.

"The highlight of science-based learning," she said as she closed her talk, "is that learning through the science-based projects and business planning will enhance the potential for thinking, observing, and analyzing the given problems, and it becomes the basis for inventing, designing, and creating new things."

The outcomes of the new program provided her students with good job opportunities. "They may acquire a respectable job and support their family financially after graduation," Dr. Pratin said with a confident smile. "Some of them were given the option to continue their education at the university level, and they may even be able to obtain better employment possibilities." As a result, Dr. Pratin has been able to attract more parental interest and support.

Dr. Pratin Lianchamroon takes a great deal of pride in the science-based technological college project that she was the driving force behind. Phang Nga Technical College has become one of the places where parents desire to send their children to learn, even though they must study with greater effort. When her students find a better path in life, they are always grateful, as if she was their godmother giving them a chance. "I am always delighted for them," Dr. Pratin said beaming. "It makes me proud to be their teacher."

References

Gonzalez, T. (2016, June 26). "Project based learning: Start here". *Cult of Pedagogy.* https://www.cultofpedagogy.com/project-based-learning/

Meyer, C. A. (1992). "What's the Difference between Authentic and Performance Assessment?"., *Educational Leadership*, v49 n8 p39-40 May 1992, from https://eric. ed.gov/?id=EJ444312

OECD, (2021). "Vocational Education and Training in Thailand'. Retrieved 27 April 2023, from https://www.oecs.ilibrary.org/sites/bcccbf63en/index.html?itemld=/content/ component/bcccbf63-en.

TIMOR-LESTE VICENTE MARCAL DA SILVA PMCA 2021

Story written by Juan Miguel Luz

School and Community

"The school has a role to play not only in teaching students, but also in helping the community."



He is a school principal and a teacher, but Vicente Marcal da Silva, in fact, wears many other hats: Executive chief of the national football association and the chess association, and a leader in the scouting organization.

Like many of the older teachers, Mr. Vicente, as he is known in his school community, was a student when the country was under Portuguese rule. When he became a teacher, the country had been taken over by the Indonesian authority before the country gained its independence after the War of Liberation. This generation of teachers taught in the early years of nationhood and nation-building and helped in the establishment of organizations involved in youth development.

Early education and training

Mr. Vicente was born and raised in Baucau, the second largest city in Timor-Leste, some 122 kilometres west of the capital, Dili. There, he started his formal schooling in Portuguese at the Catholic primary school in Fatumaca district during the period known as the civil war against the Portuguese colonial government (1970-1976). In 1978, he continued on to junior high school.

In 1980, Mr. Vicente took his first teaching job in a primary school in Dili before moving to a second posting at a primary school in Aileu district three years later. In 1987-1988, he took classes to get a Diploma II in teaching whereafter he was assigned to a school in his hometown of Baucau, now under the Indonesian government after the Portuguese left what was then East Timor.

By the late 1990s, increasing civil unrest and growing violence in the country centred in Dili, intensified with the majority of East Timorese demanding independence from Indonesia. To quell the violence, a United Nations-authorized force (INTERFET) was deployed to East Timor to establish and maintain peace. In 1999, a UN-sponsored act of self-determination led to Indonesia relinquishing control of the territory. On May 20, 2002, Timor-Leste became the first new sovereign state of the 21st century and the newest state in Southeast Asia.

During the three-year period that the country was a protectorate under the UN Transitional Administration in East Timor (UNTAET), Mr. Vicente and other teachers from his area reopened the schools in Baucau and Laga Vemasse. By then, he had moved to teaching in junior high school focused on teaching Portuguese, now one of the country's official languages together with the native Tetun, and English.

During that period, old schools were reopened, and new ones established. In Mr. Vicente's region, the reopened schools were the Baucau Junior High School and the Seical Junior High School. In the subdistrict of Laga, junior high schools were set up in Laga, Aslarigua, Sagadate, and Borodu'a. More junior high schools were established in the nearby subdistricts of Baguia, Vemasse, Loilubo, and Fatumaca, the last one set up as a Catholic school under the SDB congregation.¹

In 2009, Mr. Vicente enrolled in university to get his Diploma 3 in teaching and his Bachelor Education in Portuguese language in 2011.

The start of his teaching career

"I am from a farming community," Mr. Vicente began as he told of his journey to becoming a teacher. "My father and mother did not know how to read or write. Nor did my brother. But what my father lacked in knowledge, he had wisdom as a parent giving wise counsel to his children. It was my father who told me attending school and getting an education was important. It is from his counsel that I became a teacher. As a teacher, I would have a profession where I could serve my community."

Mr. Vicente's journey started as a primary school teacher 1984. Three years later, he moved on to teaching junior high school before moving to senior high school where he became a head of school. At that time, he was an auxiliary teacher in Baucau and in EBC Tirilolo. Aside from being school principal, he taught English as a subject.

"The success of our school," he explained, "is due to the support of our teachers, our staff, my family, and the community around the school." Together with the community, two feeder schools were established whose graduates would later attend the senior high school.

¹ Salesians of Don Bosco (SDB), a Catholic congregation of priests who dedicate their whole life to God through generous service to the young, especially the poorest and most disadvantaged. (https://www.sdb.org)



A philosophy of education

In the formative years of the country under the UN Transitional Administration, the education system adopted the "Four pillars of education" to guide the reorganization of the system and the curriculum. The Four Pillars are:

• Learning to Know – An understanding of the world around the child with an openness to the knowledge of one's own and of what others know, which keeps the child from ignorance.

• Learning to Do – The practice of absorbing knowledge which takes you away from immobilization.

• Learning to Live Together – Directs the child to teamwork which keeps him or her from isolation.

• Learning to Be – Solidifies the pillars and harmonizes them to conform with the human existence.

The four pillars are interdependent and form a single theme that directs the child to the construction of knowledge, skills, the ability to discern, act, and evaluate in a broad and integral way (Delors, 2001).

"The 4 pillars are about Enlightenment, Enrichment and Empowerment," Mr. Vicente said as he explained why this was important. "Students have to have a way of evaluating information, knowledge, and science in in everyday life that they can hold, touch, see, and practice in the classroom and in school using school facilities, equipment, and technology."

"For students to know something," Mr. Vicente continued, "there are theories to learn in science, but there is also imagination to think of what else there is. For me, the best way to evaluate the process of learning is to use different methods of assessment to determine what students know, what they can do, and what they can plan for the future."



Teaching techniques

In teaching his class in English and Communication, Mr. Vicente uses a number of teaching techniques, both traditional and progressive.

EGRA (Exposure, Generalization, Reinforcement, Application) is a teaching technique to increase students' understanding of grammar. The teacher uses group discussion using EGRA to get students to exchange ideas with each other in small groups. In this way, each student can explain the material in their own way. The role of the teacher is to guide students, help them express themselves more clearly, and correct grammar and tenses when necessary.

Communicative language teaching (CLT) or the communicative approach (CA) is an approach to language teaching that emphasizes interaction as both the means and the ultimate goal of study. This is particularly salient in communities where the language of study is not the language generally spoken at home or in the community, i.e., mother tongue.

Learners talk about their personal experiences with dialogue partners or in groups without emphasis on proper grammar yet. This is to promote language skills in all types of situations and encourage learners to incorporate their personal experiences into their language learning. According to CLT, the goal of language education is the ability to communicate in the target language, i.e., English, without emphasizing grammatical competence which in the traditional approach was given top priority.

Interviews are a form of oral activity done in pairs, whose main goal is to develop learners' interpersonal skills in the target language. For learners who are starting to learn the target language, the teacher gives each learner the same set of questions to ask a partner. They then take turns asking the question(s) for the other to answer. The teacher closely monitors each learner's response and can focus on a specific aspect of grammar or vocabulary to help both learners learn.



Group work is a collaborative activity whose purpose is to foster communication in the target language in a larger group setting. Learners are grouped no more than six people and each are assigned a specific role within the group. The teacher gives each group a task to perform. Each member of the group takes a designated amount of time to work on the part of the task to which they are assigned. The members of each group discuss the information they have found about their assigned task and discusses with the group how they can all work together to complete the task.

"Better comprehension," says Vicente, "leads to better communication with the rest of the group. This improves students' communicative abilities in the target language. The key to this method being effective is to make sure each member is contributing equally to the group effort."

Information gap is a collaborative activity whose purpose is for students to effectively obtain information that was previously unknown to them using the target language. Learners work in pairs where one partners is given a timetable on paper, but which is only half-filled. Other boxes in the timetable are empty.

The other partner, on the other hand, has the same timetable which is also half filled. But the timetable of the second learner has the empty spaces of the first learner filled and vice versa. The partners then converse to work together to ask each other and supply the information to fill out each and complete other's timetable sheet.

"This task is not only one in communication and the learning of language," says Mr. Vicente. "It is also an exercise in critical thinking dealing with unknown variables." This learning exercise will only be effective if learners have a more extensive vocabulary in the target language because asking exploratory questions often need a lot more description.

Opinion sharing is a content-based activity whose purpose is to engage students' conversational skills, while talking about something they care about. Learners work in pairs or small groups discussing in conversations topics that matter to them, such as personal experiences (such as certain behaviors in school) or larger topics (such as climate change or capital punishment).



"Opinion sharing is a one way to get shyer learners to be more engaged in class," offers Mr. Vicente. "If a learner has an opinion about a certain topic, then they will speak up and share." What the teacher has to watch for in this exercise is that each learner shows respect for other learners in the class. Students who do not teel respected in the class tend not to open up and participate in such an exercise.

Scavenger hunt is an activity that promotes open interaction between students. The teacher gives the class an instruction to find something specific such as students who have the same birth month as yours. Students then speak to each member of the class individually to learn about each learner's birth month.

Since this activity is not as structured as some of the others, it is important for instructors to add structure. If certain vocabulary should be used in students' conversations, or a certain grammar is necessary to complete the activity, then instructors should incorporate that into the scavenger hunt (Nunan, 1991).

The Audio-lingual Method or Army Method is a method used in teaching a foreign language based on behaviorist theory, which states that certain traits of living things, i.e., human beings, can be trained through a system of reinforcement or positive feedback, or negative feedback if the trait is to be discouraged.

The audio-lingual method teaches learners directly without using the learner's native language to explain new words or grammar in target language. Teachers drill learners in the use of grammar. In audio-linguicism, there is no explicit grammar instruction. Everything is simply memorized in form.

Lessons are built on static drills in which the students have little or no control of their own output. The teacher is expecting a particular response and not providing the desired response will result in a student receiving negative feedback. This type of activity is in direct opposition with communicative language teaching. This method later incorporated the principles of behavioral psychology as developed by B. F. Skinner. Drills and pattern practice are typical (Richards, J.C. et al., 1986).

The Grammar–Translation method is a method of teaching a foreign language derived from the classical (sometimes called traditional) method of teaching Ancient Greek and Latin. In grammar–translation classes, students learn the rules of grammar applying these by translating sentences between the target language and the native language. This method has two main goals. One is to develop students' reading ability to a level where they can read literature in the target language. The other is to develop students' general mental discipline.

The shortcoming of this method is that it generally focuses on translation only. There is usually no listening or speaking practice, and very little attention is placed on pronunciation or any communicative aspects of the language. The skill exercised is reading and then only in the context of translation (Zhou & Niu, 2015).

Community and school

Most of the students in Mr. Vicente's school, Encino Basico Central Tirilolo in Bacau, live below the poverty line (42%). Many are undernourished as a result of this (47%). "This is the reality in our community," he says. "The school has a role to play not only in teaching students, but also in helping the community. We have to give our students love, a home, and help so they can function well in school and in their community."

Students come from different villages around and near the school – Tirilolo, Caibada, Bahu, Seical, Buibau, Samalari, and another subdistrict such as Quelicai, Laga, Venilale, and Vemasse. Their homes are made of simple materials and their parents have small businesses, work in offices, are police officers, soldiers, or government workers.



"In 2020, together with the parents of our students," said Mr. Vicente, "we opened a feeder school (*infantil*) in Buruma which is supported by Thai teachers. Later in 2022, with the assistance again of Thai teachers, another feeder school was set up in Caibada Uaima'a. Teachers from the central school were sent to teach in these feeder schools."

Building good relations between the school, parents and the community is a major goal of Mr. Vicente as school principal. "There must always be good collaboration," he says. "We must always work as a team together generally as a collective."

Over the past few years, projects parents did with the school were many: Raising funds for a new hand tractor as a teaching tool for the school, the growing of paddy rice to support school feeding, horticulture as a school subject. Future projects planned are in sports – building a basketball court, a volleyball court, and a futsal court.

Beyond the school

Mr. Vicente's roles go beyond the school to other areas of youth development. He is the executive chief of the Football Association as well as the Chess Association. In 2021, *the Federação Xadrez de Timor-Leste* (FXTL, Chess Federation of Timor-Leste) was one of the recipients of the FIDE Funding for Chess Development. With this funding, FXTL developed various programs in the country such as chess basic training clinics, the establishment of chess associations in the seven municipalities, promoting chess for new players, and setting up a functionalizing FXTL Secretariat.

Mr. Vicente has also played a role in the national scouting association. *The União Nacional dos Escuteiros de Timor-Leste* (UNE-TL; formerly the National Scout

Union of East Timor, now the Scout Association of Timor-Leste was founded in December 2005 through the merger of two scouting organizations in the country (Corps of Catholic Scouts of East Timor and East Timor Scouting). The organization became a member of the World Organization of the Scout Movement in 2017.



Membership badge of Associação dos Escuteiros de Timor Lorosae

Dom Ximenes Belo, former Bishop of Dili, and Nobel Peace Prize laureate, was a former Scout and active in Scouting in the country.

Teaching in a difficult situation

"In the period of the pandemic," Mr. Vicente said, "it was difficult, and we had to prepare each subject differently. We had to provide our learners with worksheets and learning guides for them to do at home when we could not meet in school. The homework would be collected by teachers and corrected. For students with difficulties in learning, we would meet them in their homes or in a small group to tutor them and explain the lessons."

This was especially so for students in the more rural areas and schools in mountain. There, they had to rely more on television which would broadcast education TV for all subjects at each level in the country. The problem: Schools in Timor-Leste did not have enough or any television sets for this. Government schools had one or two computers that had access to internet. But this was not enough for classes of students.

School libraries therefore had to be more of the resource to help teachers. The library with its small collection of books that could be borrowed by students became a key element in learning. "I used the school library to help me with materials and topics for my learning exercises," said Mr. Vicente. "This helped us develop literacy and even numeracy among our students."

Thinking of the future

In 2012, the Ministry of Education establishment a new system education in Timor-Leste. With this came a new curriculum to raise the quality of education and learning in the country. The training of new teacher and the reskilling of teachers in the schools has been a major priority of the Ministry of Education.

Teacher training is a topic Mr. Vicente spoke about in his interview note. "It is my hope that in the future," he wrote, "my leadership will me the give opportunity to establish a new method to train teachers in my municipality. The aim is to exchange the experiences of teachers between teachers to other teachers to have a better education system."

"All the teachers in our school share the same goal for our students: To learn and be successful in life," said Vicente Marcal da Silva, teacher and school head. "We do this step by step for the future of the children of Timor-Leste."

REFERENCES

Delors, Jacques (2001). "The Four Pillars of Learning in the 21st Century." UNESCO.

Kasumati, M., Pratiwi, M., and Husnussalam, H. (2019). "Improving grammar skills using EGRA technique for the students' Eight Grade at SMPN 5 CIMAHI". Project, Volume 2, No. 3, May 2019.

Nunan, David (1991). "Communicative Tasks and the Language Curriculum". *TESOL Quarterly*. 25 (2): 279–295. CiteSeerX 10.1.1.466.1153. doi:10.2307/3587464. JSTOR 3587464.

Richards, Jack, and Theodore S. Rodgers (2014). *Approaches and methods in language teaching* (Third ed.). New York. ISBN 9781107675964. OCLC 864808581

Zhou, G. & Niu, X. (2015). "Approaches to language teaching and learning". *Journal of Language Teaching and Research*, 6(4), p. 798.

Timor-Leste: Reforming the Education System through School Leader Capacity-Building and School-Based Teacher Professional Development

Susanne Owen, consultant in international development & Debbie Wong, Senior Research Fellow

Educational Monitoring and Research Division, Australian Council for Educational Research. *Asia-Pacific Journal of Education*, Volume 41, 2021 – Issue 1

After decades of conflict with Indonesia, Timor-Leste is gradually rebuilding its education infrastructure and reclaiming its identity as an independent country. In the first decade post-independence the education sector faced many challenges, including a lack of school buildings and resources, the need to replenish and upskill the Timorese teacher workforce, and inappropriate curriculum.

In more recent years, a locally written child-centred curriculum has been rolled out and a systematic and ongoing school leadership and teacher professional development programme has gradually been established. The programme requires school leaders to support ongoing teacher professional development, and to participate in regular mentor visits.

The underlying change model focuses on school leader capacity building, so principals work with their teachers to improve their classroom skills, with resultant impact on student learning. This article provides details of the leadership programme and reports some results for the school regions initially involved regarding leader and teacher skills improvement and student learning outcomes. The results provide early indications of the value for developing countries of a leadership capacity-building and school- based teacher professional development programme which involves a whole-of-system approach and ongoing mentor support and monitoring.

Timor-Leste: Towards Better Health and Nutrition of School Aged Children

United Nations Timor-Leste 13 September 2022

Timor-Leste is one of the world's newest nations to gain independence in 2002.

Timor-Leste is one of the world's newest nations to gain independence in 2002. The picturesque island country has made significant progress over the past two decades, but food security and malnutrition are among the acute challenges that it continues to face. Forty seven percent of children under five years of age in Timor-Leste are stunted, 8.6 percent suffer from acute malnutrition, and 23 percent of women of reproductive age (15 -49 years) are anemic, according to the World Food Programme (WFP). Timor-Leste is also known to be a food deficit country with heavy reliance on imports, and all these challenges predominantly put the younger population in the country at risk of diseases.

To put focus on the health and nutrition of the children, the World Health Organization, along with the Ministry of Health and Ministry of Education, Youth and Sports and the WFP in Timor-Leste launched the Say No To 5S project targeting Starvation, Soil-Transmitted Helminthiasis, Skin Diseases, Smoking & Sugary/Alcoholic Drinks on 8 March 2022. The Korea International Cooperation Agency (KOICA) has provided a generous donation of US\$ 7.8 million for the project that will go on till 2025.

"Schools are the ideal place to promote healthy behaviours and practices that can be sustained through the lives," said Dr. Arvind Mathur, WHO representative to Timor-Leste. "In many ways, education and health are intertwined with each other. Poor health will lead to poor educational outcomes and less education limits the opportunities for better health. The SN5S project, is therefore an important opportunity to set the focus on health, nutrition, and food security of school aged children with the collective efforts of WHO, WFP, KOICA, and the Government of Timor Leste," added Dr Mathur.

The SN5S project aims at reaching out to nearly 300,000 children over the next few years, with a focus on reducing and eliminating major risk factors such as malnutrition and other diseases by introduction of mineral- and vitamin-rich fortified rice as a part of the school meals programme and upgrading kitchens and canteens to ensure hygienic and nutritious school meals. The project will also provide technical support and capacity building for the roll out and monitoring of Primary Healthcare Package in schools. This package will include distribution of deworming medication, regular measurement of body weight and height of students, screening for skin conditions, promotion of physical activity, healthy diet, and WASH etc. In addition, the project will also look at introducing and updating the health and nutrition related topics in the school curriculum.

The pilot surveys under the SN5S project were conducted in June 2022 in three schools in Dili. Three questionnaires were developed- for school coordinators, teachers, and students- with the help of consultants from Mumbai based International Institute of Population Sciences (IIPS). The school coordinators were to answer 43 multiple choice questions, teachers were to answer 75 and students were to answer 92 questions.

During the pilot survey, the WHO team tested the questionnaire, gathered feedback from coordinators, teachers, students as well as enumerators and improvised it further.

The baseline survey began in July 2022 and lasted for over three weeks during which the staff visited 64 schools across the country, interviewed 64 school coordinators, 217 teachers and over 1998 students in grades 7-9. The staff travelled long distances in remote areas to reach the schools across all municipalities.

The baseline survey began in July 2022 and lasted for over three weeks during which the staff visited 64 schools across the country, interviewed 64 school coordinators, 217 teachers and over 1998 students in grades 7-9. The staff travelled long distances in remote areas to reach the schools across all municipalities.

The WHO team also examined the school kitchens and made notes about their upkeep and hygiene practices.

The baseline survey also included a review of the kind of food available in the school canteens and stores within and nearby the school premises.

The filled questionnaires were scanned and sent to the IIPS team which is now in the process of collating the data and generating a final report. In the meanwhile, the WHO team is microplanning the roll out of primary healthcare package and mass drug administration for Soil-Transmitted Helminthiasis in coordination with the Ministry of Health and Ministry of Education, Youth and Sports.

"As we move forward in this project, I am confident that influence of the program will not be limited to school boundaries but will extend to students' families and communities," said Dr Mathur. "Our young boys and girls who will be healthier and smarter, equipped with knowledge of healthy habits and behaviours, will practice, and convey these health messages to their families and communities as health educators, promoters, change agents and role models," he added.

VIETNAM HA ANH PHUONG PMCA 2021

Story written by Udomluk Koolsriroj, Kasetsart University

Creating the Borderless Classroom

"The Borderless Classroom has sparked a great deal of cooperation and collaboration, including group work, working in pairs, collaboration between teachers."



Phu Tho province in northern Vietnam is around 120 kilometers from Hanoi, and after a two-hour drive, we get there. Huong Can High School is located in a mountainous area where more than 85 percent of the students there are from ethnic minority groups. The school has 853 students in 21 classrooms with between 37 and 40 students per class with 55 teachers and staff members. Most students, aged 15 to 18, are multilingual and come from a community where farming is the main source of income and poverty rates are high.

After graduating elementary school, students in Vietnam take a high school entrance exam required by the Department of Education and Training in each province. Different schools in the province demand different scores for entry. Because this school is in a hilly and isolated environment, it demands lower passing scores. In contrast to urban cities, the school's economic and geographical obstacles discourage students from pursuing a quality education. In addition, ethnic minority students have a poor awareness of the importance of continuing their education in higher education.

We traveled all this way to finally meet Mrs. Ha Anh Phuong, Vietnam's 2021 PMCA awardee. At Huong Can High School, teachers and students dressed in national costume greeted us with smiles and vibrant greetings in fluent English. "Phuong is our inspiration," said one of Phuong's colleagues. "We want to be like her. We do our best to practice speaking English like her." The people she works with and the students she teaches are overflowing with happiness and pride for her.





A new generation teacher

Under the sun, there is no more noble occupation than that of a teacher. This saying is deeply ingrained in the spirit of this 32-year-old Vietnamese teacher from a small village in the northern province of Phu Tho. Mrs. Phuong had always wanted to be a teacher since she was a small child. She turned down well-paying employment opportunities after graduating with distinction from the English Department of Hanoi University in order to pursue a master's degree in TESOL (Teaching English to Speakers of Other Languages). After obtaining her Master's degree at Hanoi University in 2016, Phuong went back to her hometown with the intention of making her childhood dream come true.

Mrs. Phuong began by working as an English teacher at Huong Can High School in Huong Can commune where her ethnic students had few opportunities to practice English with foreigners. As a result of these difficulties, she came up with the idea of establishing a cross-border class, where students could interact with other students from the United States, India, and other countries via an online platform in order to boost their motivation to learn English. Though she has been a teacher at her current school for seven years, she actually began teaching in a private English center when she was a sophomore at Hanoi University's English Department. Thus, Mrs. Phuong has in fact 12 years of teaching experience at various levels. She is now a PhD student in the Education Management Program at Vietnam National University.

In 2021, she was nominated by her province, Phu Tho, to serve as a member of the Vietnam National Assembly as a member of the Culture and Education Committee. In the National Assembly, she represents ethnic communities, teachers, and women, as well as the younger generation. "Ever since joining the National Assembly," Mrs. Phuong says, "I have been a vocal advocate on a range of important issues, I have passionately championed the inclusion of history as a mandatory subject in our education system, taken a stand against cyberbullying, fought for the rights of



teachers, advocated for fair policies for ethnic minority communities, and delved into discussions surrounding economics. My efforts have yielded positive results, with some of these initiatives already being accepted and put into action."

Mrs. Phuong's fellow teachers feel she can accomplish everything well because she has excellent rapport with other teachers despite the fact that she has other roles in society other than being a teacher. "They've helped me a lot," she said with a smile, "by working with me on projects and helping me at school when I have to travel for work related to the National Assembly, which is like a brother or sister relationship."

Motivation to become a teacher



"My mother once took me to the village hall to see the Vietnamese movie, The Mountainous School, when I was a child," Mrs. Phuong recounted. "The film was about a teacher who went above and beyond the call of duty. The teacher visited homes along perilous mountain paths to convince parents to let their children attend school rather than stay at home and work in the mountains. This film sparked my interest, and it was
then that I decided to be a teacher. That is because I know the challenges faced by uneducated people, particularly women, who are easily victims of societal injustice and harmful customs. It encouraged me to make a difference in the world."

Her literature teacher in high school, Mrs. Tran Thi Thu Truong, was another factor that inspired her to become a teacher. When she was a secondary student, her teacher asked each student to write down a dream on a little piece of paper and then told them to place those small pieces of paper inside a pink pig-shaped box to be opened on the occasion of a class reunion 20 years after secondary school graduation. "I wrote about my dream to become a teacher," Mrs. Phuong said, "and I believe it would be a great shame if my wish were not granted. The pink pig-shaped box was a big motivator for me to make my goal a reality. Mrs. Truong was an excellent teacher who inspired me to pursue a career in education. She was such a good teacher that I wanted to follow in her footsteps."

Mrs. Phuong came to the conclusion that teaching English was the most effective approach for her to assist others, so she returned to the region where she was raised after earning her master's degree in English to make it happen.

Challenges in the classroom

Throughout the duration of her teaching, Mrs. Phuong faced several challenges. Numerous variables are involved here including those related to geography, socioeconomic status, parents' awareness about tertiary education, the students' motivation to learn English, as well as the English language learning environment.

Because of its distant location in a mountainous landscape with limited mobility, the school where Mrs. Phuong works provides students with little opportunities to practice English with people from other countries. In many instances, this results in low levels of language proficiency, shyness, limited intercultural awareness, and a lack of enthusiasm to learn English as a language of communication.

In terms of socioeconomic status, because the majority of students come from low-income families, many of them must work on their family farms either before or after school. Awareness of the value of a college education among parents from lower socioeconomic backgrounds is another issue. They do not put a lot of value on completing post-secondary studies. They want their kids to get jobs after high school to help their families financially.

Motivation can be a driver for people choosing certain goals and objectives. They also measure how much effort they have to exert to attain these goals. Students who have higher levels of motivation will do far better than others who have less (Schunk et al., 2008). Motivation can be classified as Intrinsic and Extrinsic. When Mrs. Phuong was a speaker explaining motivation, she frequently referred to Intrinsic and Extrinsic factors. The point was that most of her students lacked motivation to study English.

Another important factor is how comfortable students are in their language learning environment. It has been discovered that a student's learning environment influences their motivation to learn something new. A low-anxiety language learning environment increases the chance for acquisition. "It was difficult for me at first to create the foreign language learning environment, which is recognized as a key component contributing to language learners' success," Mrs. Phuong revealed.



Intrinsic motivation

Motivation originating from within. Engaging in an activity for its inherent satisfaction. It arises from one's aspirations and interests. Intrinsic refers to internal or inside of yourself. When you are intrinsically motivated, you enjoy an activity, course, or skill development solely for the satisfaction of learning and having fun, and you are internally driven to achieve competence. (I want to learn something because it is of value or satisfying to me.)

Extrinsic motivation

Motivation from the outside. Extrinsic refers to something external or outside to oneself. This form of motivation is common and widely utilized throughout a person's lifetime. Extrinsic motivation is when you act, achieve, learn, or do something because of a highly valued result instead of because of the fun, growth, or learning that comes from an experience. (I want to do something because I will be rewarded.)

Reference: Brown, H.D. (2000)

On her first day of teaching, she was shocked to discover that her students couldn't even understand basic English greetings. Numerous students lacked the ability to access English-Vietnamese dictionaries. The first time she taught using English as a medium of instruction, the students did not respond at all. Some kids laughed, while others remained silent. Once, when she traveled to Sa Pa, a district-level town in Lào Cai Province in Vietnam's northwest for a trip, she wondered why so many Vietnamese people there spoke English effectively. When she got back to her place, she was determined to raise the level of English competence among her students.

Using students' favorite methods to inspire

Phuong realized she had to do two things to assist her students in learning. The first was motivation and the second was to redo the learning environment. She used real-life experiences to create awareness among teachers and students. Successful graduates who used their language skills to succeed were offered as examples. Her teaching strategy was to emphasize students' qualifications and abilities, the 17 UN Sustainable Development Goals, and the 21st century skills.

She employed music-based learning, movies, project-based learning, gamification, and game-based learning in grammar and vocabulary lessons, as well as Edtech tools in the classroom, to increase students' intrinsic motivation in English learning. Mrs. Phuong used teaching techniques such as rapping to teach English grammar and songs to teach translation skills. She asked her students to translate English songs into Vietnamese so that they remembered vocabulary. She also used movies to teach listening skills. She said that movies like "Gone with the Wind", "Crocodiles", "Friends", "How I met your mother", and "Prison Break" were among her students' favorites. She asked her students to do role playing to practice their communication skills based on the characters of the movies as well as dubbing English movies into Vietnamese.



During the COVID-19 pandemic, because of problems such as a lack of learning devices and poor access to the internet in some areas where students lived, she decided to employ television teaching as well as some offline teaching techniques. No matter what, online education appears unavoidable. But it has been difficult to keep students' attention during online learning. "I tried to assign students tasks before, during, and after the lesson to engage them in online lessons," Mrs. Phuong said, describing her efforts to resolve the issue. "I developed online class regulations with the help of the majority of students in the class. I resorted to gamification to improve the learning atmosphere."

Our conversation with her revealed that the way she creates learning exercises based not only on gamification but also on game-based learning. The strategy was to make learning a lot of fun for the students. Mrs. Phuong designed learning activities employing distinct but related learning strategies: Gamification and Game-based learning. There are important differences to be made between gamification and game-based learning. Gamification applies game elements or a game framework to existing learning activities, whereas game-based learning creates learning activities that are intrinsically game-like. (Centre for Teaching Excellence, University of Waterloo, 2022)

Gamification is the integration of game elements like point systems, leaderboards, badges, or other elements related to games into "conventional" learning activities in order to increase engagement and motivation. For example, an online discussion forum for a physics course might be gamified via a badge system. Students might be awarded a "Ptolemy" badge after they have made 10 postings, a "Galileo" badge after 20 postings, a "Kepler" badge after 30, an "Einstein" badge after 40, and so on. In an ideal gamified learning environment, students can see the online badges that their peers have earned to create a sense of camaraderie or competition.

Game-based learning involves designing learning activities so that game characteristics and game principles inhere within the learning activities themselves. For example, in an Economics course, students might compete in a virtual stock-trading competition. In a Political Science course, students might role-play as they engage in mock negotiations involving a labor dispute.

Reference: Centre for Teaching Excellence, University of Waterloo (2022)

Mrs. Phuong could tell if her students were learning or just knowing something by using testing and assessment, from easy to complex steps, to assess the students' performance. She frequently employed summative and formative assessment. She believes, however, that formative assessment should be done more often, using a range of exam modalities such as oral, written, project-based learning tests, and game-based learning tests. For example, a student can be assessed multiple times rather than once, with the average mark in the teacher's notebook serving as the official mark. In addition, she believes in performance assessment. Performance assessment is a broad term for a number of tasks and situations in which students are asked to show what they know and how they can use their knowledge, skills, and ways of thinking in a variety of scenarios (Marzano, 1993). That is why she requires the speaking test as part of the semester examination. She has also pushed students to pursue international certifications such as IELTS, TOEFL, and TOEIC.

Standardized tests of English

Test of English as a Foreign Language (TOEFL)

TOEFL is the most popular English test for non-native English users. The language used in this test is American English. The regular TOEFL is required by universities in the United States and Canada. The test is also required if you want to work in government agencies, take care of permits and companies, and apply for scholarships.

Types of TOEFL tests

The TOEFL has four different test options.

1. iBT, or internet-based test: This exam is divided into four parts, namely reading, listening, speaking, and writing and the highest score you can get for this exam is 120 points.

- 2. CBT (Computer-Based Test): One can take this TOEFL test directly on a computer. The types of questions on this exam usually include listening, reading, structure, and additional writing. The scores for this TOEFL CBT exam range from 30 to 300.
- 3. PBT, or Paper-Based Test: This exam is also divided into four parts, namely listening, structure and written expression, and reading comprehension, and the number of points you can get ranges from 310 to 667.
- 4. ITP (Institutional Testing Program): Test scores are institutional or only valid for certain institutions and countries. The types of questions tested include listening, structure, writing expression, and reading comprehension. The maximum TOEFL ITP score is 500 to 600.

International English Language Testing System (IELTS)

The English language skills tested in IELTS is a British English. Usually, the IELTS test is used by institutions in Australia, the UK, and New Zealand.

Types of IELTS tests

IELTS has two different forms of examination, namely:

- 1. Academic: IELTS version used to apply to college, graduate school, or medical professions.
- 2. General Training: Used for people who want to work or migrate to countries around Europe, UK, New Zealand, and Australia.

The two versions of the IELTS exam are divided into three sections. 40 minutes of the exam will be used for listening, 60 minutes for reading, and another 60 minutes for writing. The results of the IELTS scores are sorted into a 9-band scoring system. The highest possible score is 9.

Test of English for International Communication (TOEIC)

TOEIC is intended to assess a particular level of English proficiency. The relevant proficiency levels are intermediate and advanced. This test is beneficial for businesses in terms of recruitment, evaluating employee English proficiency, and meeting promotion requirements. It is required in government agencies that perform the same function as businesses. This exam has possible marks ranging from 10 for the lowest score to 990 for the highest. The actual exam consists of multiple-choice questions, listening comprehension, and reading comprehension. The test lasts for two hours.

Reference: PalComTech (2022)

The Borderless Classroom

Mrs. Phuong has worked hard to increase her students' English proficiency by linking her students with other students around the world over the Internet. She opened the door for her students to the global world while helping them learn English via a project called "Borderless Classroom." Her teaching strategy in the Borderless Classroom is to pair her students with students from other countries who are in the same age group. "I see this as one of the most effective collaborative online learning programs," she says. "This creates a friendly environment for my students to speak English, and at the same time, they do not feel intimidated to communicate with other students because they are the same age." She divides her students into groups, so they have experience working together as a team and assigns good students to help the slower ones, and each other with translation. She provides clear step-by-step instructions on what each student and each group has to do while working with other students from 51 other countries via the Borderless Classroom Project.

"It is not an easy road to take," Mrs. Phuong said. "The majority of my students are ethnic minority students who have few opportunities to learn English efficiently, are not motivated to learn English, and are afraid to interact with the rest of the world. Many of them were nervous about meeting foreign teachers on the screen for the first time. I try to understand their psychology and decided to connect them with peers their age in different countries so they could participate in many exchange activities, which they really enjoy."

The Borderless Classroom has sparked a great deal of cooperation and collaboration, including group work, working in pairs, collaboration between teachers of the same subject, collaboration between female teachers, and collaboration between groups of teachers teaching different subjects. The Global Classroom uses different innovative tools.



Some gamification and game-based learning tools

- *Wordwall* is a free online tool for creating learning activities. It is a web application that contains interesting educational and interactive quiz-based games.
- Liveworksheets is a website for creating interactive worksheets. Multiple-choice questions, short entries, descriptions, join arrows, dropdowns, drag and drop, checkboxes, word search, and listening and speaking questions are examples of question types.
- *Blooklet* is an online platform that offers interactive and engaging educational games for students. It can be used to create customized quizzes, flashcards, and review games to support learning.
- *Gimkit* is a game show for the classroom that requires knowledge, collaboration, and strategy to win.

Some gamification and game-based learning tools

- *Nearpod* is an online presentation tool that allows the instructor to integrate activities (such as multiple-choice gamified quizzes, interactive videos, and 3D models) with content delivery. It can run asynchronously as "student-paced" or as a synchronous session (in-person or remotely) where the instructor controls the pace.
- *Credly* is an open-source badge making tool to create badges for tasks in your course, with the ability to distribute badges to students as well.
- *OpenBadges* is another open-source badge making tool, like Credly, but is more complex to create badges with.
- *Kahoot* is a classroom response system that is free to use and doesn't require student sign-up. Simply create a game of Kahoot, enter questions, and supply the provided pin to your students, who will then use their phones or laptops to play the game and answer questions.
- *Quizizz* is an online-based quiz tool that functions like a game show. It adds gamification to quiz-based learning to make it enjoyable.
- *Baamboozle* is a game-style learning platform that offers the class easy access to entertaining interactivity.

Testing and assessment tools

- *Microsoft 365 Assessment tool* is a free, online tool consisting of a series of questions to help you establish effective, efficient, and secure management strategies.
- *AZOTA* is an online software platform that not only helps educators develop and proctor tests, but also automatically grades them using information from Vietnamese teaching materials.

English-speaking AI and pronunciation check tools

- *ELSA Speak* is an application that helps students improve their speaking skills through speech recognition. Aside from evaluating students' speaking performance, the app also gives feedback on articulating words and offers tips for how to speak more naturally.
- *Reading Progress* is a free tool built into Microsoft Teams designed to support and track reading fluency in your class.

Class management tools

- *ClassDojo* is a tool that teachers can use from beginning to end in the classroom. Displays a greeting activity as students enter the classroom.
- *Classcraft* is a free online educational role-playing game teachers and students can play in class. Game principles let students rank up, work together, and achieve real-world powers. Gamifying any curriculum changes how students experience classes all year.

Mrs. Phuong's innovations in teaching came from having a global view when she was a student at Hanoi University, majoring in English. She worked part time as a tour guide, a translator, and an interpreter to pay for her tuition and send some funds to her parents. Having been exposed to people from many countries, she developed a global mindset and saw English as a vehicle for a better quality of life for students who were from minority groups. She wanted her students to have the opportunity to see the world using English as the key to open doors to the world. Her students' English skills, intercultural awareness, and 21st-century skills have expanded since she implemented collaborative online international learning.

"Now they are more confident," Mrs. Phuong said proudly. "Many of them speak English and can sometimes talk and introduce the beauty of Vietnam to the rest of the world. Many of them have shifted from extrinsic to intrinsic motivation. According to my 2020 survey, they have higher intercultural awareness." In 2018, one of her teaching videos, which was an international lesson with seven countries in which her students learning English were engaged in a cultural exchange, went viral and was featured on national television. Since then, collaborative international learning has gained popularity and she continues to teach using this method. Now that her ethnic minority students can speak English, they can introduce the world to the splendor of Vietnam.

The Anti-Cyberbullying Project

Emerging from the growing concerns of cyberbullying and the imperative of cybersecurity awareness among the youth, particularly in the context of the post the COVID-19 era, the "Anti-Cyberbullying Project" (ACB Project) is a non-profit endeavor undertaken by Mrs. Phuong and her students of the English Club. This initiative is a comprehensive, interdisciplinary, and enduring effort aimed at elevating cybersecurity consciousness by equipping high school students with the requisite knowledge and skills for responsible internet use. The ACB Project is driven by the following objectives:

1. To facilitate the application of multidisciplinary knowledge (including English, mathematics, technology, literature, geography, history, psychology, statistics, civic education, arts, and computer science) to tackle real-world issues related to online safety.

2. To heighten students' sensitivity to cyberbullying and empower them to navigate the online landscape securely and effectively.

3. To foster fundamental English language communication during interactions with educators and peers abroad, discussing project objectives, processes, and execution.

4. To enhance students' proficiency in IT tools (such as those within the Office 365 ecosystem, *Flipgrid*, Skype, *Viavideo, bookcreator, Capcut, Canvas, Padlet*, etc.), presentation skills, collaborative teamwork, time management, creative problem-solving, and essential skills for the 21st century, contributing to their global citizenship development.

5. To instill virtues of integrity, empathy, responsibility, and the battle against negativity, cultivate refined internet users who contribute to the establishment and cohesion of a community of well-mannered online participants among students.

The project is divided into two principal phases.

Phase 1 involved connecting experts, educators, and students globally through seminars, talk shows, and digital platforms, enabling collaborative analysis of and solutions for safe internet use. Participation spanned 22 countries across four continents, culminating in a project handbook and videos crafted by English Club members.

Phase 2 accomplishments encompassed the successful resolution of over 1200 cybersecurity incidents through the AI Chatbot messaging system. The project organized numerous sharing sessions, including an international workshop targeting heightened cybersecurity awareness among high school students. This gathering garnered commendation, attracting over 22,000 participants encompassing educators, students, and parents from diverse national and international contexts.

Further accentuating the project's prowess, the Flipgrid platform facilitated active engagement from students representing 14 countries, where diverse viewpoints were articulated during more than 20 multinational sessions focusing on online safety. The project also presents a conduit for refining IT aptitude (leveraging the Office 365 ecosystem, Flipgrid, Skype, MS Teams, Viavideo, Bookcreator, Capcut, Canvas, Padlet, etc.), honing presentation skills, fostering collaborative teamwork, optimizing time management, innovative problem-solving, and 21st-century competencies, and fostering the evolution of global citizens. Charting into the future, the project will continue to enhance the AI Chatbot system, enhancing its intelligence and user-friendliness, to further fortify students' cybersecurity awareness, incident management, and dissemination of project accomplishments, thereby contributing to the development of a courteous and contented online community.

"The project was work done by teachers and students on what is an important and challenging topic in this new age of online learning and exchange," said Mrs. Phuong. "It is highly complex and requires critical thinking, problem-solving, collaboration, and innovation. Cyberbullying requires us all to situate ourselves in each other's shoes to understand the psychology that goes on with bullying so that we can address it and do away with it. Cyberbullying has an added layer of complexity because it may not be direct and may be hidden."

The project received the first prize for technology-based teaching in a national competition held by the Ministry of Education and Training, and Microsoft.



The Borderless Classroom Model

Mrs. Ha Anh Phuong has become well-known for her Borderless Classroom Model and some of her worldwide projects. Her classes have collaborated with classes from 51 nations around the world. Employing the "Borderless Classroom Model, she connects her students with other schools around the world via Skype and other conferencing apps.

Some of her innovations have significantly improved student outcomes as clearly seen in their national exam results. Since the first year of teaching, all her students who were previously low achieving in English passed the final examinations. Many of her students have gone on to become university students in top universities in Vietnam in foreign language. Some have travelled abroad to study or to work.

Mrs. Phuong has become well known in Vietnam as the "4.0 innovative teacher". She has now taught students online from four continents (Africa, Europe, Asia, and

America) and is an active member of an educational Microsoft community that gathers global teachers to design lessons and engages them in weekly professional development. Her work has been extensively covered by the Vietnamese national media and in 2019, Vietnam's Department of Education and Training awarded her the Innovative and Creative Teacher prize.

Because of her remarkable dedication and effort, speaking English is no longer a dreaded task for students but rather the most anticipated and appealing subject for ethnic kids at the school. Most notably, Phuong's cross-border classes have helped revitalize the method of teaching and learning English in Phu Tho province. As a result, the approach has been widely duplicated and implemented in numerous other educational facilities around the community. Mrs. Phuong currently has her own YouTube channel where she teaches English to children for free. For this, she was awarded a full scholarship by the Southeast Asia Youth Leadership Program (SEAYLP) and recognized as a Microsoft Innovative Educator (MIE) Expert. In 2021, she honored by the government with the "Top 10 Vietnam Young Faces" award.

Over the past seven years, her students have ranked among the top students at Hanoi University. Her contributions were recognized internationally, at the national level, and among schools. In 2020, she was selected as one of the top ten finalists for the Global Teacher Prize by the Varkey Foundation, a UNESCO partner that introduced the award in 2014 to recognize and celebrate the impact teachers have on their students and the communities around them.

When asked about her future plans, Mrs. Ha Anh Phuong said with a huge smile, "I don't think too much about the future. I will still be a classroom teacher because I enjoy standing in front of a class and teaching my students how to communicate and learn English." To hear her students speak English confidently and well is enough reward for her.



References

Brown, H.D. (2000). *Principles of Language Learning and Teaching*. New Jersey: Prentice Hall.

Centre for Teaching Excellence, University of Waterloo (2022). "Gamification and game-based learning". (online) https://uwaterloo.ca/centre-for-teaching-excellence/ catalogs/tip-sheets/gamification-and-game-based-learning

Marzano, R. J.; Pickering, D.; McTighe, J. (1993). "Assessing Student Outcomes: Performance Assessment Using the Dimensions of Learning Model". (online) https://files. eric.ed.gov/fulltext/ED461665.pdf

PalComTech. (2022). "What Is the Difference Between TOEFL / IELTS / TOEIC?" https://palcomtech.com/what-is-the-difference-between-toefl-ielts-toeic/

Schunk, D. H., Pintrich, P. R., and Meece, J. L. (2008). *Motivation in education: theory, research, and Applications*. Upper Saddle River, NJ: Pearson Merrill Prentice Hall.

VIET NAM Secondary Education Sector Assessment, Strategy, and Road Map

Asian Development Bank (ADB) February 2020 Excerpts from the Executive Summary

Viet Nam can no longer rely on low-skilled jobs.

Viet Nam has evolved from one of the world's poorest countries in the 1990s when the government opened the economy, to a lower middle-income country with a per capita income of \$2,111 in 2015—more than 20 times larger than that in 1990 (\$98.03). To make the most of its middle-income stage of development and to avoid being perpetually trapped there, Viet Nam will need to create productive job opportunities, support intermediate technology, and promote research and development and innovation. At middle-income stage, skills become more important as the need to increase productivity, product innovation, and value addition grows. Relying only on low-skilled jobs is no longer enough. Ranked 77th out of 140 countries on the Global Competitiveness Index 2018, Viet Nam's labor productivity levels are lower than other countries in the region. Productivity is particularly low in agriculture, which has remained the largest economic sector. A shortage of skills and gaps in the labor force are already affecting Viet Nam's ability to absorb new foreign investment and limiting prospects for expanding productive employment (only 21.5% of the employed labor force has qualified skills—24.1% of men and 18.8% of women). The education system needs to be reformed to give students equitable access to relevant skills.

~ ~ ~

The quality of secondary education remains weak and not relevant to the labor market.

As the economy becomes modernized and industrialized, the challenge for secondary education is to produce graduates and school leavers who are technically skilled and able to critically analyze and solve problems. The government's Education Development Strategy (EDS) 2011–2020 notes that (i) the quality and effectiveness of the education sector are low, and (ii) workers' knowledge and skills do not meet labor market requirements.

In a rapidly evolving world, science and technology education is important.

Although the results for PISA 2012 and 2015 were at or above the Organisation for Economic Co-operation and Development (OECD) average, the results for mathematics and reading declined from 2012 to 2015, lower than neighboring economic competitors, and Viet Nam had few high-performing students. Having a low percentage of students performing at the top levels signals the absence of a highly educated talent pool for the future. Viet Nam's high performance could also reflect rote learning and proficient test-taking skills, rather than meaningful learning or the ability to use knowledge in new situations.

The National Achievement Monitoring (NAM) test results show a decline at the grade 9 level in all subjects and a decrease in mathematics at grade 11. NAM results indicate that only 46.7% of grade 9 students passed the national 2012/2013 mathematics assessment (boys at 46.7% and girls almost equal at 46.6%), while only 52.2% of grade 11 students passed the 2014/2015 mathematics assessment (boys at 48.0% and girls significantly higher at 55.8%), and only 40.4% of grade 11 students passed the English assessment (boys at 38.5% and girls at 45.2%).

Secondary education does not provide students with the skills to succeed in the workplace. The present curriculum was designed to be broader in scope and relevant to labor market needs. New textbooks were developed, and teachers received extensive training on new approaches to learning and teaching. Despite these efforts, a 2010 study by Viet Nam's National Institute of Education Sciences concluded that (i) the curriculum did not equip students with the knowledge and skills needed for future careers, and (ii) the low quality of secondary education constrained the development of a skilled labor force.

For secondary education graduates—who enter the labor market immediately after graduation and students who continue post-secondary education—jobs are difficult to find. Secondary education does not provide students with the cognitive, social, and behavioral foundation skills that are critical to succeeding in the workplace.

The returns to education for LSE and USE graduates were only 1.2 and 1.5 larger than primary education graduates, while college and university graduates earn 2.4 times more than primary graduates and 1.8 times more than USE graduates. Vocational orientation in secondary schools does not help students acquire sufficient vocational awareness and understanding of available jobs, does not reflect local labor market's needs and features, and is not gender sensitive.

~ ~ ~

The government is committed to enhancing education quality.

The policy framework for the long-term development of education is defined by (i) the Socio-Economic Development Strategy, 2011–2020; (ii) the Education Development Strategy, 2011–2020; (iii) Resolution No. 29; (iv) Resolution No. 44; and (v) Decision No. 2653. The government is committed to enhance education quality through comprehensive reforms that will foster integration of disadvantaged groups xiv Executive Summary in education and competitiveness in the labor market. Viet Nam is committed to achieving the United Nations' 2030 Agenda for Sustainable Development and the SDGs and to achieve gender equality through the adoption of an Action Plan on Gender Equality of the Education Sector for 2016–2020.

PMCA Book 4

Discussion Paper by Udomluk Koolsriroj and Juan Miguel Luz

Life Skills Needed to Succeed in School, Work, and Life

Introduction

The COVID-19 epidemic caused several disruptions in students' lives, including uncertainty, change in daily routines, financial stress, and even social isolation. Students worried about becoming ill with the coronavirus, the length of the pandemic and school shutdowns, the effects on their parents' jobs, and uncertainties about the future. Many felt lost because things were not clear because of information overload, rumors, and misleading information. During the COVID-19 pandemic, there have been reports of students suffering anxiety, worry, dread, despair, and even loneliness. Mental health issues, such as depression and anxiety, were more often reported. Life skills, including students' ability to cope with worry, stress, fear, and sadness, have become increasingly important.

The principal goal of education is to equip students to be independent, responsible members of society. Though standards and curricula have evolved over time, one constant is the need to develop life skills to help students navigate to adulthood. Today's schools are obsessed with meeting academic standards, teaching from scripted curricula, and meeting test benchmarks. Given these many concerns, it's easy for teachers to forget that their job is to teach the whole child how to think, plan, and act independently. The ability to act on their own thoughts and to learn even when not prompted is what educators call "life skills", an important subset of 21st century skills considered crucial to a student's future success.

Developing 21st century skills

TIME Magazine (December 18, 2006) raised concerns over whether an entire generation of children could make the grade in the global economy because they were unable to think their way through abstract problems, work in groups, distinguish good information from bad, or could speak a language other than their native tongue. This opened a worldwide discussion on what essential life skills would be needed for an uncertain, fast-changing future. Questions were raised for different age groups.

- Are children completing basic education able to think critically, solve problems, converse, write coherently, and get along with their peers and others in a work setting?
- Are college graduates entering the workforce with the skills necessary for long-term success? According to numerous studies, many of today's college graduates enter the workforce unprepared to satisfy the needs and demands of employers.

In today's workplace, the most important skills are (a) understanding a trade, (b) following directions, instructions, and processes, (c) getting along with others (superiors, co-workers, customers), (d) working hard, and (e) being professional, which means being efficient, on time, honest, and fair. These skills are taught (or should be taught) effectively in schools. But the world is changing rapidly. The future will have new jobs that have never existed before. Students will therefore need to learn new skills. In the course of their work lives, reskilling or retooling will be a regular feature of lifelong learning.

To get jobs in the information age, students also need to be able to (a) think deeply about issues, (b) come up with creative solutions to problems, (c) work in teams, (d) communicate clearly in many different ways, (e) learn technologies that are always changing, and (f) deal with a lot of information. Our world changes so quickly that students need to be able to adapt, take the lead when appropriate, and come up with something new and useful.

The Partnership for 21st Century Learning and its member organizations established the P21 Framework for 21st Century Learning (Figure 1) to assure student success in a world where change is constant, and learning is continuous. (The Partnership for 21st Century Skills, 2009)



Figure 1 The P21 Framework for 21st Century Learning Source: The Partnership for 21st Century Skills, 2009

To be successful in the workplace and in life in the 21st century, students must acquire the knowledge, skills, and abilities represented by the rainbow.

Key subjects and 21st century themes

Mastery of key subjects and 21^{1st} century themes is essential for all students in the 21st century. Key subjects include:

- English, reading or language arts
- World languages
- Arts
- Mathematics
- Economics
- Science
- Geography
- History
- Government and civics

In addition to a focus on mastery of key subjects, it is believed that schools must also promote understanding of academic content at much higher levels by integrating interdisciplinary themes of the twenty-first century into key subjects:

- Global awareness
- Financial, economic, business and entrepreneurial literacy
- Civic literacy
- Health literacy
- Environmental literacy

Learning and innovation skills

Students who are prepared for increasingly complex life and work environments in today's world are distinguished from those who are not by their learning and innovation skills. These include:

- Creativity and innovation
- Critical thinking and problem solving
- Communication
- Collaboration

Information, media, and technology skills

Today, we live in a technologically and media-driven environment that is characterized by access to a wealth of information, rapid changes in technological tools, and the unprecedented ability to collaborate and make individual contributions. Effective citizens and employees must demonstrate a variety of functional and critical thinking skills, including:

- Information literacy
- Media literacy
- ICT (Information, Communications and Technology) literacy

Life and career skills

Today's students need to develop thinking skills, content knowledge, and social and emotional competencies to navigate complex life and work contexts. P21's core Life and Career Skills are as follows:

- Flexibility and adaptability
- Initiative and self-Direction
- Social and cross-cultural skills
- Productivity and accountability
- Leadership and responsibility

You may have noticed up to this point that the phrase "life skills" was included here as a component of the skills that people living in the 21st century should have.

What are life skills?

According to UNICEF (2012), life skills are psychosocial abilities for adaptive and positive behavior that enable individuals to effectively cope with the demands and challenges of daily life. Society cannot expect students to be prepared for college, work, and most importantly, life, if they are not taught how to use and develop these skills. Context matters when dealing with demands and challenges:

- In Asia, social norms are still strong. Therefore, there is a lot of family and societal pressure placed on kids to conform to social norms.
- Globalization places pressure on societies to keep up with global trends.
- Kids are having to grow up faster with many more influences on their lives. (i.e., social media, online content, unscreened media).

Life skills are loosely categorized into three categories: cognitive skills for analyzing and utilizing information; personal skills for developing personal agency and managing oneself; and interpersonal skills for communicating and interacting effectively. Life skills also refers to non-cognitive skills or personality characteristics such as conscientiousness or locus of control—the belief that one can influence the outcomes of events—impact labor market productivity. (Schurer, 2017) In the P21 Framework for 21st Century Learning, life skills have become a subset of 21st Century skills. Life skills, according to the P21 Framework, include flexibility and adaptability, initiative and self-direction, social and cross-cultural skills, productivity and accountability, and leadership and responsibility.

Flexibility and adaptability

The willingness to change or compromise with others for a greater goal or good. Being able to adapt to change and be flexible in your thinking and approach to problems can help you succeed in a variety of roles and environments. Adapting to change means being able to adjust to new situations and requirements, being able to learn new skills, take on new responsibilities, and work in different contexts. It also means being able to deal with ambiguity and changing priorities.

Being flexible means being open to new ideas and perspectives. It also means being able to deal with praise, setbacks, and criticism in a positive way. Additionally, it means being able to understand, negotiate, and balance diverse views and beliefs to reach workable solutions. On the other hand, it is important for a student to know why and when to compromise and when to stick to a principle or decision.

Initiative and self-direction

The power or opportunity to act or take charge before others do. To be a self-starter without others having to tell you what to do. These skills allow you to take charge of your own work and achieve your goals without the need for constant supervision.

More specifically, this includes managing goals and time, working independently, and a self-directed learner going beyond basic mastery of skills and/or curriculum to explore and expand your own learning and opportunities to gain expertise. This also means demonstrating initiative to advance your skill levels towards a professional level.

Social and cross-cultural skills

Skills that facilitate interaction and communication with others, such as socialization, developing empathy. These skills allow you to interact effectively with others from different backgrounds and cultures, and work effectively in diverse teams with respect for cultural differences and backgrounds.

Productivity and accountability

The effectiveness of productive effort. In society, this should translate into "making positive contribution" to society or to a group or to an enterprise. These skills allow you to manage projects effectively and produce high-quality results. Producing results means demonstrating additional attributes associated with producing high-quality products. This includes the abilities to:

- Work positively and ethically.
- Manage time and projects effectively.
- Multi-task.
- Participate actively, as well as be reliable and punctual.
- Present oneself professionally and with proper etiquette.
- Collaborate and cooperate effectively with teams.
- Respect and appreciate team diversity.
- Be accountable for results.

Leadership and responsibility

Leadership and responsibility are two important concepts that go hand-in-hand. As a leader, you have the responsibility to guide and lead others towards a common goal. This means using your interpersonal and problem-solving skills to influence and motivate others, while also leveraging their strengths to achieve the best possible outcome. You should also inspire others to reach their very best, both by setting a good example and by being selfless. Finally, you should always act responsibly, with the interests of the larger community in mind. Leadership, however, need not be formal leadership in any organization. It can also mean taking control of oneself and one's actions.

Education is essential, but so is learning how to live an effective life. Integrating training in life skills into education will assist youth in overcoming such obstacles (Prajapati et al., 2017). Life skills education also promotes motivation and equips students with social and self-management skills for various life experiences by addressing and incorporating their needs and interests (Yadav & Iqbal, 2009). Today and in the future, it may be necessary to assert that 'Education' is essential, but education to support and improve life is more crucial.

How do life skills assist people obtain decent jobs and improve their well-being?

Students need to develop a set of life skills to do well in their academics as well as in life. Time management skills will help them develop their capacity for self-regulation and self-discipline, and the ability to see and set short-term and longer-term goals, etc. (Puspakumarag, 2013), as cited by Prajapati et al. (2017). Puspakumarag found that teaching teens life skills helped them avoid a wide range of problems such as drug abuse, teen pregnancy, violence, bullying, and a lack of self-confidence and self-esteem. After graduation, crucial skills such as emotions regulation and conflict resolution will help students cope with stress at work.

Young adults graduate from high school with little knowledge of how to negotiate the requirements of the real world. Although many educators believe that teaching life skills in the classroom are essential, the frustration of having to comply with state standards, as well as a lack of time, frequently blocks their implementation. This is disappointing, because evidence shows that life skills education helps in bridging the gap between basic functioning and capacity. It enhances an individual's ability to fulfill the needs and demands of today's society and assists them in dealing with challenges in a realistic manner (Prajapati et al., 2017; Cassidy et al., 2018).

In the context of ASEAN, Mega Irena, the ASEAN Secretariat's Head of Labor and Civil Service Division, said that employers need to upskill their workers to keep up with the digitalization and greening of the economy. Workers should also be mindful of the importance of continuous learning to improve their employability and career prospects. All parties have a role to play in skills development and lifelong learning, including employers, workers, governments, and educational institutions. Lifelong learning and decent work promotion should be discussed together to build back the region to be better (ILO News, 2022). The two terms are connected.

What are the most important life skills to teach in schools?

To prepare students for good careers and increase their well-being, the school should encourage life skills education as much as possible during their school days.

Swank and Huber (2013) believe that schools should promote pro-social behaviors and aptitudes outside of the classroom. According to Ramey (1984), the emphasis should be on communication development and commitment to pursuing personal goals. Communication and goal setting are important because socially competent people may use social experiences to satisfy their own goals and requirements while also understanding the needs and goals of others. (Groeben et al., 2011, as cited by Garrote, 2017).

According to Albertyn et al. (2004), cited by Prajapati et al. (2017), life skills training enhances critical thinking, which has an impact on leading an active life, being responsible at work, and making future plans. Ramesht and Farshad (2004) showed the usefulness of skills training in improving mental and physical health, pro-social conduct, and decreasing behavioral, social difficulties, and self-destructive behaviors. This is consistent with the findings of Vranda and Rao (2011) who demonstrated that life skills training improved psychosocial competencies. Smith et al. (2004) observed considerable improvement in similar skills such as interpersonal relationships and reduction in aggression and behavioral problems.

During their investigation, Tuttle et al. (2006) added life skills to students' curriculum. The purpose of the study was to promote flexibility and positive promotion. Moreover, Roodbari et al.'s study (2013) showed that teaching life skills has a positive effect and helps with social development, emotional and social adjustment, which suggests that children are becoming more compatible with society and public health is improving.

Life skills education among the PMCA awardees

Among the PMCA awardees, a number spoke of how they have moved from traditional methods of teaching they learned as student teachers to adopting teaching strategies that were focused on developing life skills and critical thinking using a 21st century skills framework.

In Cambodia, Mr. Norn Dary (PMCA 2021) structures his classes around five key skills needed for these challenging times:

- Critical thinking
- Problem-solving
- Communication
- Collaboration
- Creativity

On top of this, however, Mr. Norn includes other skills needed to function in a modern age: life skills, media literacy, technology skills, social skills. This is needed, he believes, to prepare students for the future. In his perspective, analytical thinking, critical thinking, and problem solving are important for students' future careers and daily lives. "I find that students learn better when academic knowledge in the classroom is integrated with the development of social skills," said Mr. Norn. "So, I believe my students can develop their personal and social skills and have good interactions with people in a diverse, global society, not just in Cambodia but, more generally, around the world."

In Myanmar, Mr. Kyaw Zin Aung (PMCA 2021) encourages students to work on real-world projects that are relevant to their interests and passions. Games and simulations to make learning more engaging and interactive for students are among his teaching devices used in the classroom. He encourages the students to work collaboratively with one another to develop 21st century abilities needed for the workplace. With this approach, students are encouraged to collaborate in small groups to solve issues, finish tasks, or carry out activities. By taking the students outside of the usual classroom setting to learn in natural settings, he offers another learning perspective – outdoor learning experiences. "This is good for the students' mental and physical health," Mr. Kyaw believes, "as well as for the development of their critical thinking, problem-solving, and creativity skills."

"Problem-based learning," he continues, "also makes students more knowledgeable by conducting student-centered work where the students actively engage in solving a problem or completing an assignment. Compared to the old approaches, these new ones for learning are more effective. But some of them require more time and money."

Dr. Pratin Lianchumroon (PMCA 2021, Thailand) uses Project-Based Learning (PBL) as a teaching approach that allows students to build knowledge and skills through

projects that are based on challenges and problems they may face in the real world. Vocational education focuses on practical learning with both knowledge and practice to advance expected workplace attributes. Vocational students are required to learn how to be entrepreneurs by making a business plan, which links to other subjects such as marketing and economics. The students link, combine, and apply theoretical knowledge to create a product that can be used in business. Therefore, teachers can evaluate their knowledge, abilities, and attributes through their output.

"In the past, we memorized the lesson for the exam, but it doesn't work nowadays," emphasized Dr. Pratin. "We have to allow students to acquire and apply their knowledge in preparation for future jobs that need critical thinking and problem solving in the real world." These, plus other life skills needed in the workplace -- Flexibility, adaptability, initiative, self-direction, social and cross-cultural skills, and productivity and accountability.

In Vietnam, Mr. Le Thanh Liem (PMCA 2019) uses project-based learning integrated with technology. His project-based learning approach has five key strategies:

- Project-based learning using technology
- Simulations
- Virtual labs
- Situational learning
- Collaborative learning

To help students better understand scientific concepts, Mr. Liem believes that good teaching should use real-world issues to inspire students and promote teamwork among students and give each member a specific responsibility to ensure that everyone participates equally.

How can life skills be effectively integrated into the school curriculum?

In Vietnam (dtinews, 2013), the lack of life skills was seen as a major risk factor for young people leading to stress, depression, and even suicide. Children who are not taught how to deal with the difficulties of life are more likely to be susceptible to these risks. Extracurricular activities at schools, such as joining a club or a sports team, can contribute to the improvement of students' development of life skills. These are some examples of how to incorporate life skills into the school curriculum. What's important is not having a perfect answer to this question. In analogy, the journey is as important as the destination. Getting kids involved even in an experimental program is already a learning experience or moment where life skills can be developed.

At what age to best introduce certain life skills in the pedagogy of learning? Life skills are introduced at a certain age but should be reinforced and practiced as a child grows older. In short, the skills become cumulative. It is important to remember that life skills are not taught as a subject. They are better learned as activities (Learning by doing.) For this chapter, we would like to suggest a means to organize some life skills education by grade level since the list we earlier saw did not assign them to certain age groups.

In Table 1, life skills are broken down by age group based on three principles.

- First, the life skills for each level are put in order from those that teachers or adults can control to those that students have to control on their own.
- Second, at each level, students are expected to acquire additional life abilities which then are cumulative. Once they have developed these in the Lower Primary grades (Grades 1-3), what they have learned will remain, and new life skills will be added when they enter the Upper Primary grades (Grades 4-6), and so on upwards in a building blocks manner.
- Finally, this does not imply that they will be taught only the life skills that are allocated for their age group and nothing else; students can be exposed to a variety of life skills, but the focus will be on those skills that are assigned for a particular age group.

The rule: Specific life skills are introduced at a particular level. In subsequent levels, new life skills are introduced while previously introduced life skills should be applied, practiced, and mastered.

Table 1 Organizing life skills education by grade level

KINDERGARTEN (5 years old)	 Self-awareness (Knowing self) Socialization skills (making friends, developing friendships) Developing good habits (hygiene, respect for elders and others, sharing things)
LOWER PRIMARY Grades 1-3 (6 to 8 years)	 Creative Thinking Interpersonal skills (Communication, cooperation, respect for others) Cooperation (working with others in small groups)
UPPER PRIMARY Grades 4-6 (9 to 11 years) Grades 4-7 (9 to 12 years)	 Effective Communication (verbal, written, body language) Critical thinking Decision-making Problem-solving
JUNIOR HIGH SCHOOL Grades 7-10 (12 to 15 years) Grades 8-10 (13 to 15 years)	 Flexibility (the ability to make adjustments when needed) Empathy (developing a sense of what others are feeling. Introduce notion of voluntarism. Introduce the idea of "how the less fortunate or the other half lives".) Emotional Intelligence Self-management
SENIOR HIGH SCHOOL Grades 11-12 (16 to 17 years)	 Time Management Resilience Assertiveness Handling criticism

Source: J. M. Luz, personal notes for a planned school system, November 2021.

What are the best teaching methods for life skills education?

The most effective way to teach life skills will vary depending on the individual student and the specific skills being taught. However, some general principles that can be applied to all teaching methods include:

- Make the skills relevant to the student's life. Students are more likely to learn and retain skills that they see as relevant to their own lives. Use real-world examples when teaching life skills so that students can relate to these. Sobel (2004) advocates for life skill instruction, arguing that "hands-on, real-world learning experiences increase academic achievement, help students develop stronger ties to their community, enhance students' appreciation for the natural world, and create a heightened commitment to serving as active, contributing citizens".
- Break the skills down into smaller, more manageable steps. This will make the skills easier to learn and master.
- **Provide plenty of opportunities for practice.** Students need to have the opportunity to practice the skills in order to become proficient in them.
- **Provide feedback.** Feedback helps students to identify their strengths and weaknesses and to make progress.
- Be patient, positive, and supportive. Students need to feel supported in their learning. Provide positive reinforcement and encouragement to help them stay motivated. Learning life skills takes time and effort. For Venezia and Jaeger (2013), the role of teachers is crucial in teaching life skills that prepare kids for maturity. "The instruction will need to be supplemented or integrated with the kinds of supports and other interventions currently provided by strong precollege outreach programs and school reform models."
- Make the lessons fun and engaging. Students are more likely to learn and retain information if they are engaged in the learning process. Use games, activities, and other methods to make the lessons fun and engaging.

- **Be flexible.** There is no one-size-fits-all approach to teaching life skills. Be flexible and adapt your teaching methods to the individual needs of your students.
- Promote movement or kinesthetic activities. Pesce et al. (2016) investigated the incorporation of movement into the application of life skills and discovered that including movement when building life skills resulted not only in physical benefits, but also in mental health improvements. The study suggested that students be allowed to move around the room or work with a fidget device, as kinesthetic exercises boost creativity and work production.
- Recognize student interests. Meyer and Wurdinger (2016) think that not only kinesthetic activities, but also recognizing student interests in the learning of life skills, are crucial. Students "develop ownership because they select personally relevant projects and learn to self-monitor as they identify goals, resources, and timelines that allow them to complete tasks."

The case of Sawyer, a young boy learning financial literacy

Case by Cassidy et al. (2018)

After completing the initial interest survey, Sawyer went home and discussed the various skills listed with his parents. He informed them that they might pick between credit cards and credit scores. Sawyer's father informed him that at his age, he had obtained a credit card and promptly maxed it out. His father indicated that he had underestimated the amount of effort required to pay off the credit card each month. Furthermore, merely paying the required monthly minimum resulted in him incurring significant debt, which he is still repaying now.

When Sawyer returned to school, he contacted his teacher immediately, saying, "I want to learn about budgeting and what it really means to have a credit card and what a good credit score is before I'm an adult, because I don't want to end up with the stress my dad felt each month he had to scrounge for money to pay for the mistake he made when he was my age."

"Sawyer's tale struck a chord with us because it reinforced the importance of students learning life skills before entering adulthood."

Prajapati et al. (2017) suggested the following activities to enhance life skills in the classroom.
Activity	Life skills to be learned
Classroom Discussions	An activity that allows students to learn and experience relying on one another to solve difficulties. Allows students to expand their comprehension of the issue and personalize their relationship with it. Improves listening, assertiveness, and empathy skills.
Brainstorming	It enables students to produce ideas swiftly and spontaneously. It encourages students to use their imaginations and to think outside the box. Because the class can produce ideas imaginatively, this is a good discussion starter. It is important to weigh the advantages and disadvantages of each concept and rank them according to specific criteria.
Role Playing	Along with being a fun activity that engages the entire class in being active and collaborative, it also provides an excellent strategy for practicing skills, experiencing how one might handle a potential situation in real life, increasing empathy for others and their points of view, and increasing insight into one's own feelings.
Groups	Groups are useful when time is restricted because they maximize student input. Allows students to communicate and get to know one another better, which improves team building and teamwork.
Educational Games and Simulations	It encourages fun, active learning, and meaningful discussion by having participants work hard to prove or gain points. They need the application of knowledge, attitudes, and skills, and they allow students to test their assumptions and talents in a relatively safe environment.

Activity	Life skills to be learned
Analysis of Situation and Case Studies	It provides an opportunity to examine, investigate, issues, dilemmas, and safely test solutions for; it provides opportunities for working together in groups, sharing ideas, new learnings, and it provides insight and sometimes promotes seeing things differently. Case studies are like potent thought and discussion catalysts. Students' critical thinking and decision-making skills increase as they participate in this thought process. It also provides an opportunity to tackle risks or obstacles and devise solutions to them.
Storytelling	Can help students in thinking about local problems and developing critical thinking abilities, creative skills for writing stories, or interaction skills for telling stories. 'Storytelling' lends itself to drawing analogies or making comparisons, which aids in the discovery of healthy solutions. It also improves attention, concentration, and listening abilities, as well as patience and endurance.
Debates	Allows you to handle a specific topic in depth and creatively. Students can discuss whether smoking should be prohibited in public places in their community, for example. It enables pupils to defend a position that is important to them. It provides an opportunity to exercise higher-order thinking skills.

Planning life skills education can help students and teachers feel less frustrated. One thing to keep in mind is that it cannot be taught in the same way that academic subjects are. The teacher may merely supply the setting and the guidelines, and then let students figure it out on their own.

The story of the 12 soccer players and their coach trapped in a cave in Thailand is a classic example of how children acquire life skills through real-world implementation. The boys between the ages of 11 and 16 from a local youth football team called the Wild Boars and their assistant coach, Ekkaphon Kanthawong, 25, went missing on June 23, 2018, after going into the underground cave to look around. A sudden downpour flooded the cave forcing the boys deeper and deeper into the cavern. The boys and their coach were stuck deep inside the cave with the high water effectively sealing any escape. The boys had to learn to manage their emotions in order not to panic. Ekkaphon, their coach, taught them how to meditate to calm themselves in that dark, wet, cold, enclosed area, and conserve energy to make it through the 17 days in the cave before they were found and rescued with no fatalities.

What are the challenges and opportunities of life skills education in the 21st century?

In the $21^{\rm st}$ century, there are still several challenges associated with life skills education.

Lack of consensus on what constitutes life skills. There is no one-size-fits-all definition of life skills, and what is considered a "life skill" can vary depending on the context. This can make it difficult to develop and implement perfect life skills education programs to fit students in all contexts.

Lack of resources. Life skills education can be expensive to implement, especially if it requires specialized training or materials. This can be a barrier for schools and other organizations that are trying to offer life skills education programs.

Resistance from teachers and parents. Some teachers and parents may not believe that life skills education is important, or they may not see how it fits into the curriculum. This can make it difficult to get buy-in for life skills education programs.

Lack of systematic implementation life skills programs in developing countries. According to the findings of Uche et al. (2015), there are differences in life skills education between developing and developed nations. In general, wealthy nations implement more systematic life skills education programs that foster positive behavior, with evidence demonstrating the benefits to individual children. In contrast, most life skills programs in developing countries lack systematic implementation, evaluation, and monitoring. Programs are frequently designed to achieve just short-term results.

Out-of-school students are overlooked. The inclusion of school-based adolescent sexuality and life skills education in Nigeria's official education system raises fears that out-of-school teenagers, who make up more than half of the young population, may be disregarded. (Uche et al., 2015)

Conclusion

Teaching life skills is a rewarding experience and an important part of preparing individuals for success in life. By helping students develop the skills they need, we can help them to overcome challenges, make informed decisions, and achieve their goals.

Developing life skills in the formal education system requires a sea change in the school and teacher mindset. In a fast-changing world with an uncertain, increasingly complex future, preparing children with essential life skills should be a major part of our education roadmap.

References

Cassidy, K., Franco, Y., & Meo, E. (2018). "Preparation for Adulthood: A Teacher Inquiry Study for Facilitating Life Skills in Secondary Education in the United States". *Journal of Educational Issues*. 4 (1): 33-46

dtinews. (2013). Lack of life skills risk for youth. https://dtinews.dantri.com.vn/en/ news/020/32401/lack-of-life-skills-risk-for-youth.html

Garrote, A. (2017). "The relationship between social participation and social skills of pupils with an intellectual disability: A study in inclusive classrooms". *Frontline Learning Research:* An Official Journal of EARLI, 5(1), 1-15. https://doi.org/10.14786/flr.v5i1.266

Luz, J. M. (2017). Out of the Ordinary: Teacher Innovations Changing Students' Lives. Princess Maha Chakri Award FoundaTION, Bangkok, Thailand.

Luz, J. M. (2020). Learning: Teachers Helping Children Become Better Learners. Princess Maha Chakri Award Foundation, Bangkok, Thailand.

ILO News. (2022). Regional leaders pledge support for lifelong learning in ASEAN. https:// www.ilo.org/global/docs/WCMS_841539/lang--en/index.htm

Meyer, K., & Wurdinger, S. (2016). "Students' perceptions of life skill development in project-based learning schools". *Journal of Educational Issues*, 2(1), 91–114.

Pesce, C., Marchetti, R., Forte, R., Crova, C., Scatigna, M., Goudas, M., & Danish, S. J. (2016). "Youth life skills training: Exploring outcomes and mediating mechanisms of a group randomized trial in physical education". *Sport, Exercise, and Performance Psychology,* 5(3), 232-246. https://doi.org/10.1037/spy0000060

Prajapati, R., Sharma, B., & Sharma, D. (2017). "Significance of life skills education". *Contemporary Issues in Education Research*, 10(1), 1–6

Ramesht, M., & Farshad, C. (2006). "Study of life skills training in prevention of drug abuse in students". Lecture, *The 3rd Seminar of Students Mental Health*; Iran University of Science and Technology; Persian.

Ramey, L. (1984). "A Life Skills Program for Incarcerated Offenders: Origin and Development". *Journal of Correctional Education*, 35(2), 50-53.

Roodbari, Z., Sahdipoor, E., & Ghale, S. (2013). "The Study of the Effect of Life Skill Training on Social Development, Emotional and Social Compatibility Among First- Grade Female High School in Neka City". *Indian Journal of Fundamental and Applied Life Sciences*, Vol. 3(3), 382-390.

Schurer, S. (2017). "Does education strengthen the life skills of adolescents?" IZA World of Labor 2017: 366. https://wol.iza.org/articles/does-education-strengthen-the-life-skills-of-adolescents

Smith, E. A., Swisher, J. D., Vicary, J. R., Bechtel, L. J., Minner, D., Henry, K. L., & Palmer, R. (2004). "Evaluation of life skills training and infused-life skills training in a rural setting: Outcomes at two years". *Journal of Alcohol and Drug Education*, 48(1), 51–70.

Sobel, D. (2004). "Place-Based Education: Connection Classroom and Community". Nature and Listening. http://www.antiochne.edu/wpcontent/uploads/2012/08/pbexcerpt.pdf

The Partnership for 21st Century Skills, 2009. https://files.eric.ed.gov/fulltext/ED519462.pdf

TIME Magazine. (December 18, 2006). "How to Build a student for the 21st Century". https://content.time.com/time/covers/0,16641,20061218,00.html

Tuttle, J., Campbell-Heider, N., & David, T. M. (2006). "Positive adolescent life skills training for high-risk teens: Results of a group intervention study". *Journal of Pediatric Health Care*, 20 (3), 184–191. doi:10.1016/j.pedhc.2005.10.011

Uche, C. I., Rasak, O., Ezebunwa, N., Funke, F., Rasheed, O., & Retta Akingbade (2015). "Adolescent Sexuality and Life Skills Education in Nigeria: To What Extent Have Out-of-School Adolescents Been Reached?" *African Journal of Reproductive Health*, 19 (1): 101-111.

UNICEF (2012). "Global evaluation of life skills education programmes". https://gdc. unicef.org/resource/global-evaluation-life-skills-education-programmes-2012

Venezia, A., & Jaeger, L. (2013). "Transitions from High School to College". *The Future of Children*, 23(1), 117-136.

Vranda, M., & Rao, M. (2011). "Life Skills Education for Young Adolescents and Indian Experience". *Journal of The Indian Academy of Applied Psychology*, 37(Special Issue), 9-15.

Yadav, P., & Iqbal, N. (2009). "Impact of life skill training on self-esteem, adjustment and empathy among adolescents". *Journal of the Indian Academy of Applied Psychology,* 35, 61–70

ABOUT THE AUTHORS

Dr. Chatree Faikhamta is an Associate Professor at the Faculty of Education, Kasetsart University, Thailand. He has taught a full range of undergraduate and graduate courses in science education such as chemistry methods, research design, professional science teacher development, etc. His research areas focus on STEM education, pedagogical content knowledge (PCK), and action research. He is involved in collaborative research in a number of countries – Canada, Japan, Korea, Spain, Taiwan, and the UK.

Mr. Chawapan Pettkrai is a lecturer in Thai language teaching at the Faculty of Education, Kasetsart University. He graduated with a Bachelor of Arts degree from the Department of Thai Literature at Kasetsart University and a Master's degree in Thai language from Chulalongkorn University. He has had experience teaching Thai subjects at the upper secondary level at the Kasetsart University Laboratory School Center for Educational Research and Development for four years. Chawaphan is interested in oral literature and learning management using local culture as a base. He is currently pursuing a doctoral degree in folklore at Chulalongkorn University.

Dean Juan Miguel Luz was Dean and Head of the Zuellig School of Development Management at the Asian Institute of Management. Prior to that, he served a term as Undersecretary (Deputy Minister) in the Department of Education, Philippines. He is a graduate of Public Administration from the John F. Kennedy School of Government, Harvard University.

Ms. Onpawee Koonpornpen is a lecturer in Curriculum and Instruction at Kasetsart University's Faculty of Education and teaches Method of Teaching and Curriculum Development. Before that, she taught English for Aviation Business Management at Panyapiwat Institute of Management for 5 years. She earned her Bachelor of Arts in English from Mae Fah Luang University, a Master of Arts in Language and Communication at National Institute of Development Administration, and is now pursuing a doctoral degree in Curriculum and Instruction from Kasetsart University.

Dr. Sitthikorn Sumalee is an Assistant Professor at Kasetsart University's Faculty of Education. He has a Bachelor of Sociology and Anthropology from Kasetsart University and a Bachelor of Educational Measurement and Evaluation from Sukhothai Thammathirat Open University. He earned a Master of Education in Educational Measurement and Evaluation and Mathematics Education from Ramkhamhaeng University and a Doctor of Philosophy in Curriculum and Instruction from Kasetsart University. He has been a visiting scholar at Massey University in New Zealand and Inalco University in France.

Dr. Udomluk Koolsriroj is an Assistant Professor and Associate Dean for International Affairs at Kasetsart University, Faculty of Education. Her main teaching courses are Diversity and Equity in Education, Leadership in Curriculum and Instruction Development, and Languages and Cultures for Teachers. Before that, she taught English for 13 years at the University Laboratory School, Center for Educational Research and Development. She has a Master of Arts in Applied Linguistics and a Doctor of Education in Curriculum and Instruction from Kasetsart University.

Dr. Wandee Kasemsukpipat currently serves as an Assistant Professor and Assistant Dean for International Affairs at the Faculty of Education at Kasetsart University. She earned her Ph.D. in mathematics education from the College of Education at the University of Wyoming in the United States. She has 20 years of teaching experience at both the undergraduate and graduate levels in the field of Teaching Mathematics. Additionally, she has had experience supervising pre-service and in-service training for teachers. Her areas of research interest include teacher preparation and teacher's knowledge in the instruction of mathematics.

Acknowledgement

The Princess Maha Chakri Award Foundation would like to express our profound appreciation to Dean Juan Miguel Luz, whose eloquent writing and editing style have brought out the uniqueness of the 2021 PMCA awardees. Unfortunately, he is no longer with us, yet his legacy and contribution to the PMCA Foundation and teachers in Southeast Asia remain forever.

The Foundation would also like to acknowledge the contributions of the writers from Kasetsart University, led by Dr. Udomluk Koolsriroj. Her team is composed of Dr. Chatree Faikhamta, Dr. Wandee Kasemsukpipat, Ms. Onpawee Koonpornpen, Mr. Chawapan Pettkrai, and Dr. Sitthikorn Sumalee.

This book would not be possible without the vision and initiation of Dr. Krissanapong Kirtikara, who places emphasis on documenting the practices of the PMCA recipients to benefit other teachers; Dr. Benjalug Namfa for her guidance and connecting all parties together; and Dr. Tinsiri Siribodhi for her additional input to the teachers' stories. Appreciation is extended to Mr. Zainuddin Zakaria, the 2015 PMCA awardee from Malaysia, for coordinating with some of the 2021 PMCA teachers.

Furthermore, the Foundation would like to express our gratitude to the Ministry of Education of the 11 respective countries for selecting and nominating the best teachers for the 2021 Princess Maha Chakri Award and to the Ministry of Foreign Affairs through the Royal Thai Embassy in each respective country for coordinating the trips for the PMCA Foundation team to meet the teachers and see them in action.

This book is truly evidence that by working together with heart and passion, we, ordinary people, can make a difference for teachers and students in Southeast Asia.

The goal of education is to equip students to be autonomous, responsible members of society. Though standards and curricula have evolved over time, one constant is the need to develop life skills to help students navigate to adulthood. Today's schools are obsessed with meeting academic standards, teaching from scripted curricula, and meeting test benchmarks. Given these many concerns, it's easy for teachers to forget that their job is to teach the whole child how to think, plan, and act independently. The ability to act on their own thoughts and to learn even when not prompted is what educators call "Life Skills", an important subset of the 21st Century skills which are considered crucial to a student's future success.

These are the stories of teachers around Southeast Asia recognized by the Princess Maha Chakri Award Foundation for their excellence in the classroom or in leading schools. Their stories look at their teaching journeys and how they address the challenges of learning in a fast-changing world.

> Pg. Haji Mohd Wahab bin Pg. Jaji Abdullah, Brunei Darussalam Norn Dary, Cambodia Khoiriah, Indonesia Sengphet Khounpasert, Lao PDR Norhailmi Abdul Mutalib, Malaysia Kyaw Zin Aung, Myanmar Marcelo T. Otinguey, Philippines Yok Joon Meng, Singapore Pratin Lianchamroon, Thailand Vicente Marcal da Silva, Timor-Leste Ha Anh Phuong, Vietnam

Princess Maha Chakri Award Foundation Bangkok, Thailand www.pmca.or.th