



WORLD BANK GROUP



# Fostering Foundational Skills in Thailand

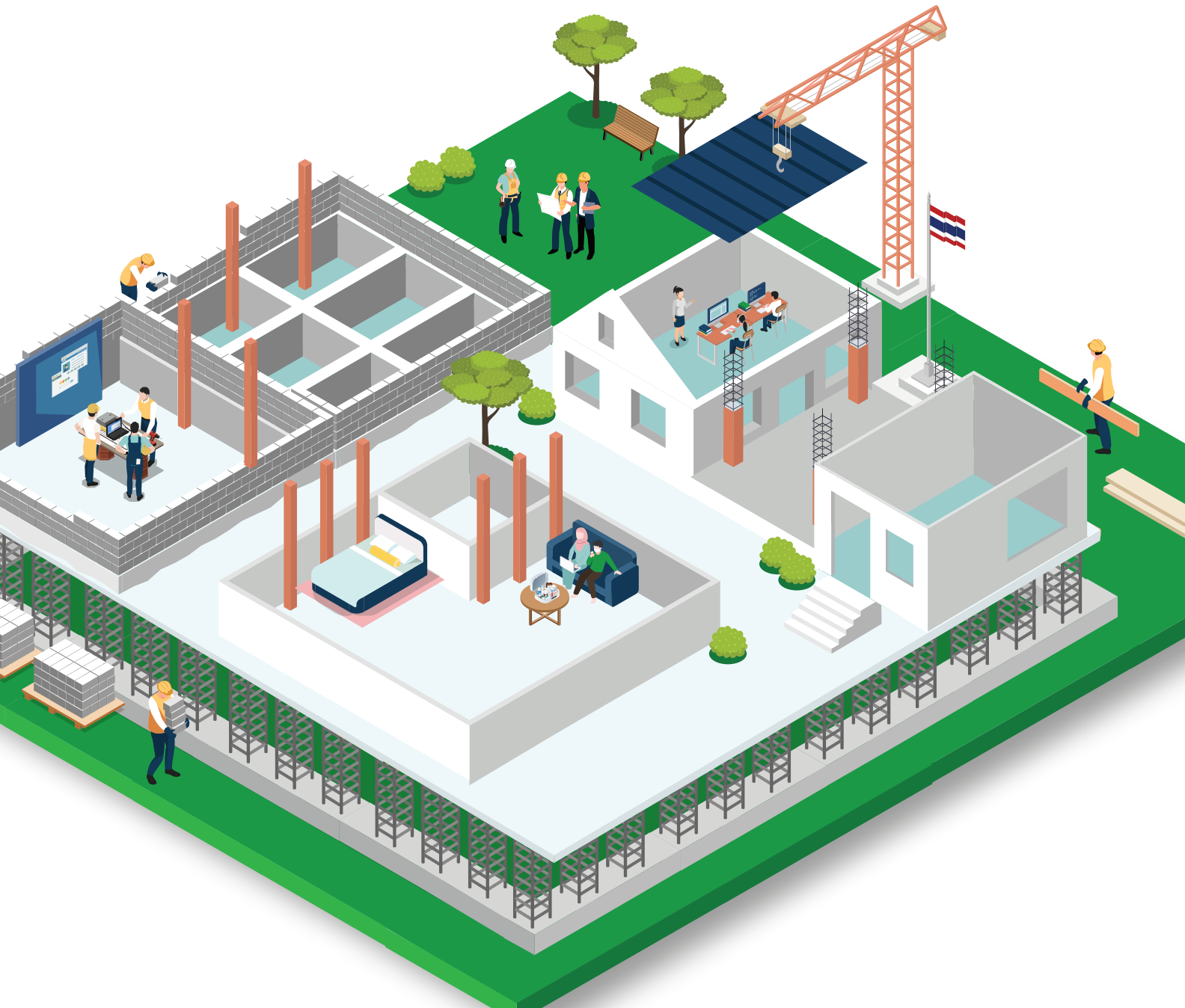


From a  
Skills Crisis  
to a  
**Learning Society**



# Fostering Foundational Skills in Thailand

From a Skills Crisis to a **Learning Society**



# Table of Contents

Acknowledgments	VI
-----------------	----

Acronyms	VIII
----------	------

Methodology	X
-------------	---

Executive Summary	XII
-------------------	-----

<b>Part I:</b> Opportunities and Challenges	1
---	---

<b>Part II:</b> The Skills Crisis in Thailand	13
---	----

<b>Part III:</b> Building a Learning Society	35
--	----

References	68
------------	----

## Boxes

<b>Box 1:</b>	The Adult Skills Assessment in Thailand, 2022	14
<b>Box 2:</b>	Determining threshold skill levels and identifying low performers	17
<b>Box 3:</b>	Demonstrating the nature of skills gaps using diagnostics of skills supply	42
<b>Box 4:</b>	Preparing and disseminating evidence-based programs	44
<b>Box 5:</b>	Setting a frame of reference through learning standards and a skills framework	45
<b>Box 6:</b>	Establishing a coordinating institution at the provincial level	49
<b>Box 7:</b>	Ensuring sufficient investments are made during early childhood development	51
<b>Box 8:</b>	Leveraging the strengths of the private sector in learning delivery	52
<b>Box 9:</b>	Mobilizing classroom observation tools to improve teachers' pedagogical skills	55
<b>Box 10:</b>	Introducing Individual Learning Accounts to enable vulnerable youth and adults to upskill and reskill irrespective of their unemployment status	56
<b>Box 11:</b>	Including teachers' ICT skills for teaching as required contents of preservice and professional development programs	58
<b>Box 12:</b>	Requiring teachers to develop their capacity to foster students' socioemotional skills for preservice certification and professional development	59
<b>Box 13:</b>	Mobilizing information campaigns that highlight the financial benefits of education and skills development	61
<b>Box 14:</b>	Mobilizing information campaigns that choose the right messengers to reach and influence target groups	62



# Figures

<b>Figure 1:</b>	Contextual factors that give rise to the importance of foundational skills	2
<b>Figure 2:</b>	Characterizing foundational skills	10
<b>Figure 3:</b>	Three elements of foundational skills	10
<b>Figure 4:</b>	Domains of foundational skills	11
<b>Figure 5:</b>	Proportion of youth and adults exhibiting skills below the threshold levels of foundational skills (ASAT 2022)	16
<b>Figure 6:</b>	Proportion of youth and adults demonstrating skills below the threshold levels of foundational literacy and digital skills, by proficiency level (ASAT 2022)	21
<b>Figure 7:</b>	Labor market outcomes by levels of skills (ASAT 2022)	24
<b>Figure 8:</b>	Estimated earnings gains associated with bringing youth and adults with below-threshold skills to a level above the threshold (ASAT 2022)	27
<b>Figure 9:</b>	Proportion of adults with below-threshold level foundational literacy and digital skills (ASAT 2022)	28
<b>Figure 10:</b>	Targeted regions (ASAT 2022)	29
<b>Figure 11:</b>	Proportion of youth and adults with below-threshold levels of foundational skills, by region (ASAT 2022)	30
<b>Figure 12:</b>	Proportion of youth and adults with below-threshold levels of foundational skills, by region, with controls (ASAT 2022)	31
<b>Figure 13:</b>	Targeted demographic groups (ASAT 2022)	32
<b>Figure 14:</b>	Proportion of youth and adults with below-threshold levels of foundational skills, by demographic group (ASAT 2022)	33
<b>Figure 15:</b>	A framework to understand how policy intent drives government actions and outcomes	37

## Tables

<b>Table 1:</b>	Summary of policy intent	38
<b>Table 2:</b>	Summary of government actions	40
<b>Table 3:</b>	Recommendations for the Government of Thailand to counter the skills crisis	66

# Acknowledgments

This report presents a synthesis of policy research commissioned by the Equitable Education Fund (EEF) of Thailand and administered by the World Bank. The EEF's engagement was led by Dr. Kraiyos Patrawart (Managing Director, EEF) and Ms. Thantida Wongprasong (Director of Office of Innovation for Learning Opportunity, EEF), and supported by Dr. Supachai Srisuchart (Associate Professor of Economics, Thammasat University) and Dr. Kaewkwan Tangtipongkul (Associate Professor of Economics, Thammasat University). The EEF and Thammasat University played important roles during the activity design, preparation, and delivery process.

This report was drafted by Koji Miyamoto (Senior Economist and Team Leader, World Bank), Miguel Sarzosa (Assistant Professor of Economics, Purdue University), Sarah El Wazzi (Education Consultant, World Bank), and Kati Limapichat (Education Consultant, World Bank). It is an outcome of a wider team effort, including Fernando Cartwright (Psychometrics Consultant, World Bank), Syd Dinlemez (Survey Consultant, World Bank), and Oliver John (Professor of Psychology, University of California at Berkeley). The team is grateful for the strategic guidance and support from Cristian Aedo (Practice Manager for Education, World Bank) and Fabrizio Zarcone (Country Manager for Thailand, World Bank) during the preparation and drafting process. The team also extends its appreciation to Ronald Upenyu Mutasa (Program Leader, World Bank) for his continued support for this activity.

The team thanks the many colleagues who shared valuable insights and suggestions for this report, including the peer reviewers: Diego Angel-Urdinola (Senior Economist, World Bank) and Venkatesh Sundararaman (Lead Economist, World Bank), as well as Lars Sondergaard (Lead Economist, World Bank), Roberta Bassett (Senior Education Specialist, World Bank), Dilaka Lathapipat (Senior Economist, World Bank), and Andrew Mason (Lead Economist, World Bank). The team also extends its deep appreciation to Birgit Hansl (Former Country Manager for Thailand and Lead Economist, World Bank), Toby Linden (Lead Economist, World Bank), and Pamornrat Tansanguanwong (Senior Social Development Specialist, World Bank), who provided valuable advice during the preparation stage. Finally, the team benefited from the valuable support of Pimon Lamsripong (Program Assistant, World Bank), Chutima Lowattanakarn (Program Assistant, World Bank), Lilanie Olarte Magdamo (Senior Operations Officer, World Bank), Kanitha Kongrukgreatiyos (External Affairs Officer, World Bank), Alejandro Scaff (Graphics Editor Consultant, World Bank), and Amy Gautam (Editor).

This research would not have been possible without significant support from the National Statistics Office (NSO) of Thailand, coordinated by Mr. Anon Juntavich (former Inspector General of the NSO),



in determining the sampling strategy and engaging households during the data collection process. The survey delivery was driven through tireless efforts made by the data collection firm InfoSearch and the provincial offices of the NSO. Most of the assessment items used in this research were prepared by a large team of local Thai researchers and educators who participated in the item development workshops, led by the World Bank's item preparation team (Fernando Cartwright, Oliver John, and Sarah El Wazzi). The research also benefited from the significant contributions of Dr. Supakorn Buasai (former Managing Director of the EEF), Dr. Pumsaran Tongliemnak (Former Director of the EEF Research Institute), Dr. Siree Jongdee (Acting Director of the EEF Research Institute), Mr. Pavarin Bhandtvej (Researcher, EEF Research Institute), Mr. Anan Vichitanan (International Affairs Officer, Office of Innovation for Learning Opportunity, EEF), and Ms. Pornvalai Supatanakij (International Affairs Officer, Office of Innovation for Learning Opportunity, EEF).

Finally, the team extends its sincere gratitude to a large group of stakeholders of education and training in Thailand who reviewed part of the analysis presented in this report during the consultation stages. They include representatives from the Ministry of Education (Office of the Basic Education Commission; Office of the Vocational Education Commission; Office of the Upper Secondary Education Administration; Office of the Education Council; Teachers' Council of Thailand; Office of the Non-Formal and Informal Education; Office of the Permanent Secretary); the Ministry of Labor (Department of Skills Development; Department of Employment; Office of the Permanent Secretary); the Ministry of Higher Education, Science, Research and Innovation (Office of the Permanent Secretary; Office of the Higher Education, Science, Research, and Innovation Policy Council); the Ministry of Social Development and Human Security (Department of Children and Youth Affairs; Office of the Permanent Secretary); the Ministry of Interior (Department of Local Government Promotion); the Ministry of Industry (Department of Industrial Promotion; Office of the Permanent Secretary); the Ministry of Digital Economy and Society (National Statistics Office; Office of the National Digital Economy and Society Commission); Office of the National Economic and Social Development Council; the Bank of Thailand; the Bangkok Metropolitan Authority; the Federation of Thai Industries; the Thailand Development Research Institute; the Thailand Professional Qualifications Institute; the Office of National Higher Education Science Research and Innovation Policy Council; Thailand Science, Research, and Innovation; Thammasat University; Lampang Rajabhat University; King Mongkut's University of Technology Thonburi; Rajamangala University of Technology Thanyaburi; Rajamangala University of Technology Thanyaburi; Kasetsart University; North Bangkok University; Samut Sakhon Provincial Education Office; Phuket City (former Mayor); Khon Kaen Community Foundation for the Next Decade; UNESCO Bangkok Office; UNICEF Bangkok Office; and ILO Bangkok Office.

# Acronyms

AI	Artificial intelligence
ASAT	Adult Skills Assessment in Thailand
BCG	Bio-Circular-Green Economy
BFI	Big Five Inventory
CASEL	Collaborative for Academic, Social, and Emotional Learning
DNPF	Dek Noi Pattana Foundation
DSD	Department of Skill Development
EA	Enumeration area
ECD	Early childhood development
EEC	Eastern Economic Corridor
EEF	Equitable Education Fund
GDP	Gross domestic product
IALS	International Adult Literacy Survey
ICT	Information and communications technology
ILA	Individual learning account
IoT	Internet of Things
IRT	Item Response Theory
MHESRI	Ministry of Higher Education, Science, Research, and Innovation
MOE	Ministry of Education
MOL	Ministry of Labor

MOPH	Ministry of Public Health
NESDC	Office of the National Economic and Social Development Council
NGO	Nongovernmental organization
NSO	National Statistics Office
NXPO	Office of National Higher Education Science Research and Innovation Policy Council
OBEC	Office of the Basic Education Commission
OEC	Office of the Education Council
OECD	Organisation for Economic Co-operation and Development
OVEC	Office of the Vocational Education Commission
PIAAC	Program for the International Assessment of Adult Competencies
PISA	Programme for International Student Assessment
SEL	Social and emotional learning
TCT	Teachers' Council of Thailand
TPQI	Thailand Professional Qualifications Institute
TVET	Technical and vocational education and training
UNESCO	United Nations Educational, Scientific, and Cultural Organization
UNICEF	United Nations International Children's Emergency Fund





# Methodology

## Preparation of this report involved the following steps:

### Step 1: Identification of the context (2021):

This activity started by investigating whether the wider socioeconomic context in Thailand calls for strengthening foundational skills among children, youth, and adults. This involved consulting key stakeholders—including policy makers, government officials, educators, and researchers—to understand the diverse opportunities and challenges facing Thailand, and the implications for skills needs. The context is presented in Part I of this report.

### Step 2: Preparation of the assessment design and instruments (2021):

The second step involved preparing the assessment design and measurement instruments. Stratified sampling was chosen to identify the levels and correlates of foundational skills across regions and relevant demographic groups with a minimal sample size. A team of international and local experts prepared the measurements, building on internationally validated frameworks and measurements of literacy, digital, and socioemotional skills. The assessment design and instruments are described in Part II of this report and in Online Annex 1.

### Step 3: Microdata collection (2022):

The third step involved collecting microdata across Thailand through a household survey. Data collection employed a computer-based survey platform to improve the efficiency and precision of the data collection and processing, as well as to expand the scope and quality of cognitive assessments. While the literacy and digital skills assessments were self-administered, other items were delivered by a team of enumerators using a standardized methodology.

#### Step 4: Analysis of the microdata and of Thailand's education and training system (2022):

The fourth step involved analyzing the microdata to identify the scale and nature of Thailand's skills crisis and the population subgroups for which the skills crisis is more pronounced.. The analysis also included a review of Thailand's education and training system to explore ways to better address the skills crisis.

### Step 5: Preparation of the key messages and narrative (2023):

The final step was to elicit key messages for policy makers and educators, as well as to identify the most compelling narrative to trigger reform. A synthesis of the key messages is described in the Executive Summary and the closing section of this report. Three online annexes contain additional details and results.

# Executive Summary

In September 2023, at Thailand's National Assembly, Prime Minister Srettha Thavisin announced his newly formed government's policy directions for the next four years to promote Thailand's growth, development, and well-being. While he underlined the major socioeconomic and political challenges facing the nation, he also laid out a number of reform propositions to help drive the country out of poverty and inequality and toward harmony and prosperity. These include a range of human development initiatives such as building soft power, creating a lifelong learning society, and promoting digital skills. The government has already started taking actions by preparing institutions (for example, Thailand Creative Content Agency) and mechanisms (for example, One Family, One Soft Power) to jumpstart these reform efforts. Such commitments are expected to help Thailand build a strong foundation to improve the quality of people's lives and raise their national pride.

This report presents a message to policy makers and educators across Thailand on the urgency to act in response to the very large proportion of youth and adults who do not have the foundational skills to face the challenges and leverage opportunities of the 21st century. Foundational skills, including literacy, digital, and socioemotional skills, are fundamental, transferable, and progressive human abilities that allow individuals to solve everyday problems—such as exploring and selecting consumer products to buy online, understanding how to follow a medical instruction on a pill, or brainstorming with colleagues to resolve workplace disruptions. Unlike job-specific technical skills such as advanced coding or investment evaluation, foundational skills are highly relevant across diverse occupations and life situations, in various cultural and geographical settings, and over the lifecycle.



This report has three objectives. The first is to demonstrate the scale of **the foundational skills crisis** that Thailand currently faces. The second is to provide an overview of how the government, education and training institutions, and employers are responding to this crisis by preparing policies, mobilizing instruments, and delivering programs to facilitate learning to foster foundational skills. The third is to propose a way for Thailand to build an effective, inclusive, and sustainable ecosystem of foundational skills development driven by establishing a **learning society**. The five recommendations presented in this report are based on best practices from around the world, including Thailand, that identify concrete steps to make reforms happen. All recommendations are in line with the aspirations of and initial steps already taken by Thailand's new administration.

The analysis presented in this report is based on the first large-scale assessment of adult skills in Thailand, designed to measure 15–64-year-olds' levels of foundational skills, which include literacy, digital, and socioemotional skills. **The Adult Skills Assessment in Thailand (ASAT)** was developed by the World Bank and the Equitable Education Fund (EEF), with inputs from academic partner Thammasat University. The ASAT employed rigorous assessment and analytical methodologies involving item response theory to minimize measurement errors when estimating skills gaps. The diagnostics provide policy makers and educators with the means to identify the scale of skills gaps and the subgroups among youth and adults that lack foundational skills to flourish in the labor market and society. They can also be used to trigger response strategies to improve the education and training system and empower those vulnerable groups.

## Key messages from this report:

**Thailand, like many countries in the region, faces a skills crisis, with a very large proportion of youth and adults whose foundational skills are below threshold levels, meaning they cannot perform basic reading and computing tasks and do not show tendencies to engage with others or to be open to explore new ideas.** Almost two-thirds (64.7 percent) of youth and adults in Thailand are below the threshold levels of foundational reading literacy, which means they can barely read and understand short texts to solve a simple problem such as following medical instructions. Three-quarters (74.1 percent) of them are also underperformers in foundational digital skills, which means they have difficulty using a pointing device and keyboard on a laptop and cannot perform simple tasks, such as finding the correct price of a product on an online shopping website. Moreover, 30.3 percent of youth and adults report skills below the threshold level of foundational socioemotional skills, meaning they do not manifest tendencies to take social initiatives or to be enthusiastic, curious, and imaginative.

**The economic costs of having a large proportion of youth and adults with skills below the threshold levels of literacy and digital skills can be considerable, amounting to 3.3 trillion baht, or 20.1 percent of gross domestic product (GDP) in 2022.** Youth and adults who are below the threshold levels of foundational skills perform much lower, on average, than those who at or above the threshold levels, across a large number of labor market outcome measures. Most notably, a gap of 6,324 baht (or US\$179) in monthly labor income arises between those who have skills below and above the threshold level of foundational literacy. This is a large gap, considering the average monthly household income in Thailand is approximately 27,352 baht (US\$775). The associated economic loss amounted to 3.3 trillion baht, or 20.1 percent of the GDP, in 2022, taking into account only the loss in monthly income due to underperformance. This amount exceeds the national government budget in 2022 which was 3.1 trillion baht.

**The skills crisis is concentrated among older adults (those aged 40 and above), younger adults (those below 40) without higher education degrees, and those living in rural areas and in the northern and southern regions of Thailand.**

Some population groups have a disproportionately high concentration of those exhibiting below-threshold levels of foundational skills. For instance, over 80 percent of older adults underperform in digital skills. Even among younger adults, over 60 percent of those without a higher education degree underperform in reading literacy, in contrast to about 40 percent among young adults with a higher education degree. A much higher proportion of youth and adults in rural areas (33.0 percent) do not express tendencies to be open to exploring new ideas compared to those in urban areas, where the corresponding figure is much lower (27.1 percent). Those in the northern region have a higher proportion of youth and adults who underperform in reading literacy (89.0 percent), while those in the southern region have a very high proportion of underperformers in digital skills (83.7 percent).

**It is encouraging that the Thai government has shown commitment to tackling the skills crisis by not only prioritizing foundational skills in its policy agenda, but also taking concrete actions such as setting standards and mobilizing instruments to facilitate learning.**

The importance of developing foundational skills features prominently in the government's strategic, planning, and framework documents, which highlight the engagements of a range of ministries and agencies responsible for supporting education and training at all levels. Moreover, the government has started to translate its intentions into action by setting learning standards for foundational skills at different stages of education and training, and specifying occupational and professional qualification standards that guide training institutions and learners in fostering skills that correspond to the labor market and societal needs. The government is also facilitating preparation of instruments to support learners' skills acquisition, including the competence-based curriculum and related teaching and learning materials. Moreover, there are tax incentives to encourage employers to invest more in training activities for their employees.





This report presents five key recommendations for the Thai government to improve the capacity of the education and training system to foster foundational skills in an effective, inclusive, and sustainable manner. The crisis of foundational skills prevails despite the strong policy intentions and several concrete actions taken by the Thai government. The following recommendations are expected to complement the ongoing efforts and help reduce skills gaps, particularly for the most vulnerable groups.

1. **Improve strategic guidance for educators to better understand and respond to the skills crisis** by: demonstrating the nature of skills gaps using skills supply diagnostics; preparing and disseminating evidence-based programs; and setting a frame of reference using detailed and developmentally consistent standards and a foundational skills framework that all stakeholders can adhere to.
2. **Enhance efficiency and inclusiveness of decentralized learning delivery** by: establishing a coordinating institution at the provincial level; ensuring sufficient investments in skills development are made during early childhood development; and leveraging the strengths of the private sector.
3. **Deploy innovative instruments to help improve teaching and learning** by: mobilizing classroom observation tools to improve teachers' pedagogical skills and introducing individual learning accounts (ILAs) that enable vulnerable groups to upskill and reskill irrespective of their employment status.
4. **Strengthen quality assurance** by: ensuring all teachers invest in their capacity to foster learners' foundational skills through professional development programs; and requiring that their capacity is well developed through their recertification process.
5. **Leverage the powers of information campaigns** by: deploying the right messenger (for example, local champions or experts) to communicate the right messages (for example, income-earning benefits of investing in foundational literacy, digital, and socioemotional skills) relevant for the target groups.

These systemic reforms are consistent with the policy framework of education and training in Thailand, which emphasizes the importance of: (a) fostering 21st century skills; (b) adopting a learner-centric approach; (c) mobilizing capable teachers and instructors; and (d) involving learning activities that are competence-based and demand-driven. These reforms are also considered to help set the stage for some of the major propositions made by the new administration (for example, preparing youth and adults who can drive Soft Power in Thailand), which will help bring wider socioeconomic benefits to the society.

In the longer term, Thailand can build on these reform efforts to establish a much stronger, resilient, and sustainable ecosystem of education and training. The pathways to develop such an ecosystem will likely require **establishing a learning society** in which everybody has the chance to strengthen his or her abilities as well as progressively build new skills over the lifecycle. In a learning society, every person has a strong interest in and motivation to learn from others. Such a learning society is also part of a wider economic and societal ecosystem, which helps to ensure the relevance of skills for individual and societal progress.

A learning society is not built in a day. Its development will involve collective and coordinated efforts involving policy makers, education and training institutions, employers, and learners, among others. A way forward for the Thai government is to establish a **social pact toward a learning society** that can serve as the basis for building a learning society. This social pact can bring together all stakeholders and coordinate their efforts through a spirit of shared responsibility and accountability. The first step will be to establish a shared vision, commitment for actions by stakeholders, performance indicators to monitor progress, and public reporting requirements.

Thailand is in the process of bouncing back from adversity in the time of COVID-19. The country is filled with enthusiasm to grow and prosper. The government is working to harness policies and resources to move the country out of the middle-income trap. Fostering children, youth, and adults with a range of foundational skills will no doubt be an important driver to sustain this momentum.





Part I:

# Opportunities and Challenges



## Part I:

# Opportunities and Challenges

This section outlines the context in Thailand that gives rise to the importance of preparing citizens with a balanced set of foundational skills. It presents a number of recent developments in the country including ambitious, high-profile initiatives that could drive socioeconomic development, as well as challenging experiences with which Thailand is still grappling (Figure 1). This section also introduces the notion of foundational skills to show how they can help Thailand leverage opportunities and face the challenges of the 21<sup>st</sup> century.

**Figure 1:** Contextual factors that give rise to the importance of foundational skills



Source: Cartwright, Miyamoto, and El Wazzi (forthcoming).

## What are the opportunities for Thailand to flourish in the 21<sup>st</sup> century?

A number of transformative initiatives and trends are creating an attractive window of opportunity for the Government of Thailand to make significant strides to foster labor productivity, innovation, and growth.

**Bio-Circular-Green (BCG) Economy:** A prominent initiative by the Thai government is the Bio-Circular-Green (BCG) Economy. The BCG Economic Model (2021–2026) is a strategy to employ technology and innovation to transform Thailand into a value-based and innovation-driven economy. The model leverages Thailand's richness in natural and cultural diversity, geography, and agricultural activity. It promotes four industries in particular: agriculture and food (diversifying and moving from low-value commodities to value-added premium products); health care and wellness (becoming a hub of health care services and clinical research); bioenergy, biomaterial, and biochemical industries (achieving energy security); and tourism and the creative economy (developing sustainable tourism and conserving the environment) (Royal Thai Embassy 2022a). The BCG model is in alignment with the United Nations Sustainable Development Goals (SDGs) and aims to create sufficient income for people—especially those in the agriculture sector—to overcome the middle-income trap. Through the BCG model, cutting-edge science, technology and innovation (for example, 5G networks, decarbonization, artificial intelligence [AI], and high-performance computing) will be adopted to enhance competitiveness and capacity across the key targeted industries (Royal Thai Embassy 2022a).

**Digital transformation:** Cutting-edge innovations and technological advancements present disruptive opportunities and efficiency gains for governments to deliver their strategic priorities. The fast-evolving technological innovations underpinning the Fourth Industrial Revolution (for example, Big Data, the Internet of Things [IoT], AI, robotics, and digitization) are transforming the way individuals work, learn, and manage their day-to-day lives (McGinnis 2018). One recent example is ChatGPT, a chatbot that uses AI to generate human-like responses to user inputs.<sup>1</sup> [One report estimates that around 80 percent of the U.S. workforce could have at least 10 percent of its work tasks affected by the introduction of Large Language Model (LLMs) such as ChatGPT, while approximately 19 percent of workers may see at least 50 percent of their tasks impacted (Eloundou et. al. 2023). It is urgent that workers develop the skills to manage and leverage digital transformations to compete and thrive in the 21<sup>st</sup> century.

---

<sup>1</sup> ChatGPT is a form of a Large Language Model (LLM) that has the capacity to train itself based on a large volume of samples from the Internet to automatically compose emails, essays, and codes.





**The changing nature of work:** The impact of technology on the labor market is substantial. Technological advancements bring opportunities for innovation and pave the way to create new jobs, business models, and ways of production and delivery of goods and services. Technology is redefining and reshaping how people work and the skills that employers seek faster than ever before (World Bank 2018). The automation of production has resulted in declining demand for routine tasks, while those requiring a different set of nonroutine tasks, involving analytical and interpersonal skills, are on the rise. As the pace of technology adoption is expected to continue accelerating, most recently driven by generative AI such as ChatGPT, it broadens the set of skills and abilities that can be replicated by technology (Winthrop and McGivney 2016). While this creates significant opportunities, it can also lead to labor market disruptions. The World Economic Forum (WEF) suggests that 85 million global jobs may be displaced by a shift in the division of labor between humans and machines, while 97 million new roles may emerge that are more adapted to the new division of labor between humans, machines, and algorithms (WEF 2020).<sup>2</sup> The occupational changes driven by technology are thus leading to long-term structural shifts in jobs, tasks, and skills required in the labor market.

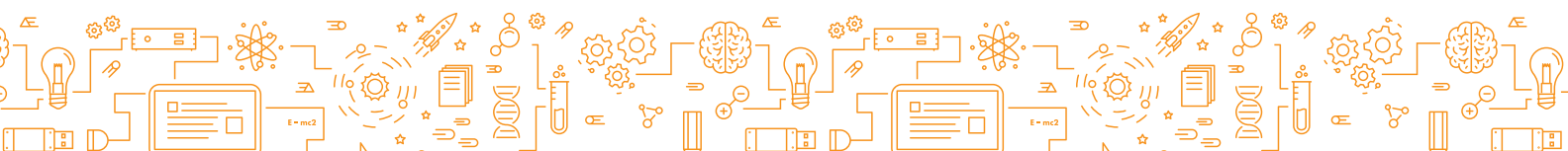
**Soft power:** Soft power, defined as the ability to influence others through cultural and social values, serves as an inspiration for people to follow. In Thailand, soft power is often associated with iconic Thai food, dresses, boxing, and festivals like Songkran. These elements are communicated via various sources, including tourism, media, establishments, and influencers. This concept began to attract strong attention in Thailand in 2022, and especially during the 2023 election. Looking ahead, key industries with the potential to project soft power globally encompass film, art, literature, cuisine, music festivals, tourism, sports, and fashion design. Thailand is looking for youth and adults who can drive the emergence and transmission of soft power. This requires people to appreciate local values and to be open-minded, innovative, and communicative. Thailand's soft power policy will be driven by education reforms that emphasize training, reskilling, and upskilling. One such policy, "One Family, One Soft Power" (OFOS), has the ambition to drive the skills transformation of 20 million Thai individuals, as it aims to create 20 million jobs and generate a minimum income of 4 trillion baht annually.<sup>3</sup>

**Eastern Economic Corridor (EEC):** In February 2018, the Thai Parliament approved the Eastern Special Economic Zone Act to support the objectives outlined in Thailand 4.0. The Eastern Economic

---

<sup>2</sup> The top 10 skills required by employers for 2025 include critical thinking, analysis, and problem solving, and skills in self-management such as active learning, resilience, stress tolerance, and flexibility. The report notes that 50 percent of people will need to be reskilled by 2025 (WEF 2020).

<sup>3</sup> <https://thainews.prd.go.th/th/news/detail/TCATG231005161549134>



Corridor (EEC) is a long-term economic development plan with a view to propel Thailand as an industrial production powerhouse and to enhance its economic integration across Southeast Asia. The plan targets the Eastern Seaboard region covering three provinces: Rayong, Chonburi, and Chachoengsao. The EEC will develop these provinces into hubs for technological manufacturing and services by leveraging their connections to ASEAN (Association of Southeast Asian Nations) countries. The EEC will take advantage of the latest technologies and infrastructure and will promote investments in decarbonization, health, and well-being, specifically focused on 12 “S-curve” industries, including next-generation automotive, biotechnology, AI, robotics, automation, aerospace, education, and human resource development. As the EEC aims to support the country’s industrial transformation, significant investments have been made to build extensive road, rail, logistics and aviation, and digital infrastructure for fostering production and innovation (Royal Thai Embassy 2021b). The Thai government is promoting the EEC as a growth engine for future generations and is offering investment incentives—for example, income tax breaks, reduced corporate income tax rates, and other benefits—for international companies to establish presence.<sup>4</sup>

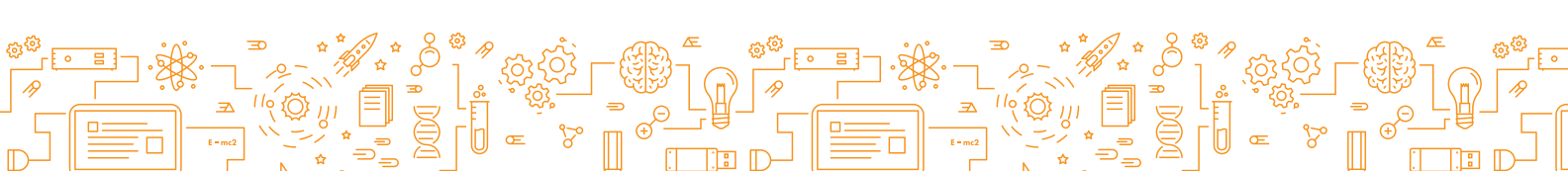
**Thailand 4.0:** In 2018, the Government of Thailand launched Thailand 4.0,<sup>5</sup> an ambitious long-term transformation plan set in motion to propel the country’s economic development forward, creating a cutting-edge economy and value-based society driven by innovation, technology, and an advanced infrastructure. The plan focuses on 10 industries<sup>6</sup> or business clusters and seeks to bring long-term economic growth to a stable 5–6 percent while more evenly distributing the benefits of growth (Royal Thai Embassy 2020). This economic model highlights Thailand’s commitment to enhance the productivity, efficiency, and quality of life of its people, and highlights six policy areas around which investments will be centered: competitiveness, human capital, social cohesion, sustainable development, national security, and public sector rebalancing. The human capital pillar in particular emphasizes the government’s commitment to invest in diverse competencies and social values, including cognitive, social, and emotional skills. The government is also promoting increased trade and innovation by deepening partnerships with other ASEAN member countries.

---

<sup>4</sup> In Q1 of 2021 the EEC attracted 117 investment projects with a combined value of 64.4 billion baht, a 39 percent value increase from the same period in 2020. (<https://www.kap.co.th/thought-leadership/investing-in-the-future-thailands-eastern-economic-corridor-eeec/>)

<sup>5</sup> Thailand 4.0 focuses on four priorities: Economic prosperity; Social well-being; Raising human values; and Environmental protection.

<sup>6</sup> The first set of five industries—new-generation automotive technologies, smart electronics, affluent medical and wellness tourism, agriculture and biotechnology, and food for the future—are referred to as the five “S-curve” industries, while the other five—manufacturing robotics, medical services and innovation, aviation and logistics, biofuels and biochemicals, and digital industries—are referred to the “new S-curve” industries.



## What are the challenges facing Thailand?

While the aforementioned opportunities hold significant promise for Thailand to flourish, Thai youth and adults are coping with a number of challenges.

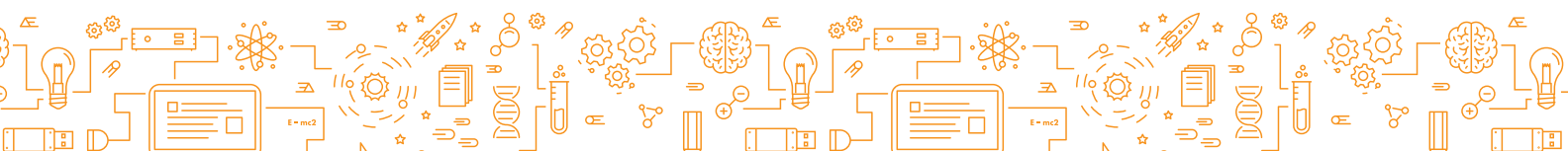
**COVID-19:** The global COVID-19 crisis caused devastating effects worldwide. The unpredictable and massive scale of the pandemic outbreak brought unprecedented challenges to the global economy. Lockdowns and social distancing measures significantly changed the way businesses operate, creating an uncertain outlook for the labor market and accelerating the changing nature of work (WEF 2020).<sup>7</sup> As many businesses moved to remote work for greater flexibility, the demand for technological advancement, automation, and digitalization increased—a trend that will likely be accentuated as more firms invest in technology to be prepared for any future crises. Entire populations—including children, youth, and adults—were affected not just by disastrous physical health effects but also by the toll on mental health.<sup>8</sup> In Thailand, the COVID-19 crisis led to labor market shortages in different sectors. In the agriculture sector, many migrant workers left Thailand during the pandemic (Vandeweyer et al. 2020). The tourism and hospitality sectors were also heavily impacted by the pandemic, with stark reductions in wages and working hours (ILO 2021). This led to a significant contraction in economic activity, with gross domestic product (GDP) falling by 6.1 percent in 2020 (Kaendera and Leigh 2021). It is also estimated that Thailand lost over 2.2 trillion baht in national revenues in 2020 (Chuensuksawadi 2022).

**Aging population:** In 2021, Thailand was ranked as the third most rapidly aging population in the world, with about 20 percent of the population (around 13 million people) aged 60 and over (Lorthanavanich et al. 2021). For every 100 people of working age, there were 7 persons aged 65 and over in 1980 compared to more than double that number in 2015 (UN 2019, cited in Vandeweyer et al. 2020). The share of the population aged 65 and over is projected to reach around 51.1 percent in 2050 (UN 2019, Vandeweyer et al. 2020). In parallel, the working-age share of the population is projected to decline from 71 percent in 2020 to 56 percent in 2060 (World Bank 2021). These trends could have a negative effect on economic growth, leading to a decrease in growth in income per capita, and a reduction in the overall labor force participation rate of about 5 percentage

---

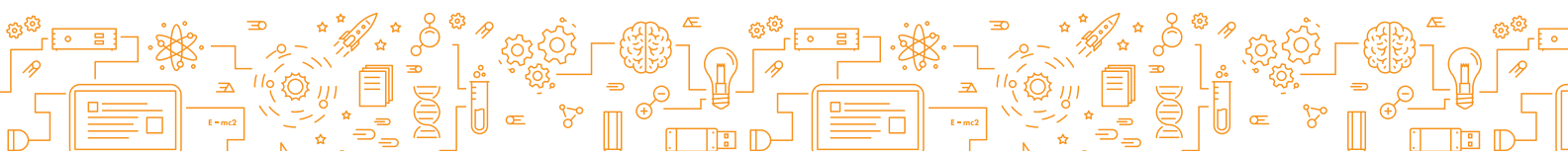
<sup>7</sup> <https://www.weforum.org/agenda/2020/10/COVID-19-accelerated-the-future-of-jobs-here-s-how-to-protect-workers-9edb26584d>

<sup>8</sup> The drastic change in people's social and physical environments led to issues such as isolation, separation from loved ones, and uncertainty, which could also possibly be linked to deterioration in individuals' mental health status (Yao, Chen, and Xu 2020, cited in Javed et al. 2020).



**Rural poverty:** Thailand has made remarkable progress in reducing poverty—from 58 percent in 1990 to 6.8 percent in 2020—driven by high growth rates and structural transformation (World Bank 2022). However, Thailand’s poverty reduction slowed from 2015 onward, with poverty increasing in 2016, 2018, and 2020 (World Bank 2022). Poverty in Thailand is mostly concentrated in rural areas: 79 percent of the poor remain in rural areas and mostly in agricultural households (World Bank 2022). The poverty rate in 2020 was over 3 percentage points higher in rural areas than in urban zones and there were almost 2.3 million more rural poor than urban poor (World Bank 2022). The distribution of poverty is uneven across geographic regions: the south and northeast region’s poverty rate is almost double the national rate (World Bank 2022). Disadvantaged people living in rural areas comprise 7.3 million people, or 80 percent of the country (O’Toole 2016). Child poverty tends to be higher in these rural areas as well compared to urban areas, and an estimated 38 percent of multidimensionally poor children live in the northeast region (OPHI 2019). A survey conducted by the World Bank found that the COVID-19 pandemic will likely have a lasting impact on Thailand’s rural economy, with 70 percent of households reporting a reduction in their income since March 2020 (World Bank 2022).

7



**Climate change and environmental challenges:** Climate change is a global phenomenon that will have considerable impacts on employment, growth, and income distribution. The Asian Development Bank (ADB) forecast that by 2100, the mean cost of climate change for Indonesia, the Philippines, Thailand, and Vietnam could be equivalent to losing 6.7 percent of combined GDP each year if no significant action is taken to address climate change (Brömmelhörster 2010). Climate change has increased the frequency and severity of floods, droughts, extreme weather events, sea-level rise, and temperature fluctuations (ADB 2021). Thailand is considered one of the 16 countries in the “extreme risk” category in terms of vulnerability to climate change impacts over the next 30 years (Government of Thailand 2015). Climate change effects could also threaten efforts to eradicate poverty and disproportionately affect people who are poor and vulnerable,<sup>9</sup> principally those living in Thailand’s rural areas, who most likely depend on natural resources provided by nature, such as agricultural products, for their survival (O’Toole 2016). As it affects the poorest the most, climate change could increase existing economic inequalities while exacerbating poverty (Guivarch, Taconet, and Mejean 2021; ADB 2021). Another environmental challenge for Thailand is air pollution (ADB 2021). The Air Quality Index, which reaches 150–200, is defined as “unhealthy” by the Pollution Control Department<sup>10</sup> (ADB 2021).

**Natural disasters:** Thailand is already vulnerable to extreme weather and natural disasters, adding urgency to tackling the expected future physical and economic impacts of climate change. The country is vulnerable to several natural hazards, such as floods, tsunamis, landslides, and droughts.<sup>11</sup> Over the last 30 years, Thailand has faced several different natural disasters, such as heavy rains that cause flooding and extensive damages.<sup>12</sup> Its northern and northeast regions experience the most severe drought cases and constitute over 80 percent of the country’s drought-prone areas,<sup>13</sup> and concern is growing over the increased frequency of flooding and drought in some provinces (ADB 2021). The country faces rising sea levels as well (ADB 2021). As climate change’s impacts are more apparent across the world, natural disasters will have increasingly challenging effects on human health, food security, agriculture, ecosystems, energy, and other

---

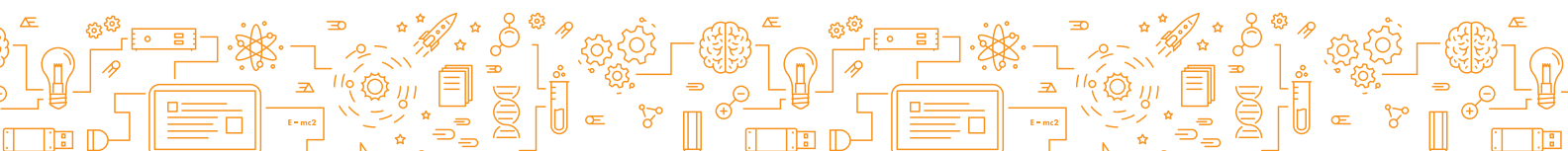
<sup>9</sup> <https://www.un.org/en/climatechange/science/causes-effects-climate-change>

<sup>10</sup> Government of Thailand, Pollution Control Department. (2019). Air Quality Report 2019 (cited in ADB 2021).

<sup>11</sup> <https://climateknowledgeportal.worldbank.org/country/thailand/vulnerability>

<sup>12</sup> In 2021, a flood caused damages of up to 53 billion baht (The Nation Thailand 2022).

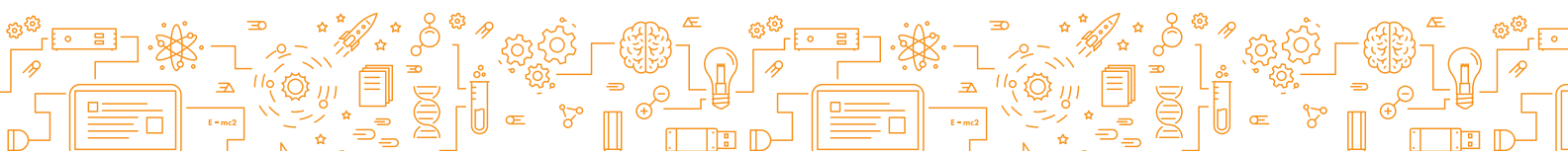
<sup>13</sup> Ibid.



important sectors. While Thailand's future plans include taking advantage of growing opportunities in the areas of renewable energy, digital technologies, electric vehicles, and clean energy, the potential devastating impacts of natural disasters can have profound and multiple labor market, economic, and social implications.

**The opportunities and challenges cited above are significantly reshaping Thailand's labor market and redefining the skills required for a productive and innovative workforce.**

Thailand's rapidly changing economy and nature of jobs, driven by technological innovation and the desire to ensure a sustainable and green economy, require a breadth of skills that can help people better cope, adapt, and learn new tasks quickly. In addition, individuals need the emotional resilience to handle unpredictable changes in lifestyles and work modalities. Foundational skills can help people navigate a range of social and economic challenges, such as an aging population, rising poverty, and worsening income inequality, which disproportionately affect rural areas.





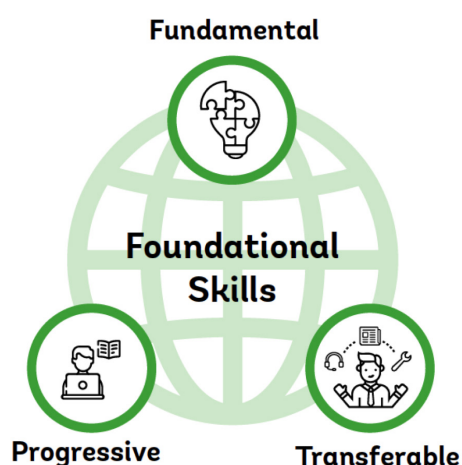
## What are foundational skills?

Foundational skills are fundamental, progressive, and transferable abilities that help individuals navigate challenges and reap opportunities to succeed at work, leisure, or other social activities.

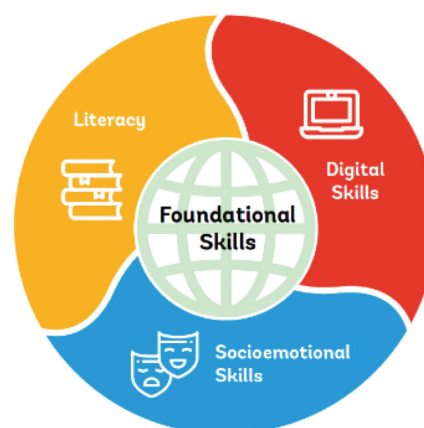
Foundational skills are **fundamental** in that they form basic building blocks to perform well on any tasks (Figure 2). They are **progressive** in that they allow individuals to further develop other skills, including advanced job-specific skills. Moreover, they are **transferable** in that they allow individuals to perform better on tasks irrespective of their occupation, employer, or everyday life situation.

Foundational skills include literacy, digital, and socioemotional skills (Figure 3). **Literacy** (or reading literacy) is defined as the ability to evaluate, use, and engage with written texts to participate in society, achieve one's goals, and develop one's knowledge and potential (OECD 2019 ). **Digital skills** are defined as the ability to manage, understand, and evaluate the relevance of information appropriately through digital technologies for employment and for everyday life. **Socioemotional skills** are defined as the ability to work with others, care for others, manage emotions, achieve goals, and explore new horizons for employment and everyday life.<sup>14</sup>

**Figure 2:** Characterizing foundational skills



**Figure 3:** Three elements of foundational skills



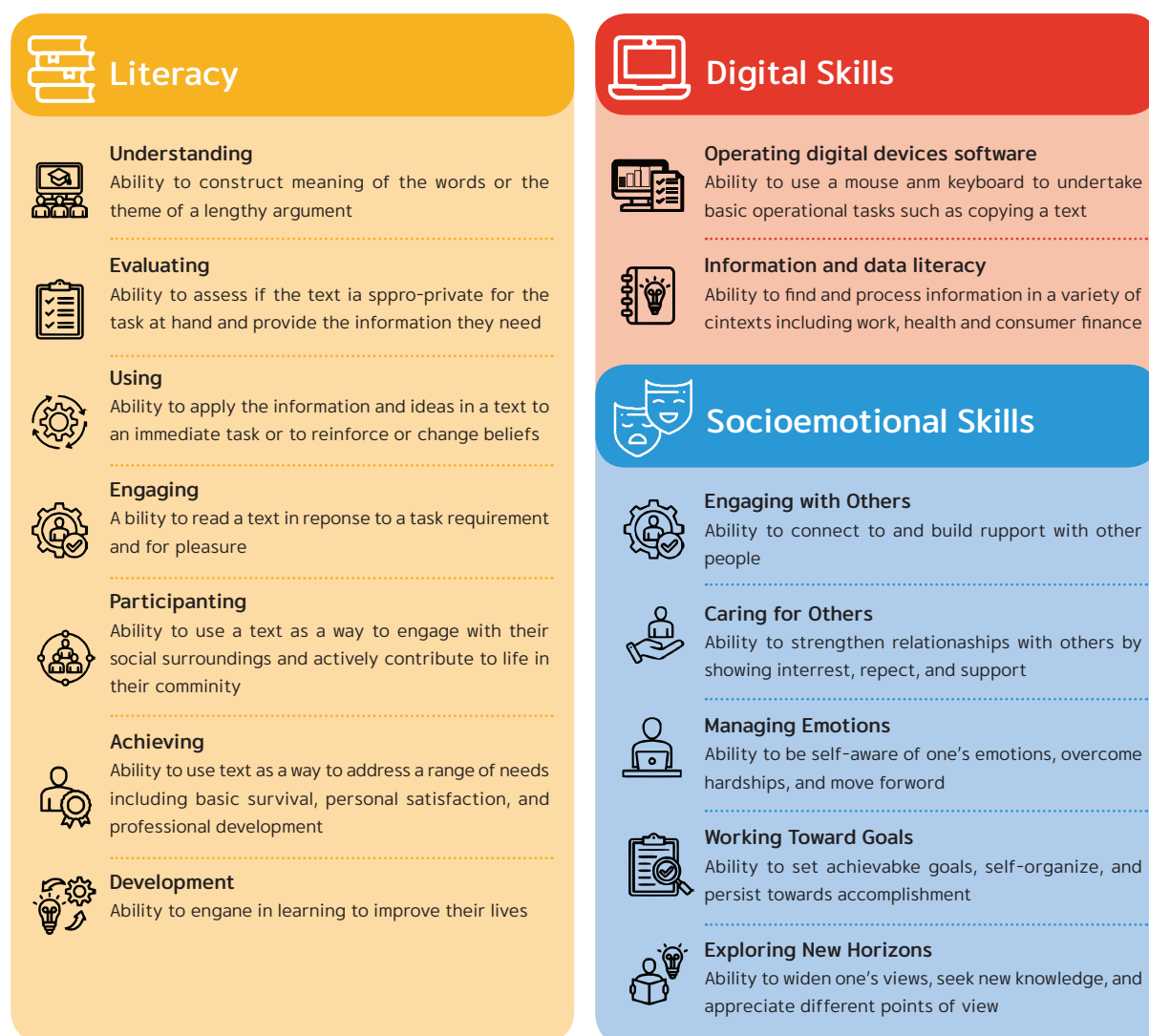
Source: Cartwright, Miyamoto, and El Wazzi (forthcoming).

<sup>14</sup> The Executive Function (EF) skills, proposed by NXPO, which capture the cognitive abilities needed to control thoughts, emotions and actions, are part of the socio-emotional skills (<https://www.nxpo.or.th/th/en/14319/>).

Literacy, digital, and socioemotional skills contain a number of key elements, or domains, that describe the main abilities and characteristics of individuals who possess these sets of skills, which enable them to achieve everyday tasks at work, home, and life. Figure 4 illustrates more details on the key elements of these fundamental skills.

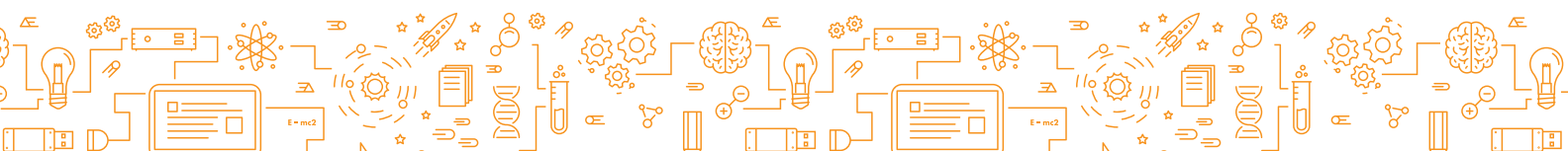
Literacy comprises six key domains: Understanding, evaluating, using, engaging, participating, achieving, and developing. Digital skills comprise two key domains: operating digital devices software, and information and data literacy. Socioemotional skills comprise five key domains: engaging with others, caring for others, managing emotions, working toward goals, and exploring new horizons.

**Figure 4:** Domains of foundational skills



Source: Cartwright, Miyamoto, and El Wazzi (forthcoming).

In general, two types of skills exist: **transversal** and **job-specific skills**. Foundational literacy, digital, and socioemotional skills are considered to be key elements of transversal skills. Job-specific skills, such as coding, plumbing, and linguistic translation skills are not addressed in this report. It is worthwhile highlighting that the domains of job-specific skills that face shortages can change rapidly over time, in part driven by occupational shortages and mismatches that are likely highly sensitive to the changing nature of work and technological progress. Shortages in foundational skills tend to be more persistent and global, as employers around the world consistently cite challenges in hiring and securing workers with a range of basic literacy, numeracy, digital, and socioemotional skills. International surveys of adult skills (for example, OECD's Program for the International Assessment of Adult Competencies [PIAAC] and International Adult Literacy Survey [IALS]) and international student assessments (for example, OECD's PISA) also suggest that a considerable proportion of children, youth, and adults underperform in literacy, numeracy, and digital capabilities.



Part 2:

# The Skills Crisis in Thailand



## Part II:

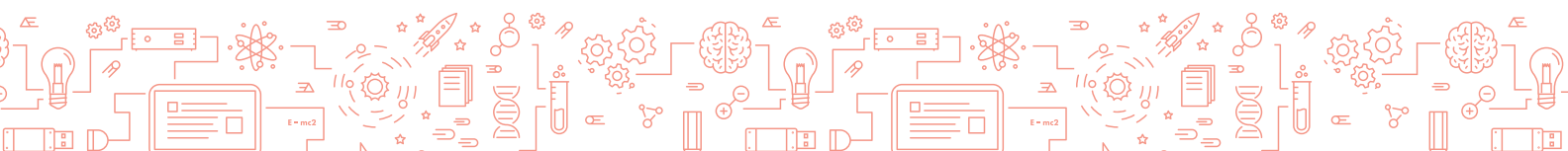
# The Skills Crisis in Thailand

This section characterizes the skills crisis in Thailand using the initial results of the Adult Skills Assessment in Thailand (ASAT), administered by the World Bank and the Equitable Education Fund (EEF) in 2022 (Box 1). It highlights the areas and the extent of the shortages in foundational skills as well as the population subgroups in which low performers are concentrated. Moreover, to quantify the extent of the problem, it presents an estimate of the potential economic losses associated with the skills shortages.

### Box 1

#### The Adult Skills Assessment in Thailand, 2022

The Adult Skills Assessment in Thailand (ASAT) was designed to generate nationally and regionally representative measures of foundational skills (that is, literacy, digital, and socioemotional skills) among youth and adults aged 15–64. This study was prepared and delivered through a collaboration between the World Bank and the EEF. The objective was to provide insights into the extent to which youth and adults in Thailand have the minimal levels of foundational skills to thrive in the labor market and to realize their full potential as productive members of society.

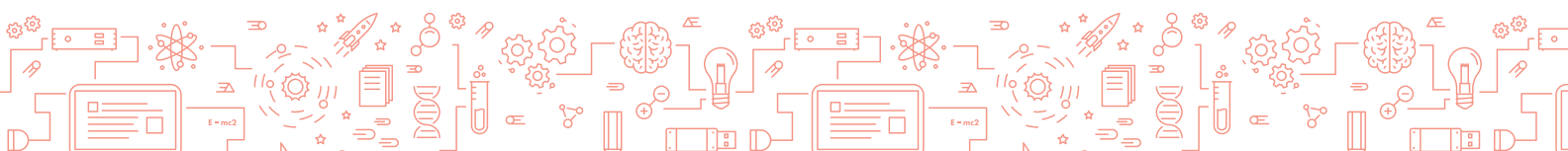


The study was executed in multiple stages, including: (a) preparation of sampling procedures and assessment tools; (b) delivery of the assessment through a household survey in Bangkok metropolitan, central region, northern region, northeastern region, southern region, and the Eastern Economic Corridor (EEC); (c) analysis of microdata; and (d) policy analysis. In addition to evaluating whether youth and adults have a balanced set of foundational skills required in 21<sup>st</sup> century workplaces and societies, the study evaluated differences in the distribution of foundational skills across regions and population subgroups.

ASAT prepared a range of original task performance items for the reading literacy and digital skills assessments, which involved a large number of local assessment experts and educators. The reading literacy assessment was designed to be linked to an internationally recognized proficiency scale (that is, OECD's PIAAC literacy framework), while ASAT prepared an original scale for the digital skills assessment. This study prepared measures of socioemotional skills by adapting the Big Five Inventory 2 (BFI 2) in local contexts (Soto and John 2017). ASAT also included a range of individual background characteristics to identify the key correlates of foundational skills.

ASAT generated scales of literacy, digital, and socioemotional skills using Item Response Theory (IRT) to improve the measurement properties. For socioemotional skills, the scales were also adjusted for acquiescence, a common source of bias when using self-reported measures.

Note: See Online Annex 1 for more details on ASAT and its measurements.



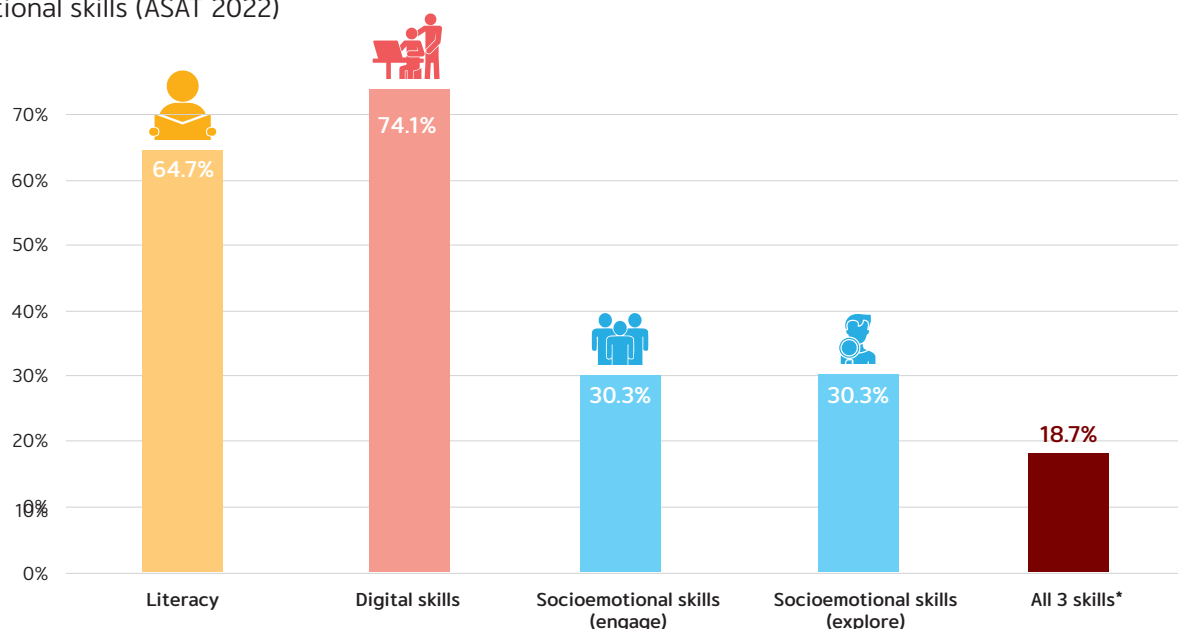


## What is the nature of the skills crisis in Thailand?

Thailand faces a skills crisis, with a very large proportion of youth and adults who are low performers in reading literacy (64.7 percent) and digital skills (74.1 percent), meaning they cannot even undertake simple reading and computing tasks.

ASAT's direct assessment of reading literacy suggests that 64.7 percent of youth and adults have skills below the threshold level (level 0–2), meaning they can barely read and understand short texts to solve a simple problem, such as following instructions for taking a medication (see Figure 5 for results and Box 2 for threshold definitions). Note that this result can be contrasted with similar figures from the OECD Survey of Adult Skills, including those in Finland (37.1 percent in 2012), Estonia (47.3 percent in 2012), Korea (49.9 percent in 2012), the United States (49.1 percent in 2012), and Singapore (56.6 percent in 2015) (OECD 2019).<sup>15</sup> A large body of studies based on the OECD Survey of Adult Skills suggests that these skills are key drivers of individuals' labor market and social outcomes as well as economic growth at the country level (OECD 2019; Hanushek and Woessmann 2020).

**Figure 5:** Proportion of youth and adults exhibiting skills below the threshold levels of foundational skills (ASAT 2022)



Source: Miyamoto and Sarzosa (forthcoming).  
Note: See Box 2 for descriptions of the thresholds.

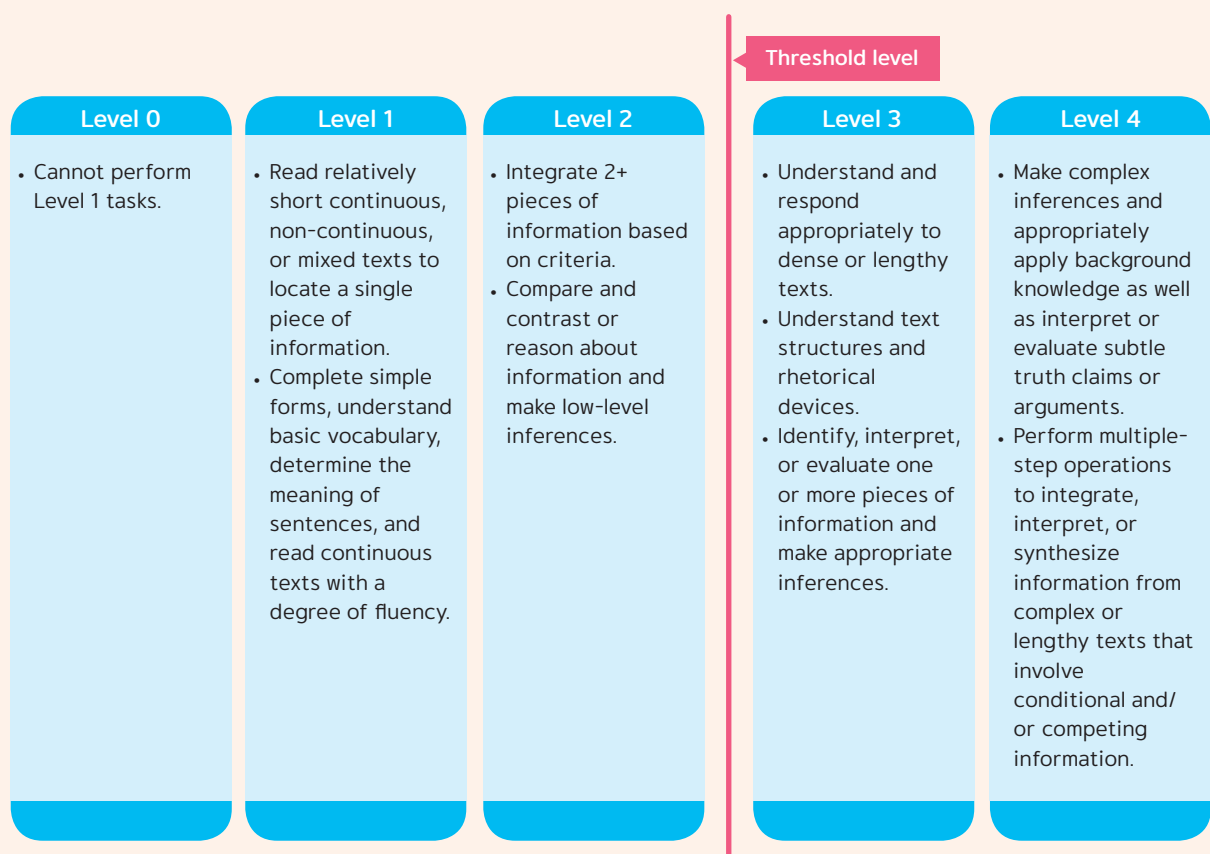
<sup>15</sup> While the figures described here are based on the OECD Survey of Adult Skills, which used the same reading literacy proficiency framework as ASAT, these results cannot be directly compared for various reasons, including lack of common items that can be used for equating as well as differences in the sampling and data collection protocol.

## Determining threshold skill levels and identifying low performers

ASAT 2022 identifies threshold skills as the minimum level of skills that can help individuals undertake some of the most basic reading literacy, digital, and socioemotional tasks required in 21<sup>st</sup> century workplaces and society at large. Those who exhibit skills below the threshold skill level are considered to be low performers who would benefit from raising those skills.

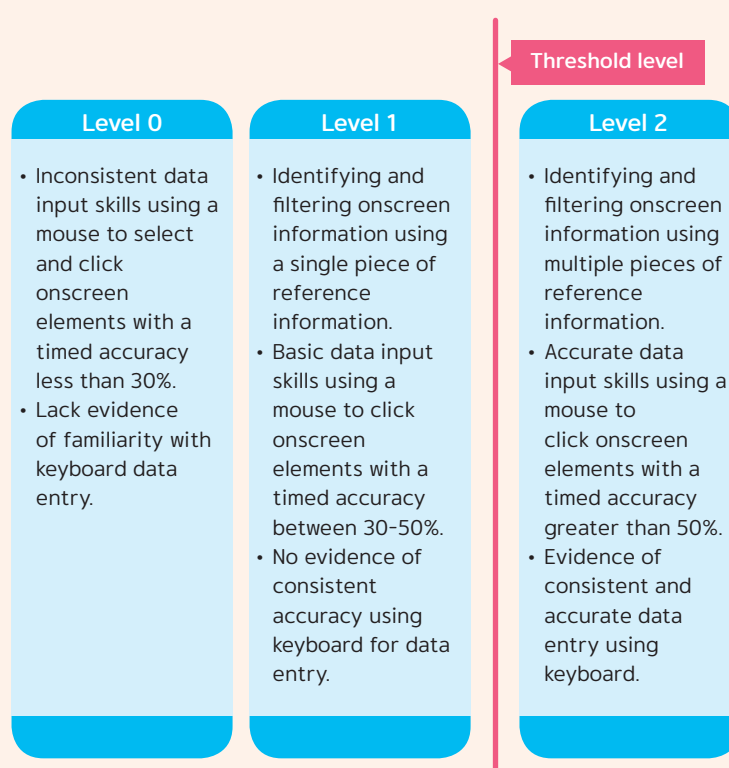
Reading literacy proficiency scale

### Reading literacy proficiency scale

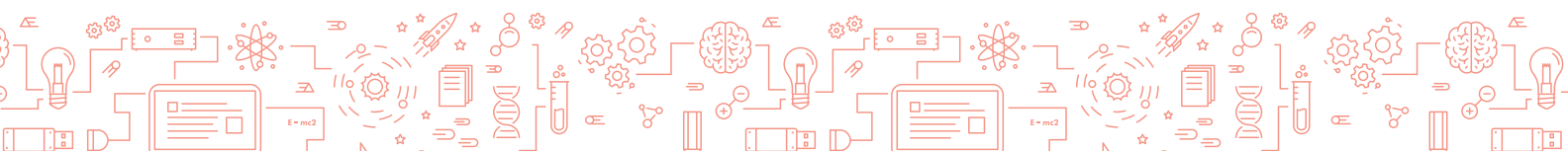


For reading literacy, ASAT adopted the OECD's PIAAC reading literacy proficiency framework (see proficiency scale descriptions above), and prepared and calibrated the new items accordingly. ASAT adopts an interpretive threshold between Levels 2 and 3. Both theory and evidence from OECD and partner countries that have participated in PIAAC suggest that Level 2 is considered a minimal level that individuals would ideally have to thrive in the 21<sup>st</sup> century. For Thailand, Figure 7 and Figure A2.1 (in Online Annex 2) suggest that this threshold level of reading literacy can explain large differences in a range of labor market outcomes.

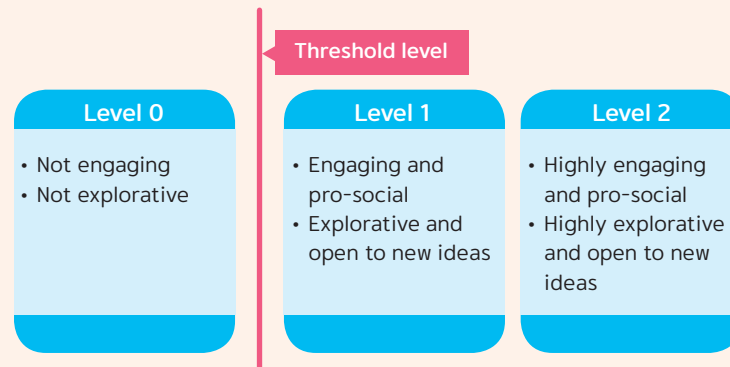
### Digital skills proficiency scale



For digital skills, ASAT prepared its own proficiency scales as described above, and identified a threshold between Levels 1 and 2 to identify individuals who would be more likely to perform well in the labor market and beyond. As with reading literacy, Figure 7 and Figure A2.1 (in Online Annex 2) suggest that this threshold level of digital skills can explain large differences in a range of labor market outcomes.



## Socioemotional scale (ASAT)



For socioemotional skills, ASAT also prepared new scales as described above, using behavioral descriptors for all five domains of socioemotional skills.<sup>16</sup> The scales shown here focus on the domains of “engaging with others” and “exploring new horizons.”<sup>17</sup> ASAT adopts a threshold between Levels 0 and 1. Figure 7 and Figure A2.1 (in Online Annex 2) suggest that this threshold level of socioemotional skills can explain large differences in a range of labor market outcome measures. Although substantial variation exists in the self-reported behaviors of individuals in each level,

<sup>16</sup> The adopted scale descriptors for socioemotional skills summarize the behaviors that individuals self-reported. The self-reported data were collected using Likert-scaled items and were processed to produce estimates of the latent socioemotional skills that influence individuals’ behavior. The final measures of socioemotional skills, which have been adjusted to take into account measurement errors using IRT and acquiescence-bias corrections, show high predictive validity across a range of labor market outcome measures (Figure 5 and Online Annex 1). Similar approaches for analyzing self-reported data from Likert-scaled items have shown to be efficient at reducing statistical errors in standardized measures of socioemotional characteristics (for example, Gray-Little, Williams, and Hancock 1997; Fraley, Waller, and Brennan 2000; Sharp, Goodyer, and Croudace 2006). The use of IRT item response parameters to define performance-level descriptors that facilitate meaningful interpretation of scale results is a commonplace technique in psychological and educational measurement (Cizek and Bunch 2007; Karantonis and Sireci 2006; Perie 2008).

<sup>17</sup> While ASAT included three other domains of socioemotional skills “caring for others,” “managing emotions,” and “working toward goals”—the results for these domains are not presented in the main text as individuals’ responses to these three domains are highly skewed toward Level 1 and Level 2, with only 2–3 percent of respondents showing responses that correspond to Level 0. Moreover, the correlations between socioemotional skills and labor market outcomes are very limited.

individuals in the “not engaging” category tend to: be quiet, prefer to have others take charge, lack outgoingness, be unwilling to be the leader of the group, and be unexcited and unenthusiastic. Similarly, individuals in the “not explorative” category tend to lack active imagination, be uncreative, be uninterested in many different things, lack the capacity to find different ways to do things, not enjoy thinking about problems that are difficult and complex, and not come up with new thoughts and ideas.

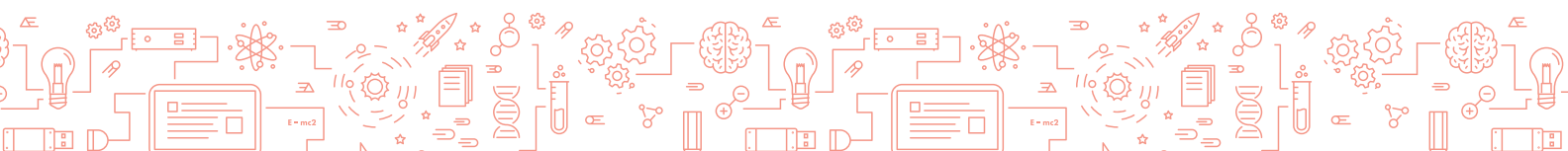
Source: Cartwright, Miyamoto, and El Wazzi (forthcoming).

Note: See Online Annex 1 for more details on ASAT and its measurements.

ASAT’s direct assessment of digital skills suggests that 74.1 percent of youth and adults exhibit skills below the threshold level (Levels 0–1), meaning they have difficulty using a pointing device and a keyboard and cannot perform simple tasks that involve using online information to solve a problem, such as finding the price on an online shopping website (see Figure 5 for results and Box 2 on threshold definitions). Given the central role digital devices play in 21st century labor market and societies, the lost opportunities among those youth and adults without foundational digital skills can be considerable.

### **A large proportion of low performers in literacy and digital skills cannot undertake even the most rudimentary reading and digital tasks.**

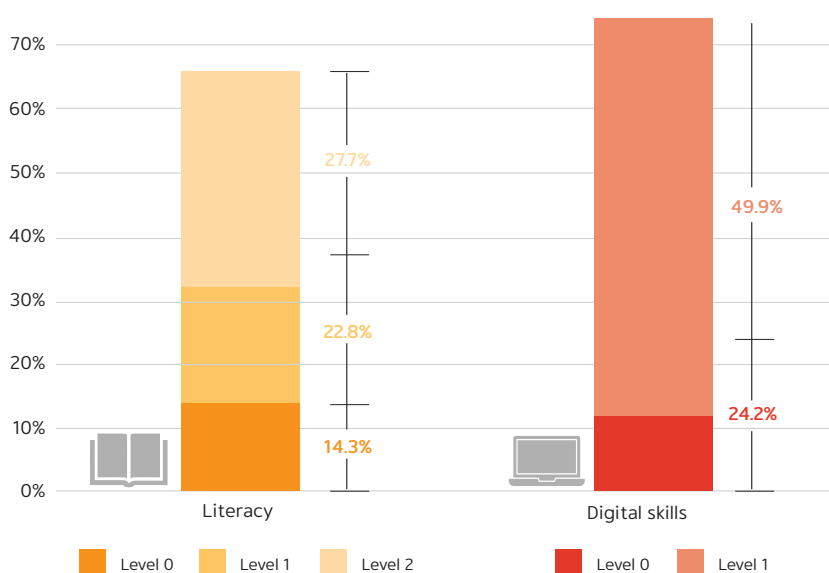
A deeper look into the results of ASAT suggests that a large group of youth and adults cannot perform the most basic problem-solving tasks given their limitations in reading and digital skills. Figure 6 presents a further breakdown by proficiency level among those youth and adults who performed below the foundational levels of reading literacy and digital skills. It suggests that 22.8 percent of youth and adults can barely read and understand a short text to locate a single piece of information, such as the price of a mobile phone service. Even worse, 14.3 percent of youth and adults cannot even undertake such a basic task. Moreover, 24.2 percent of youth and adults do not have the capacity to use a mouse to click online elements with 30 percent accuracy, or to use a keyboard to type very basic information, such as one’s name and address. The scale of those with such a deep skills deprivation is alarming considering how Thailand, as with all other countries around the world, has become dependent on having citizens who can thrive in a society that heavily relies on basic reading comprehension and digital capabilities.



The skills crisis is also reflected in the large proportion of youth and adults (30.3 percent) who self-report low levels of socioemotional capabilities, meaning they do not indicate tendencies to ‘engage with others’ and ‘explore new horizons.’<sup>18</sup>

The skills crisis is not only confined to the domains of literacy and digital skills. Results from ASAT (Figure 5) suggest that 30.3 percent of youth and adults report skills below the threshold level (1) of one dimension of socioemotional skill (‘engaging with others’), meaning that, on average, they perceive that they do not have the tendencies to take social initiative and be enthusiastic. The same proportion of youth and adults (30.3 percent) also reports skills below the threshold level of another dimension of socioemotional skill (‘exploring new horizons’), meaning they do not consider themselves as open, curious, and imaginative. Given that active engagement, creativity, and openness to new ideas and processes are key characteristics that help people cope with and flourish in modern workplaces, many Thai youth and adults are likely missing out on those opportunities. These socioemotional skills are also known to help individuals navigate through uncertainties, risks, and shocks of everyday life, including the most recent COVID-19 pandemic and the natural disasters to which Thailand is often subjected.

**Figure 6:** Proportion of youth and adults demonstrating skills below the threshold levels of foundational literacy and digital skills, by proficiency level (ASAT 2022)



Source: Miyamoto and Sarzosa (forthcoming). Note: See Box 2 for descriptions on proficiency levels.

<sup>18</sup> Note that the empirical results for socioemotional skills presented in this study are mainly confined to two domains: ‘engaging with others’ and ‘exploring new horizons.’ This is in part due to the majority of the respondents who agreed (somewhat or strongly) to having the tendencies to ‘care for others,’ ‘manage emotions,’ and ‘work toward goals.’ Likely due to the heavily skewed Likert-scale responses for these three other domains, the correlations between socioemotional skills (for these three domains) and labor market outcome measures were small.

Even more worrisome, 18.7 percent of Thai youth and adults demonstrate skills below all the threshold levels of literacy, digital, and socioemotional skills, meaning they lack a range of cognitive and socioemotional abilities to navigate the challenges and opportunities of the 21st century.

Not having the threshold level of any one of the foundational skills is already a major disadvantage for any individual. Lacking all three skills is likely crippling. ASAT 2022 (Figure 5) suggests that 18.7 percent of Thai youth and adults have skills below the above-mentioned threshold levels across literacy, digital, and socioemotional skills (“exploring new horizons”). It is well known that skills are complementary to each other. Skills can also be compensatory: if an individual does not have enough of one skill, other skills can help fill the gap. A multiplicity of skills deficits means there is very little one can do to self-manuever, and the remaining option is likely to be relying on others to compensate for the lack of that skill. Having almost one-fifth of the youth and adult population not self-reliant may pose a considerable challenge as Thailand strives to reach high-income country status, reduce inequalities, and improve societal well-being.



## What are the economic costs of the skills crisis?

**Evidence from around the world suggests that those with low levels of foundational skills perform poorly in the labor market and society.**

A large body of evidence from around the world points to the potentially large impact of foundational literacy, digital, and socioemotional skills on labor market and social outcomes (see OECD 2015 for a summary of the literature, including causal evidence). While the effect sizes and levels of associations vary across countries and outcome measures, skills are widely understood to play a central role in improving individuals' productive capabilities as well as nations' economic performance (OECD 2019; Hanushek and Woessmann 2020). Some of these studies point to the importance of complementarities across skills, meaning that having a foundational skill (for example, creativity) makes individuals highly productive, since foundational skills impact outcomes and enhance the productive capacity of other skills (for example, literacy or digital skills).

**Youth and adults in Thailand whose foundational skills levels fall below the threshold are much less likely to be economically active and employed in the formal sector.**

Figure 7 presents measures of labor market performance for those above or below the foundational skill levels. It looks at individuals' labor market situations in terms of economically active status (Panel A), employment in the formal sector (Panel B), monthly labor income (Panel C), engagement in nonroutine tasks (Panel D), engagement in innovations at work<sup>19</sup> (Panel E), and teleworking during COVID-19 (Panel F). Panels A and B suggest that those with below-threshold levels of socioemotional skills are associated with a significantly lower likelihood of being economically active and working in the formal sector. This finding is consistent with socioemotional skills such as "active engagement" and "openness to explore new mode of working" playing a central role in helping youth and adults maintain formal employment even during the challenging moments of the COVID-19 pandemic, when the data were collected (2022). Those whose literacy and digital skills are below the threshold levels are also much less likely to work in the formal sector. Individuals' literacy and digital skills are likely to have also played an important role in helping youth and adults navigate during the pandemic. It is worth noting the stark differences in the proportion of youth and adults in formal sector employment between those who do not have the threshold levels of all three foundational skills (20.9 percent) and those who have at least one skill above the threshold level (44.6 percent).

---

<sup>19</sup> Innovations at work include items on opportunity exploration, idea generation, championing new ideas, applying new ideas, implementation efforts related to new products and services, work practices, knowledge, and markets.



**Figure 7:** Labor market outcomes by levels of skills (ASAT 2022)



Source: Miyamoto and Sarzosa (forthcoming).

**Those with below-threshold levels of foundational skills have much lower monthly labor income compared to those with above-threshold levels.**

Figure 7, Panel C suggests that literacy, digital, and socioemotional skills are highly correlated with monthly labor income. For instance, those whose skills are below the threshold level of foundational literacy reported monthly income of 15,692 baht, while those above the threshold level reported 22,016 baht. The difference of 6,324 baht (US\$179) is considerable, given that the average monthly

household income in Thailand is approximately 27,352 baht (about US\$775).<sup>20</sup> This gap widens to 6,700 baht (US\$190) when comparing those who have below the threshold level of all three foundational skills (12,503 baht) and those who have at least one foundational skill above the threshold level (19,203 baht). While this association does not represent causal evidence, it suggests that skills may play a significant role in driving individuals' income. These results are consistent with causal evidence on the impact of raising literacy on improving labor market outcomes from other countries.<sup>21</sup>

### **Foundational skills may play an important role in allowing youth and adults to adapt to the changing nature of work.**

Digital transformations have allowed workplaces to increasingly adopt innovations as well as automation, whereby tasks traditionally performed by humans are replaced by computers and robots. Data show that many emerging countries including Thailand closely follow international trends in automation. For instance, the annual supply of industrial robots in Thailand increased from about 900 to 3,000 over the last decade (OECD 2020). Individuals who have sufficient levels of foundational skills are likely to be able to navigate well in workplaces that have become increasingly automated. Figure 7, Panel D suggests that foundational skills may have important implications for an individual's capacity to engage in nonroutine tasks. This is particularly stark for digital skills. While only 15.5 percent of youth and adults with below-threshold levels of digital skills engage in nonroutine tasks, over 25.6 percent of those above the threshold do. Surprisingly, Figure 7, Panel E suggests that individuals' engagement in innovations at work does not vary much by levels of foundational skills.<sup>22</sup> This may come from the paucity of jobs currently available in Thailand that involve innovations, such as research and development.

---

<sup>20</sup> [https://ittdashboard.nso.go.th/preview2en.php?id\\_project=113](https://ittdashboard.nso.go.th/preview2en.php?id_project=113)

<sup>21</sup> For instance, a cross-country study suggests that increasing ICT skills from average level to top level raises earnings by 8 percent (Falck, Heimisch-Roecker, and Wiederhold 2021), and experimental evidence indicates that children who benefit from socioemotional skills-boosting interventions grow to be adults who earn substantially more than those who did not receive the skills-boosting interventions (Heckman et al. 2010; Gertler et al. 2014).

<sup>22</sup> The metric of innovation is designed to capture opportunity exploration, idea generation, championing new ideas, applying new ideas, implementation efforts related to new products and services, work practices, knowledge, and markets, and takes the range of 1–4.



**Foundational skills can help individuals navigate through periods of shock, such as the COVID-19 pandemic, by allowing them to flexibly telework.**

Lastly, Figure 7, Panel F represents how foundational skills are associated with individuals' capacity to telework during COVID-19 (see Henke, Jones, and O'Neill 2022 for a broader discussion on the role of skills during COVID-19). The results show significant associations, particularly for literacy, digital, and socioemotional skills ("exploring new horizons"). For these three skills, the proportion of those teleworking during COVID-19 halves among those whose skills are below the threshold levels compared to those above the threshold levels. This is consistent with evidence from the United States indicating that occupations that employed more workers with digital skills before the pandemic were able to transition to telework more easily (Day et al. 2020).

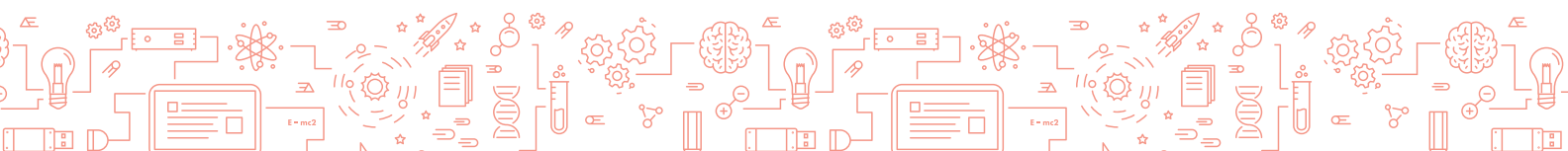
**The potential economic loss associated with a large proportion of the population lacking threshold levels of foundational skills can be considerable, amounting to 20.1 percent of GDP in 2022, taking into account only forgone income among low performers of literacy and digital skills.**

Figure 8 shows that the range of labor market disadvantages associated with having below-threshold levels of foundational skill levels can be considerable. Panel A presents the aggregate amount of economic loss associated with those having lower labor income in Thai baht.<sup>23</sup> It suggests that those who have below-threshold levels of foundational literacy, digital, and socioemotional skills could have earned additional annual income of 2.7, 1.9, and 0.8 trillion baht, respectively, if they demonstrated skills one level above the threshold. Panel B shows that these figures translate into 16.7, 11.5, and 5.2 percent of GDP in 2022,<sup>24</sup> a considerable amount. Moreover, the combined economic losses associated with those demonstrating below-threshold levels of literacy and digital skills are even higher, at 3.3 trillion baht, or 20.1 percent of GDP in 2022. Note that this estimate is based only on projected income loss associated with lower skills over a period of 12 months, and that similar income loss will continue to accrue in subsequent years. While this back-of-the-envelope calculation was not based on a causal inference, the scale of the potential economic loss can be sizable.

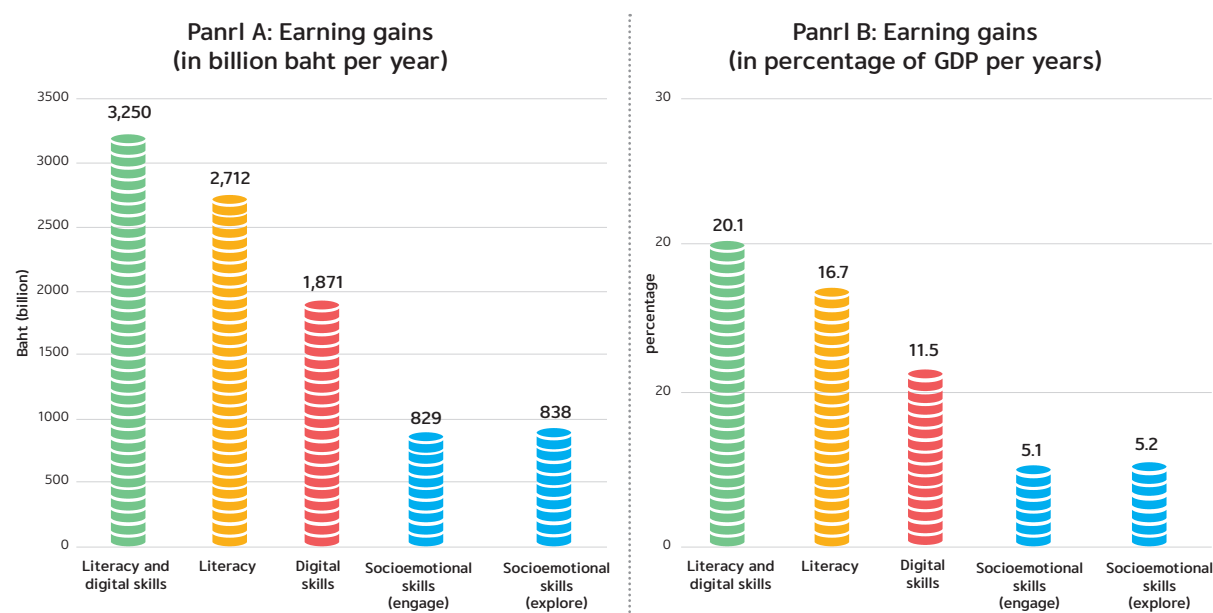
---

<sup>23</sup> The estimation is based on a Mincer regression including controls for age, gender, region, and rurality. Based on the below-level/proficient cutoff values, monthly income that people would have if they had above-level skills is estimated. This is used to calculate the losses for those who have below-level skills. Labor Force Survey (LFS) data are used to translate the fraction of people with below-proficient skills into levels (that is, millions of people).

<sup>24</sup> Based on a GDP of 16.2 trillion baht in 2022.



**Figure 8:** Estimated earnings gains associated with bringing youth and adults with below-threshold skills to a level above the threshold (ASAT 2022)



Source: Miyamoto and Sarzosa (forthcoming).

It is worthwhile noting that this estimate of economic loss is considered an aggregate amount that includes not only losses due to lower productivity of workers engaging in similar tasks, but also forgone gains due, for instance, to fewer innovations introduced in workplaces and smaller amounts of foreign direct investment (FDI) inflows involving knowledge-seeking multinational enterprises that tend to bring higher added value. However, given that this estimate does not take into account higher costs associated with social welfare (for example, unemployment insurance) among those with below-threshold levels of foundational skills, the total cost is likely to be higher. Causal evidence around the world also suggests that raising foundational skills has an impact on improving a range of economic and social outcomes (OECD 2015). Therefore, larger economic and societal losses are likely incurred due to a higher number of youth and adults with mental disorders, engaging in crime, or not participating in civil society activities, such as voting and volunteering.

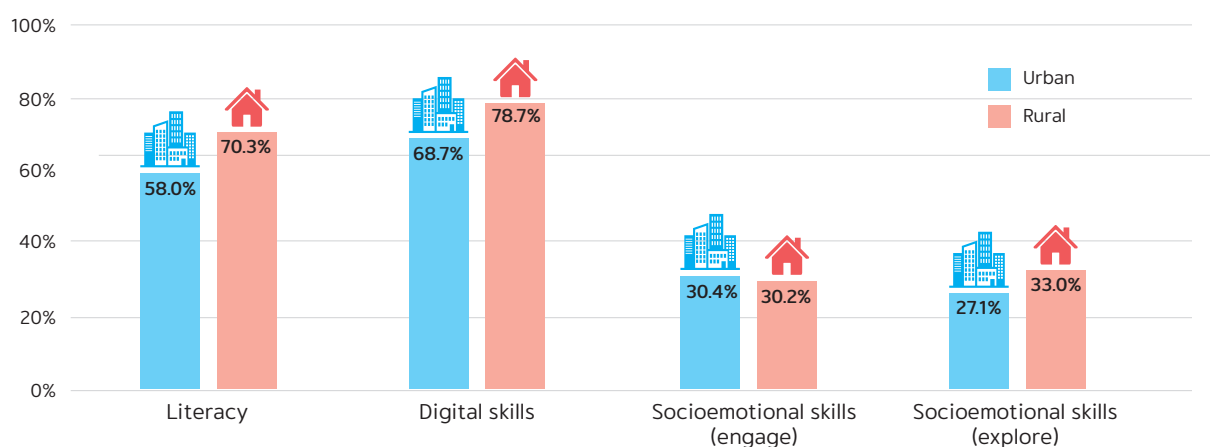
## Is the skills crisis more pronounced in particular geographical areas or groups?

The previous section highlighted the massive scale of the skills crisis in terms of both the large proportion of the population involved and its potential economic impact. This section identifies whether the skills crisis is concentrated in certain geographical areas and demographic groups.

**Those whose skills are below the threshold levels of foundational literacy and digital skills are disproportionately concentrated in rural areas.**

Figure 9 presents the proportion of those whose foundational skills are below threshold levels in urban and rural areas. In general, a larger proportion of youth and adults with below-threshold levels of foundational skills reside in rural areas. The differences are particularly high for literacy and digital skills. While 58.0 percent of urban adults demonstrate below-threshold levels of literacy, the corresponding figure for rural areas is 70.3 percent. Likewise, 68.7 percent of urban youth and adults exhibit below-threshold level digital skills, while the corresponding figure for those in rural areas is much higher, at 78.7 percent. No statistically significant differences are found in socioemotional skill levels between rural and urban areas. Note that these urban-rural differences in skills do not change much after taking into account differences in educational attainment. This may be explained by urban-rural differences in school quality (for example, teachers). Note that evidence suggests that socioemotional skills can be developed through the family especially during the early years (Kautz et al. 2015; OECD 2015). Therefore, it may well be that very little urban-rural differences exist in the quality of home environment in terms of socioemotional learning.

**Figure 9:** Proportion of youth and adults with below-threshold level foundational literacy and digital skills (ASAT 2022)



Source: Miyamoto and Sarzosa (forthcoming).

**Those with below-threshold levels of foundational literacy and digital skills are disproportionately concentrated in Thailand's southern and northern regions.**

ASAT 2022 generated representative statistics at the six regional levels of Bangkok metropolitan, EEC, and the northern, northeastern, central, and southern regions (Figure 10). These regional groupings were based on extensive consultations with the Ministry of Education (MOE), the Ministry of Labor (MOL), and the National Statistics Office of Thailand (NSO) and are aimed at representing some of the key strategic regions for Thailand in fostering Thailand 4.0 and the BCG Economy. These grouping are also considered to capture some of the most important differences in the socioeconomics, culture, and ethnicities of the residential populations.

**Figure 10:** Targeted regions (ASAT 2022)

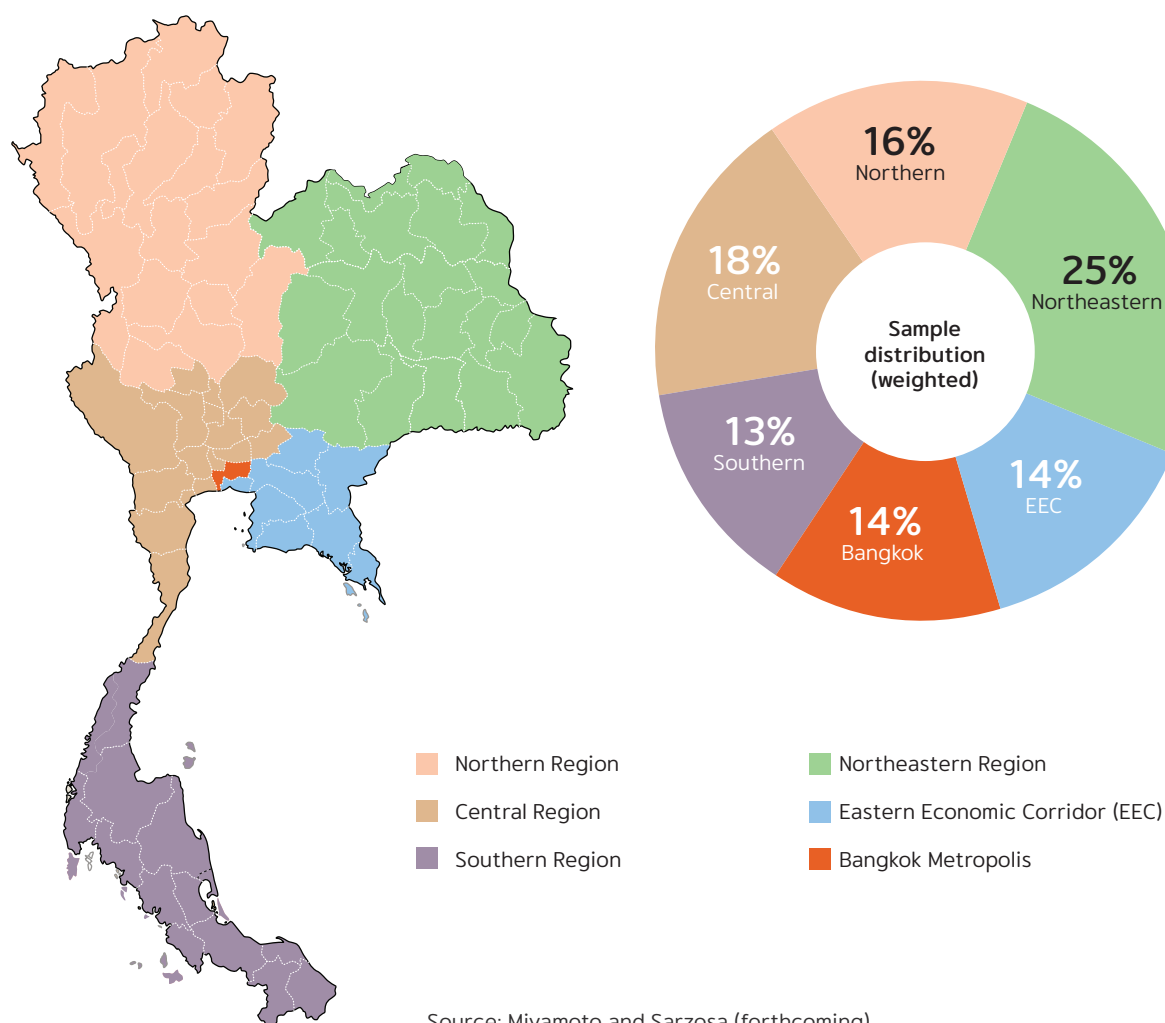
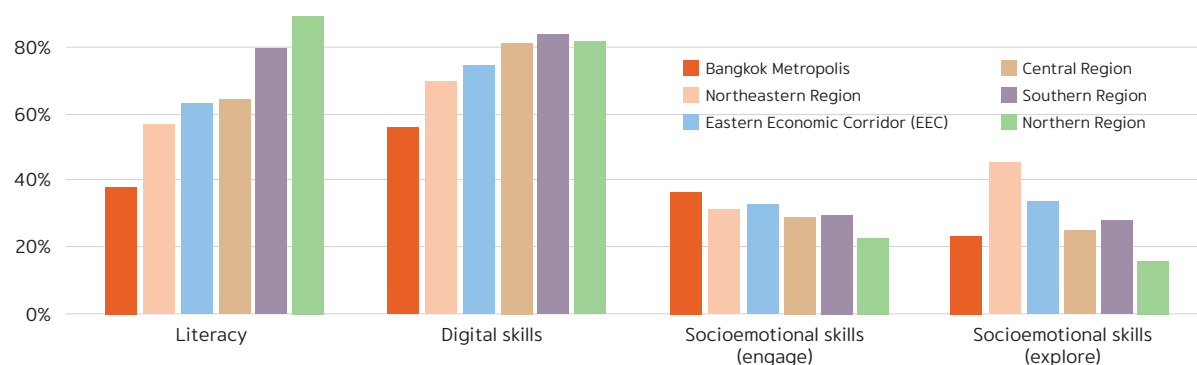




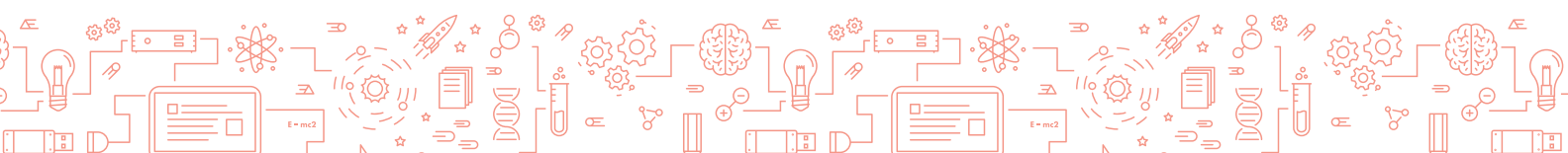
Figure 11 presents the proportion of those with below-threshold levels of foundational skills in the six targeted regions. In the northern and southern regions, a considerably higher proportion of youth and adults demonstrate below-threshold levels of reading literacy skills. This is particularly the case in the northern region, where almost 90 percent of youth and adults can barely read and understand short texts to solve a simple problem like following medical instructions. In the northern, southern, and central regions, approximately 80 percent of youth and adults demonstrate below-threshold levels of digital skills, implying that they can barely use a laptop's pointing device and keyboard or use online information to solve a problem, such as finding the price of an item on an online shopping website. In contrast, fewer cross-regional variations arise in the proportion of youth and adults whose socioemotional skills (that is, "engaging with others" and "exploring new horizons") are below the threshold level.

The lower proportion of underperformers in literacy and digital skills in Bangkok may partly reflect the higher demand for service sector workers, market sales workers, plant/machine operators, and professionals in the capital region, who are likely required to have higher levels of foundational skills. In contrast, the northern and southern regions tend to have a higher demand for agricultural and fishery workers, who would not be required to have higher levels of foundational skills. The EEC appears to show a moderately high proportion of underperformers in literacy and digital skills. This does not appear to correspond to this region's likely high demand for skilled workers who can contribute to pushing forward the EEC Development Plan, which includes preparation of the digital infrastructure, smart cities, financial centers, targeted high-tech and green industries, and education, research, and technology. More generally, given Thailand's strong aspirations to drive innovations as well as build high-value-added manufacturing and service sectors, the current scale of underperformers in foundational skills does not bode well for the nation's economic growth and prosperity.

**Figure 11:** Proportion of youth and adults with below-threshold levels of foundational skills, by region (ASAT 2022)



Source: Miyamoto and Sarzosa (forthcoming).



The cross-regional differences in the proportion of youth and adults with below-threshold levels of foundational skills may be attributed to cross-regional differences in the quality of schools and other learning opportunities.

The cross-regional variation in the proportion of adults demonstrating below-threshold skill levels is not necessarily attributed to cross-regional variation in the composition of gender, age, urban/rural residence, and educational attainment of youth and adults. Figure 12 presents how the proportion of those demonstrating below-threshold skills levels varies after controlling for these key individual characteristics: the cross-regional rankings change very little. It is worthwhile noting that controlling for educational attainment does not mean that differences in the quality of education across regions have been taken into account. It may well be that a large variation remaining across regions in the proportion of those with below-threshold levels of literacy and digital skills can be attributed to cross-regional differences in the quality of teachers, curricular activities, learning materials, and after-school learning activities available.

**Figure 12:** Proportion of youth and adults with below-threshold levels of foundational skills, by region, with controls (ASAT 2022)

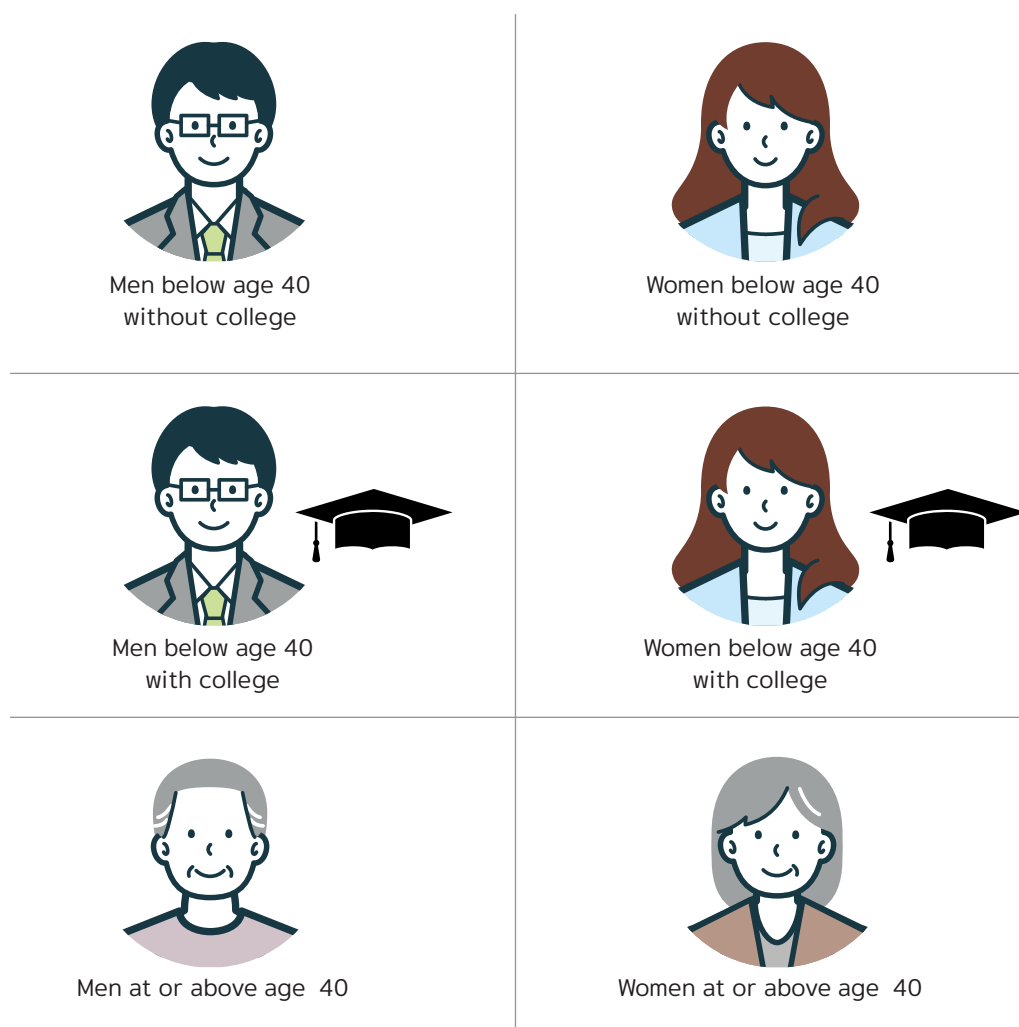


Source: Miyamoto and Sarzosa (forthcoming).

## Is the skills crisis more pronounced for particular demographic groups?

This report looks at six demographic groups based on gender, age (40 and below or 40+), and educational attainment (those who have or have not finished tertiary education) (Figure 13). Identification of these six groups was the result of extensive consultation with key stakeholders, including representatives from the MOE, MOL, NSO, and academia (Thammasat University). The assumption is that meaningful variations in foundational skills levels likely exist across the six groups as they are likely to have faced different socioeconomic and cultural environment over individuals' lifecycle. The decision was made to keep the grouping to a manageable number given the stringent minimal sample size requirement the assessment followed to ensure statistical power to draw conclusions on cross-group differences.

**Figure 13:** Targeted demographic groups (ASAT 2022)



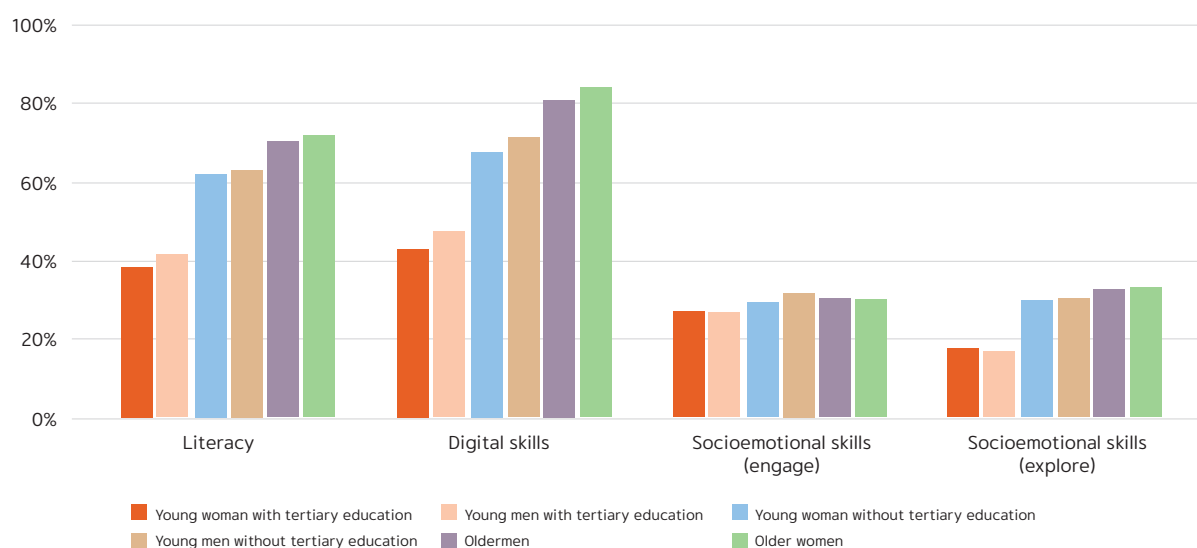
Source: Miyamoto and Sarzosa (forthcoming).

Those with below-threshold levels of foundational literacy and digital skills levels are disproportionately concentrated among young adults without tertiary education and older adults.

Figure 14 presents the proportion of those with below-threshold levels of foundational skills across the six targeted demographic groups. Older women and men show considerably higher proportions of adults with below-threshold levels of reading literacy and digital skills, at 71.7 percent and 84.5 percent for literacy and 81.3 percent and 81.3 percent for digital skills for women and men, respectively. Young women and men without tertiary education also showed relatively high proportions of those with below-threshold levels of literacy and digital skills, at 62.3 percent and 63.0 percent for literacy, and 67.9 percent and 71.9 percent for digital skills for women and men, respectively.

The age group differences in the proportion of those below-foundational levels of literacy and digital skills may have been driven by differences in upper-secondary and tertiary education attainment as well as differences in the quality of schools, teachers, and parenting that the two generations were exposed to during compulsory education.<sup>25</sup> For younger adults, the differences

**Figure 14:** Proportion of youth and adults with below-threshold levels of foundational skills, by demographic group (ASAT 2022)



Source: Miyamoto and Sarzosa (forthcoming).

<sup>25</sup> Those below the age of 40 experienced their childhood during the period in which Thailand made a massive expansion in secondary and tertiary education.

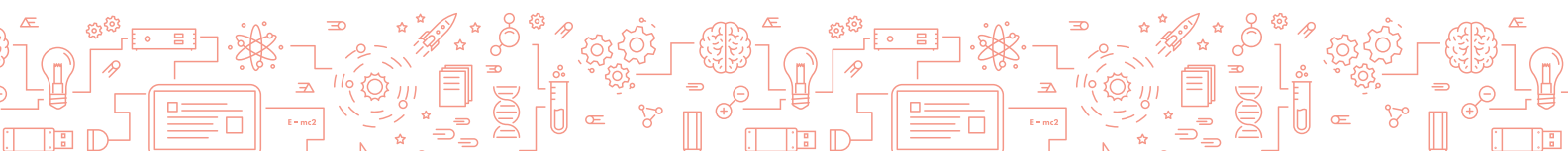


in the proportion of those below the foundational levels of literacy and digital skills by educational attainment may partly be explained by the impact of tertiary education on skills development. However, the similar proportion of low performers in reading literacy between PISA 2022 (among 15-year-olds) and ASAT 2022 also suggests that those who had higher skills at age 15 self-selected into higher education. More generally, the origins of the differences in foundational literacy may have started much earlier in individuals' lifecycle, suggesting that early exposure to quality parenting and early childhood education may be important drivers for these differences.

Younger women tend to have a lower proportion of those below the threshold level of literacy than men. However, it is worth noting that differences in the proportion of those with below-threshold levels of foundational literacy and digital skills by gender are considerably smaller compared to the differences by age and educational attainment.

### **Fewer young adults with tertiary education have below-threshold levels of socioemotional skills ('exploring new horizons') compared to young adults without tertiary education.**

For socioemotional skills, while relatively smaller differences arise across demographic groups in terms of the proportion of those with skills below the threshold levels of 'engaging with others,' a notable difference exists between young adults with and without tertiary attainment in terms of 'exploring new horizons.' For instance, while 17.2 percent of young men with tertiary education degrees demonstrated skills below the threshold level for being open to new ideas and ways of working, this figure went up to 30.7 percent among young men without tertiary education. This difference may be partly due to the success of tertiary educational institutions in Thailand in instilling curiosity and openness. However, it may also be driven by self-selection, whereby those who choose to enroll in universities tend to have those socioemotional characteristics or a household background more conducive to socioemotional development.



# Part 3:

# Building a Learning Society

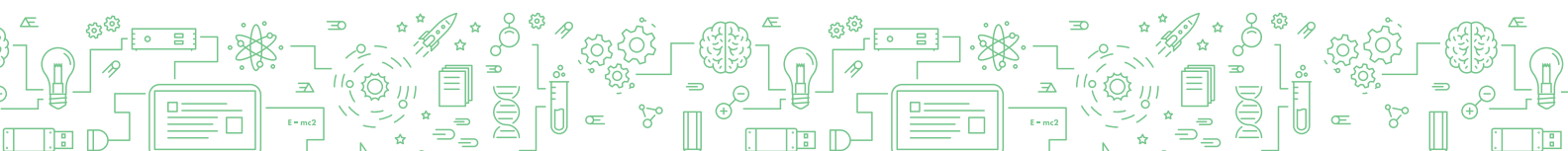


## Part III:

# Building a Learning Society

In October 2023, Minister of Education Permpoon Chidchob launched a new education policy initiative called “Study well, be happy.” This includes a range of reform ideas that emphasize a student-centered approach to learning and reduced burden on teachers and educational personnel. The underlying goal for this directive is to enhance students’ knowledge and skills to improve their engagement in the labor market, civic activities, and the BCG economy. Many of the government’s proposed initiatives—such as introducing flexibility in learning (that is, “Study anywhere, anytime”), strengthening portability of academic and vocational certifications (that is, credit bank and skills certificates), improving career guidance, and strengthening skills to support targeted sectors—are designed to ensure that all Thai citizens have foundational skills to flourish in the labor market and society.

Part III of this report presents strategies that the Thai government can explore in responding to the ongoing skills crisis. To identify the most relevant and impactful strategy, it is critical to first establish a good understanding of the government’s policy intentions and how these were translated into concrete actions associated with foundational skills development. The evidence reviewed for this study was mainly based on the data collected before the beginning of the new administration in August 2023. The first section presents an evaluation of policy intent and government actions to clarify the strengths and weaknesses of Thailand’s education and training system in fostering foundational skills for all. Based on this, the second section proposes reform strategies that the government can explore in tackling the skills crisis.



# 1 Evaluating how government policies and actions have focused on foundational skills development

Figure 15 presents a framework to review Thailand’s policy intent and government actions to foster foundational skills. The assumption is that part of the government’s intentions to foster foundational skills will translate into concrete actions. When appropriate actions take place, a range of high-quality programs become available for all learners, which will eventually lead to an increase in the overall proportion of youth and adults with foundational skills and to reduced inequalities in skills across regions and demographic groups.

**Figure 15:** A framework to understand how policy intent drives government actions and outcomes



The following questions guide the review:

- Does the government have a clear policy intent to foster foundational skills?
- Are there relevant government actions taken to help translate the policy intent into outcomes of learning?

The scale of the government’s policy intent is assessed by reviewing policy and planning documents to understand the nature and degree of the commitments made by the government to foster foundational skills. The degree of government actions is then assessed by investigating whether the ministries and agencies have worked to: (a) improve strategic guidance; (b) coordinate learning delivery; (c) deploy innovative instruments; (d) strengthen quality assurance; and (e) mobilize information. To simplify the presentation, this report summarizes the results of the reviews in Table 1 and Table 2. Note that the results of the evaluation employ three categories (broad, moderate, and limited) to describe the scope of coverage on specific criteria (for example, breadth of skills) based on available evidence.<sup>26</sup>

<sup>26</sup> In reviewing policies, “broad” coverage is chosen when a majority, or 80 percent or more, of the desired criteria are present across the evidence collected – for example, under “Breadth of skills,” “broad” is attributed if the



# Does the government have a clear policy intent to foster foundational skills?

As summarized in Table 1, the review of policy documents suggests that the government’s intention to invest in foundational skills is **wide-ranging** (that is, it covers diverse domains and subdomains of literacy, digital, and socioemotional skills), **outcome-oriented** (that is, it aims at achieving a broad set of labor market and social outcomes), **holistic** (that is, it involves diverse levels and types of institutions), and **inclusive** (for example, it includes programs for vulnerable groups such as the elderly, the disabled, and out-of-school youth). The rest of this section describes the results; Online Annex 3 provides more details.

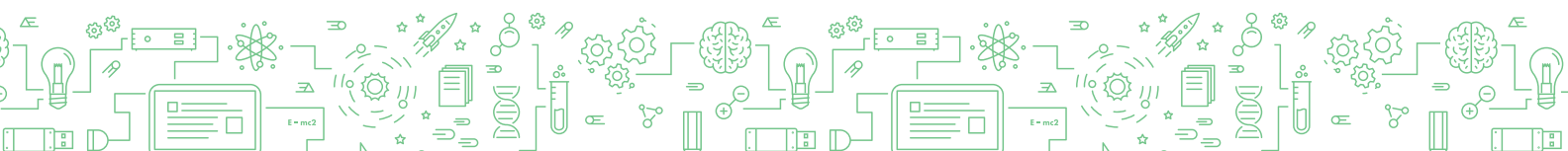
**Table 1:** Summary of policy intent

Foundational skills	Policies to foster foundational skills				
	Breadth of skills	Diversity of outcome domains	Range of education and training levels	Range of government institutions	Inclusiveness of beneficiaries
Literacy	●	●	●	●	●
Digital	●	●	●	●	●
Socioemotional	●	●	●	●	●

Note: ● Broad coverage

**Breadth of skills:** The government has manifested its intention to foster foundational skills through its national strategy, ministry-level plans, and curricular frameworks. These documents refer to the three foundational skills of literacy, digital, and socioemotional skills and their respective subdomains, such as the capacity to engage with written texts, use digital information to take actions, and explore new ideas (Online Annex Table A3.1.2). For example, the National Scheme of Education (2017–2036) emphasizes the need to develop learners with 21<sup>st</sup> century skills, which

policies or programs cite 80 percent or more of the different skills dimensions. “Moderate” is chosen when 60 percent or more and less than 80 percent of the desired criteria are covered in the evidence collected. “Limited” is chosen when less than 60 percent of desired criteria are covered. When reviewing government actions, “broad” is chosen when there is comprehensive evidence of actions covered that are aligned with good practices and examples from Thailand and other countries. Government actions are considered “moderate” when there are some strong aspects of government actions, but these can be improved by increasing their scope or following good practices from other countries. Finally, government actions are considered “limited” when there are only few examples of actions, and where it would be beneficial to significantly enhance their scope and impact to achieve policy intentions.



include literacy (reading, writing, and speaking), communication, information and media literacy, ICT, and computing, and socioemotional capabilities such as critical thinking, problem solving, creativity, and compassion.

**Diversity of outcome domains:** The government recognizes the importance of fostering foundational skills to achieve a wide array of ambitious national goals.<sup>27</sup> Policy documents highlight how these foundational skills play an important role in improving a range of education, labor market, and social outcomes—including educational attainment, higher employability and labor productivity, lifelong learning, positive health outcomes, well-being, and a harmonious multicultural society (Online Table A3.1.3). For example, the National Strategy (2018–2037) highlights the role of foundational skills development in achieving prosperity and sustainability, while enhancing Thai people’s happiness and well-being.

**Range of education and training levels:** The government’s strategic plans reveal the desire to enhance foundational skills across all education and training levels. Most notably, the national curriculum signifies the importance of each stage of education and training, from early childhood education to adult learning, in fostering key foundational skills (Online Table A3.1.4). The Early Childhood Curriculum B.E. 2560 (2017) highlights the importance of taking a holistic approach to skills development, which includes cognitive, social, and emotional learning. Moreover, the Basic Education Core Curriculum B.E. 2560 (2017) emphasizes diverse skills necessary for success in life, including literacy, digital (technology skills), and socioemotional skills (for example, emotion management, growth mindset, and ethical development).

**Range of government institutions:** The government’s intent to foster foundational skills is reflected in official statements from diverse ministries and agencies, covering a range of policy domains including education, labor market, health, child protection, digital development, welfare (elderly, disabled, and disadvantaged), and industrial development (Online Table A3.1.5). Institutions include those that serve the Office of the Prime Minister (for example, National Economic and Social Development Council), and those associated with line ministries (for example, MOE, MOL, and Ministry of Public Health (MOPH)). This highlights the notion of shared responsibility across different government actors in fostering foundational skills.

---

<sup>27</sup> This is in line with a vast array of research that shows improving individuals’ foundational skills is associated with improved positive outcomes such as learning outcomes and academic achievement, as well as other long-term outcomes such as enhancing individual health, labor market participation, and productivity (CASEL 2020; OECD 2015). In turn, this will help enhance outcomes at the societal level, such as improved labor market outcomes, social engagement, and national development.



**Inclusiveness of beneficiaries:** Lastly, government policies and plans supporting foundational skills development include diverse vulnerable groups, such as out-of-school children, the unemployed, and the elderly (Online Table A3.1.6). This is naturally a result of diverse ministries and agencies, each with a separate mandate to address different vulnerable groups, engaging in fostering foundational skills. For example, the Non-formal and Informal Education Curriculum prepared by the MOE targets out-of-school children, youth, and adults to provide them with a comprehensive set of skills and knowledge necessary for success in the labor market and society.

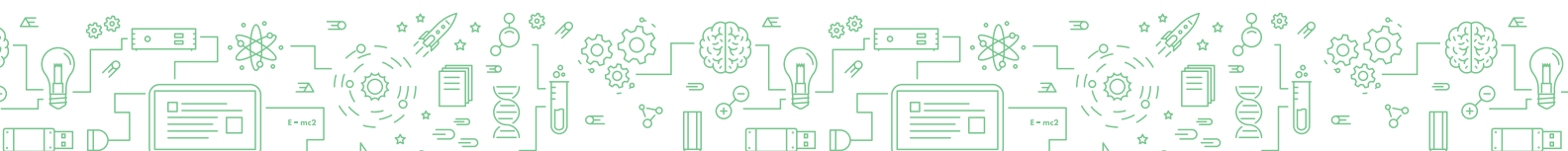
## Are there relevant government actions taken to help translate the policy intent into better outcomes?

As summarized in Table 2, the review of government actions suggests that the strong policy intent to foster foundational skills (Table 1) has not been well accompanied by comprehensive and coordinated interventions to do so. This can help explain the large proportion of youth and adults in Thailand who remain below the threshold levels of foundational literacy, digital, and socioemotional skills (Figure 5). The rest of this section describes the results and also use examples (Boxes 3–11) to illustrate ways to improve government actions by building on cases from around the world, including those from Thailand. Online Annex 3 provides details of the results.

**Table 2:** Summary of government actions

Foundational skills	Policies to foster foundational skills				
	Breadth of skills	Diversity of outcome domains	Range of education and training levels	Range of government institutions	Inclusiveness of beneficiaries
Literacy	●	●	●	●	●
Digital	●	●	●	●	●
Socioemotional	●	●	●	●	●

Note: ● Broad coverage, ● Moderate coverage, ● Limited coverage (see footnote 32 for details).



**Improving strategic guidance:** The government can provide strategic guidance to stakeholders of education and training by, communicating the areas and degrees of skills gaps, guiding stakeholders on what works to reduce the skills gaps, and framing the foundational skills that learners need to develop. Thailand has made limited progress on these fronts. First, while there are several skills demand diagnostics used to communicate employers' unmet skills needs for current and future employees, there is a paucity of skills supply diagnostics which highlight the nature of skills gaps (Box 3). Thailand would benefit from expanding the use of skills supply diagnostics at the country and provincial levels. Second, very limited information exists on what works to foster foundational skills in Thailand. Evidence-building efforts have been mainly driven by individual researchers from universities and agencies, rarely leading to collective efforts to synthesize and disseminate much-needed information on what works. Thailand can learn from some of the global efforts made to foster evidence-based policies (Box 4). Lastly, the framing that the government provides to guide stakeholders across stages of education and training lacks granular details, consistency, and coherence. Thailand already has education, occupational, and professional qualification standards and frameworks that describe what learners should know and be able to do by the end of each stage of education and training. However, there is a need to: (a) ensure these standards and frameworks (including the National Qualification Framework (NQF)) provide enough details on the nature of foundational skills that learners are expected to progressively develop; (b) ensure consistency between different learning standards and learning outcomes across stages of education and training; and (c) prepare a comprehensive skills framework that all stakeholders of education and training can adhere to (Box 5).



## Demonstrating the nature of skills gaps using diagnostics of skills supply

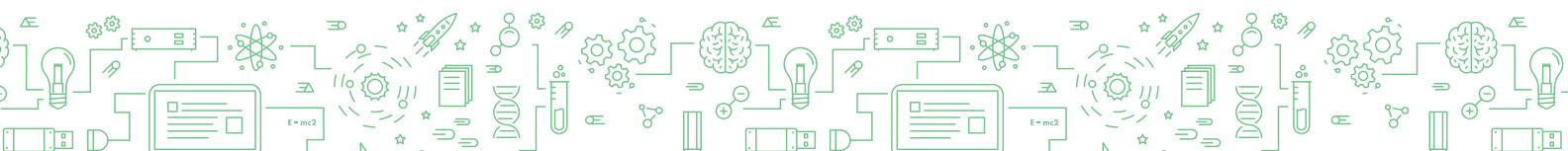
The nature of skills gaps can be analyzed using skills demand and supply diagnostics. Skills demand diagnostics mobilize surveys of employers to elicit unmet skill needs associated with certain economic sectors and occupations. These diagnostics often rely on information regarding “difficulties employers face in hiring employees with the required skills set” or “skills shortages among the current employees.” While not all surveys of employers address a range of skills including foundational skills, some, including the World Bank’s STEP Employer’s Survey, shed light on a range of cognitive, digital, and socioemotional skills.<sup>28</sup> Thailand has several skills demand diagnostics that shed light on foundational skills needs in targeted sectors and occupations.<sup>29</sup> These diagnostics have already been used to provide education and training institutions and jobseekers with valuable information to guide skills development activities.<sup>30</sup>

Skills supply diagnostics mobilize skills proficiency tests or ratings to directly measure the skill levels demonstrated or perceived by children, youth, and adults. Skills supply diagnostics can cover a wide range of target groups including those who are inactive, unemployed, and not in employment, education, and training (NEETs). These diagnostics—often embedded in household, labor force, and student surveys—provide valuable information on the domains of skills and population subgroups for which a large proportion has low proficiency levels. Skills supply diagnostics based on the OECD’s Programme of International Student Assessment (PISA) and Programme for International Assessment of Adult Competencies (PIAAC) provide good examples

<sup>28</sup> <https://microdata.worldbank.org/index.php/collections/step>

<sup>29</sup> For instance, the Office of Vocational Education Commission (OVEC) at the MOE regularly collects information from diverse economic sectors to identify skills needs. The Office of National Higher Education Science Research and Innovation Policy Council (NXPO) delivers a skills needs survey as well as a Talent Landscape survey to gauge competencies required in high-priority jobs for the future (Vandeweyer et al. 2020)—for example, robotics engineers and data scientists. These surveys help higher education institutions refine and improve graduate programs in line with industry requirements. They can also help guide government agencies toward effectively supporting the education sector in its skills development efforts (for example, providing funding).

<sup>30</sup> The MOL’s Department of Employment provides guidance to learners on skills requirements, education, career and work opportunities, as well as career readiness tools (for example, personality tests) to prepare diverse population groups to find employment and be ready for the labor market. The Skills Mapping initiative, driven by the Ministry of Higher Education, Science, Research, and Innovation (MHESRI), also aims to provide evidence on the most in-demand 21st century skills for higher education programs.



of the power of diagnostics in informing education and training policies.<sup>31</sup> In Thailand, however, there is only a limited number of skills supply diagnostics available among youth and adults.<sup>32</sup>

The Adult Skills Assessment in Thailand (ASAT) used in this report (Box 1) presents a first attempt to gather information on the supply of foundational skills at the country and regional levels. Part II of this report demonstrated how ASAT can be used to identify the areas of skill needs (Figures 5 and 6) and the population subgroups with pronounced skill needs (Figures 10, 11, 12, 13, and 14). Thailand would benefit from mobilizing skills supply diagnostics at the country, regional, and provincial levels, and repeating them over time for the same individuals or across cohorts.<sup>33</sup> The government can leverage this information to better direct education and training institutions to invest in the right skills, especially among the most vulnerable groups.

---

<sup>31</sup> Skills gap indicators based on OECD's PISA have guided countries on the progress made to reduce gaps in reading, mathematics, and science. Performance indicators on the proportion of adults at or above proficiency level 2 of OECD's Survey of Adult Skills and the World Bank's STEP in reading literacy provide 45 countries with ways to track their progress with SDG Indicator 4.6.1.

<sup>32</sup> This review identified two examples of skills supply assessments in Thailand. One is a survey prepared by the Office of the National Digital Economy and Society Commission to understand the status of media and information literacy. This survey, delivered to approximately 9,000 individuals, included children, youth, and the elderly, as well as underprivileged groups. The other one is PISA 2018, which provides information on reading literacy, mathematics, and science for a single age group of 15-years-olds.

<sup>33</sup> The World Bank and the EEF are scheduled to deliver a Provincial Adult Skills Assessment in Thailand (PASAT) in 2024 across three targeted provinces.





considerable returns to improve future efforts to foster foundational skills. The good news is that there are some promising signs of evidence-building efforts. One example is Thailand's High Scope RIECE curriculum, an evidence-based early childhood development (ECD) program to deliver a child-centered and play-based active learning environment to foster literacy and socioemotional skills.<sup>37</sup> Another example is the ECD program run by the Dek Noi Pattana Foundation (DNPF) designed to strengthen teachers' and caretaker's capacity to foster children's cognitive, socioemotional, and physical skills in Surin province of Thailand.<sup>38</sup>

---

<sup>37</sup> Impact evaluation of this intervention suggests the RIECE curriculum significantly improved child development in personal and social skills, expressive language, and motor skills. <https://ece.utcc.ac.th/wp-content/uploads/An-Early-Evaluation-of-a-HighScope-Based-Curriculum-Intervention-in-Rural-Thailand.pdf>

<sup>38</sup> The evaluation of the interventions suggests that those who took part in the interventions showed much higher indicators of intellectual, social, emotional, and physical skills compared to the control group. <https://www.deknoipattana.org/wp-content/uploads/2021/03/DNPF-Progress-Report-2017-2018.pdf>

## Box 5

### Setting a frame of reference through learning standards and a skills framework

Governments can guide education and training institutions by setting standards or yardsticks that describe what learners are expected to know and to be able to do at each stage of education and training. Thailand's National Education Standards (2018) provides high-level descriptions of the learning standards associated with diverse student capabilities, including foundational skills, across all education levels. Moreover, the Early Childhood Curriculum and the Basic Education Curriculum provide some details of these learning standards.<sup>39</sup> However, the descriptions of learning standards are neither comprehensive nor consistent between early childhood and basic

---

<sup>39</sup> Note that the Early Childhood Curriculum and Basic Education Curriculum are comprehensive frameworks, rather than an integrated system of instructions, lessons, textbooks, lesson plans, other teaching-learning materials, and assessments through which students practice proficiencies in different competency or subject areas.





education.<sup>40</sup> While it is understandable for the Basic Education Curriculum to frame the learning standards based on academic subjects (for example, Thai language, mathematics, science, etc.), it does not provide ways to link them with the four core learning areas that the Early Childhood Curriculum focuses on (that is, physical, emotional, social, and cognitive development). A comprehensive and developmentally consistent set of learning standards is likely to help guide education and training institutions in effectively fostering learners' foundational skills.<sup>41</sup> Estonia offers a good example of ways to set learning standards that are detailed, developmentally sensitive, and consistent across stages of education (Government of Estonia 2011; Republic of Estonia 2022).<sup>42</sup> Thailand may consider better leveraging standards to provide stronger guidance to education and training institutions in fostering foundational skills.

Another way in which the government can guide stakeholders of education and training is to establish a foundational skills framework that defines the skills domains and their developmental pathways across all stages of education and training. While such a framework is not necessarily a government directive to which education and training institutions are required to adhere, it can influence the curriculum design, teaching and learning practices, and professional development activities. A framework generated in a holistic and inclusive way, reflecting the views of all key stakeholders of education and training as well as the labor market and the broader society, can be a very powerful tool to set the strategic direction for foundational skills development. A good example is Singapore's framework of 21<sup>st</sup> Century Competencies,<sup>43</sup> which involved extensive research and diverse stakeholders during its preparation and endorsement. This framework is considered one of the most significant developments in Singapore's efforts to modernize education, and has been infused into its academic curriculum, co-curricular activities, character

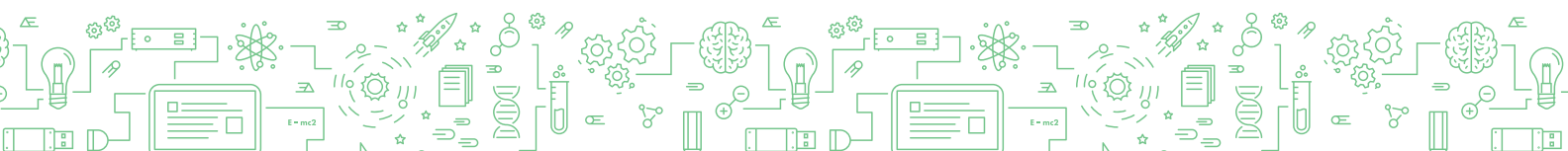
---

<sup>40</sup> For instance, the Early Childhood Curriculum does not cover basic digital capabilities or familiarities that young children may usefully develop. Moreover, the Basic Education Curriculum does not elaborate on some of the most important socioemotional abilities, such as "caring for others" and "openness for new experience."

<sup>41</sup> Such learning standards will usefully complement and strengthen the existing National Qualification Framework (NQF) for Thailand, which does not provide granular descriptions of foundational skills, nor directions for early childhood and primary education.

<sup>42</sup> Estonia's national curriculum presents separate standards for preschool childcare institutions, basic schools, and upper secondary schools that outline required competencies (including foundational skills) in a developmentally consistent manner. Singapore's 21st Century Skills Framework provides an example of a simple yet comprehensive framework that has been endorsed by diverse stakeholders, complements the education standard, and provides strategic guidance to education and training institutions.

<sup>43</sup> See <https://www.moe.gov.sg/education-in-sg/21st-century-competencies> and <https://www.skillsfuture.gov.sg/skills-framework>



and citizenship education, and teachers' training (Tan et. al. 2017). As education standards take many years of extensive and formal consultations to establish and update, preparing a comprehensive and widely endorsed skills framework may be a useful complementary avenue to set strategic directions.<sup>44</sup> Recent effort made by the MOE's Office of the Basic Education Commission (OBEC), in cooperation with UNICEF and Kasetsart University, to establish a "Skills Framework for Basic Education" is promising, and may lead to preparation of a comprehensive foundational skills framework for all stakeholders of education and training.

Occupational and professional qualification standards are also learning standards in that they describe the knowledge and skills workers are required to develop and demonstrate to be proficient in specific occupations and professions. These standards also guide education and training institutions in preparing and adapting their programs. Recent efforts have been centered around preparing a competency-based training curriculum that aims at fostering foundational, vocational, and technical skills. In Thailand, the MOE's Office of the Vocational Education Commission (OVEC), the MOL's Department of Skill Development (DSD), the Thai Professional Qualification Institute (TPQI), and the industries and professional associations are engaged in preparing occupational and professional qualification standards and qualification frameworks that are associated with different occupations, professions, and education and training institutions.<sup>45</sup> A promising development is the establishment of Thailand's National Qualification Framework (NQF) which provides vertical linkages across learning standards and learning outcomes of the educational and occupational qualifications from lower secondary education level until adult education and training. It would be useful if the NQF provides enough details on the specific skills that learners are expected to develop consistently across stages of education and training. Moreover, the NQF could usefully provide clarifications on the linkages across learning outcomes of ECD, primary education, and lower secondary education.

---

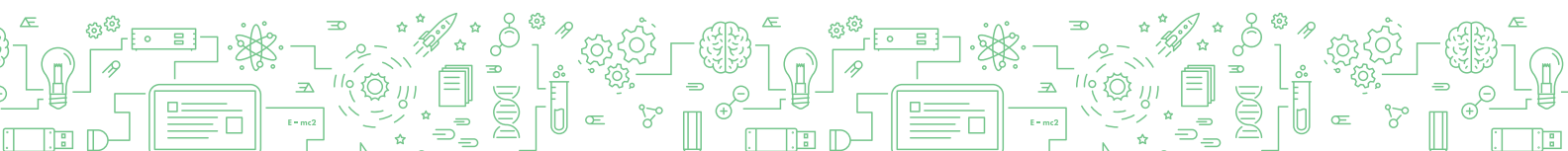
<sup>44</sup> A good example is the California State Board of Education, which recently adopted a math framework that focuses on problem solving and applying math knowledge to real-world situations, driven by inquiry-based instruction. See [https://www.cde.ca.gov/ci/ma/cf/#:~:text=The%20Mathematics%20Framework%20provides%20guidance,STEM\)%20in%20college%20and%20career.](https://www.cde.ca.gov/ci/ma/cf/#:~:text=The%20Mathematics%20Framework%20provides%20guidance,STEM)%20in%20college%20and%20career.)

<sup>45</sup> The TPQI, DSD, and the industries also use international standards for certain industries (for example, tourism).



**Coordinating learning delivery:** The government can play an important role in ensuring that children can make the best out of the available learning opportunities across stages of education and training and ultimately acquire sufficient levels of foundational skills before reaching youth and adulthood. This is, however, very challenging to do when there are diverse learning options offered through inputs coming from multiple sources (for example, across a range of education and training institutions [public and private], private sector and NGOs), in an uncoordinated manner across stages of education and training. The education and training in Thailand, well known for its decentralized and fragmented system, fits this scenario.<sup>46</sup> Thailand would benefit from establishing a coordinating institution at the provincial level whose role is to ensure that all learners receive a conducive environment to foster minimum levels of foundational skills across stages of education and training, by maximizing the efficiency and consistency of available teaching and learning resources (Box 6). This coordinating body can also help ensure that the most vulnerable groups, who would benefit the most from strengthening foundational skills, are given priority, and that sufficient resources are dedicated to ECD, considered the most important stage of foundational skills development (Box 7). Moreover, this coordinating body can help ensure that the education and training system leverages the capacity of the private sector in providing much-needed practical learning experiences and links to the labor market and the community (Box 8).

<sup>46</sup> Imagine a typical female primary school student living in one of the provinces in Thailand. She is likely to be enrolled in a public school managed by the local MOE office. While she will be exposed to core curricular activities that follow the national curriculum, her teachers' pedagogical preparation and teaching modalities, learning materials, and complementary curricular and extracurricular activities will be shaped by diverse factors, including interventions coming from the LAOs (that is, province, municipality, and subdistricts), other central government ministries/agencies, the private sector, and NGOs. These external institutions also have an important stake and role in influencing teaching and learning that takes place in public and private schools across Thailand. Moreover, as this female student progresses through stages of education and training, its' governing institutions, pedagogical strategies, and learning resources will naturally change over time given that they are likely to be associated with different learning objectives. Such a learning context, unless there is a coordinating mechanism, does not guarantee consistency in learning outcomes within and across stages of education and training, and may not be conducive for this student to acquire foundational skills before reaching youth and adulthood.





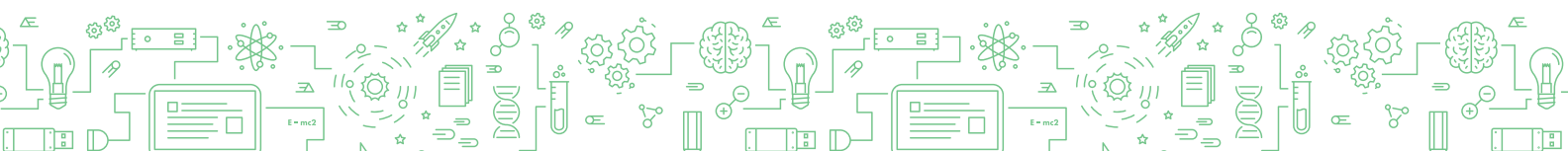
provide regular inputs to the local MOE offices (mainly for initial education) and to the MOL (mainly for upskilling and reskilling). This will help ensure that the multitude of contributions coming from different institutions, within and across the stages of education and training, align well with the core learning objectives and curricular activities as described in the national curriculum and learning standards, as reflected in the education, occupational, and professional qualification standards. Such institutions can also lead the diagnostics of skills shortages and identify interventions to respond to skills shortages. The success of such coordinating institutions to help ensure all learners acquire foundational skills depends on their capacity to influence the quality, efficiency, and equity in the allocation of resources distributed across stages of education and training through inputs from diverse players. These institutions should have a clear mandate and strong ownership, be ready to mobilize the diverse policy frameworks and instruments of education and training from early childhood until adulthood (e.g., the NQF), coordinate the myriads of public and private institutions working to support education and training, and maximize the available learning resources.

Promising examples of coordinating institutions at the provincial level already exist in Thailand. For instance, the EEF's Area Based Education (ABE) program has been working with 12 provinces<sup>47</sup> in Thailand to facilitate establishment of provincial-level institutions that will help drive reforms in skills development.<sup>48</sup> For example, in Lampang province, a coordinating institution called the Council of Education, facilitated by Lampang University, gathers stakeholders from diverse agencies to support disadvantaged children at risk of dropping out. Rayong province, under the Provincial Administrative Organization (PAO) and with support from the EEF, established a coordinating institution called the Rayong Inclusive Learning Academy (RILA), with a mandate to address the lack of skilled workers and support a livable city. Thailand may consider strengthening these existing coordinating institutions in the provinces through intensive capacity-building activities, and then explore how they can better support development of an efficient and inclusive ecosystem of foundational skills development.

---

<sup>47</sup> These include Samut Songkhram, Phayao, Lampang, Khon Kaen, Phitsanulok, Rayong, Mae Hong Son, Sukhothai, Songkhla, Pattani, Surat Thani, and Surin.

<sup>48</sup> <https://en.eef.or.th/2023/06/12/exploring-area-based-educational-development/>









education and training [TVET]), expanding the scope of available production and services, and generating employment opportunities in the most disadvantaged local communities. Cental Tham has already introduced market-oriented curricular activities, brought professional instructors, integrated work-based learning in core programs, and offered employment in the Central Groups' supermarket and hotel chains, subsidiaries (for instance, networks of distributors and suppliers), and other local businesses. Some of their major ecosystems can be seen in the provinces of Chang Mai and Udon Thani.

Any successful education and training system must have strong links to the labor market and the local community. While it is important that the public sector drives this process, with strong support from local coordinating institutions (Box 6), it is imperative that the private sector brings their unique ability to strengthen relevance, inclusiveness, and excellence to education and training. One promising OBEC-driven development on this front is the establishment of the project called Connex ED,<sup>53</sup> in which selected private enterprises play a major role in delivering school-based programs, strengthening the capacity of school leadership and teachers, and improving the school infrastructure.

<sup>53</sup> <https://www.obec.go.th/archives/383623>

**Deploying innovative instruments:** Governments can support the capacity of education and training institutions to foster learners' foundational skills by providing a comprehensive curriculum package, innovative teaching and learning instruments, and financial instruments to incentivize learning. One of the main instruments the Thai government deploys in formal education and training is, of course, the national curriculum, which it is currently transitioning to a competence-based curriculum.<sup>54</sup> Delivery of a competence-based curriculum, given its significant emphasis on

<sup>54</sup> A competence-based curriculum emphasizes what learners are expected to do rather than mainly focusing on what they are expected to know. In principle, such a curriculum is learner-centered and adaptive to the changing needs of students, teachers, and society. It implies that learners can acquire and apply the knowledge, skills, values, and attitudes to solve situations they encounter in everyday life. Numerous countries are currently developing or revising their curriculum in light of the global trend emphasizing 21st century competencies (UNESCO 2017).







## Mobilizing classroom observation tools to improve teachers' pedagogical skills

Classroom observation tools are designed to decode teachers' in-class behaviors, including interactions with students, to assess their pedagogical abilities. These tools can play an important role for policy makers to understand the quality of education and provide complementary support to teachers (for example, coaching and mentoring), as well as for teachers to understand their strengths and weaknesses and take actions to improve their pedagogical practices. In Thailand, while school directors are required to observe at least 5 classrooms per week to evaluate teachers for their promotion, standardized classroom observation tools designed to provide formative feedbacks to teachers have not yet been delivered. Such tools can also complement the limited number of school supervisors whose role includes observations of teachers' pedagogical practices. The World Bank's TEACH provides instruments, validated in primary and secondary school settings in a large number of low- and middle-income countries, to measure not only the quality of teaching practices but also time spent on different elements of learning. This tool measures the quality of teaching practices in terms of (a) setting classroom culture, (b) directing instructions, and (c) fostering students' socioemotional skills.

The World Bank is currently in the process of validating a classroom observation tool to measure pedagogical skills among primary school teachers in Thailand that will be part of broader school quality assessment metrics called Fundamental School Quality Level (FSQL). This instrument can be used to provide feedback to teachers and help them enhance instructional quality in fostering children's learning outcomes. This tool was prepared using both Thailand's Academic Rank Criteria from the MOE's Office of the Teacher Civil Service and Educational Personnel Commission (OTEPC), as well as the World Bank's TEACH Primary classroom observation instruments. It covers three domains, namely instructional management, classroom management, and design of lesson plans.<sup>59</sup> These domains of teachers' pedagogical abilities are likely to play an important role in fostering children's foundational literacy, digital, and socioemotional skills. This tool will be pilot tested and validated by the World Bank and the EEF in 2024. Thailand may consider scaling up this tool across the country after validation.

<sup>59</sup> For instance, the instructional management domain includes measures to capture teachers' capacity to help learners "connect previous knowledge or experience with new learning" and "construct their knowledge or create new experiences from learning." Moreover, the classroom management domain includes measures to capture teachers' ability to "cultivate an appropriate classroom atmosphere conducive to learning for all students" and "encourage learners to be eager to learn and pursue lifelong learning."

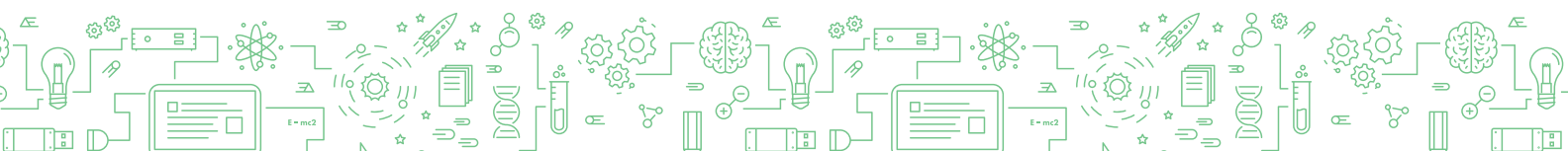


## Introducing Individual Learning Accounts to enable vulnerable youth and adults to upskill and reskill irrespective of their unemployment status

Individual Learning Accounts (ILAs)—currently implemented in countries including France, Wales, and Singapore—are virtual individual accounts through which training rights are accumulated over time, and learners can choose approved training programs. ILAs tend to be inclusive in that a wide range of youth and adults, including employees, jobseekers, and self-employed, are eligible to create and use an account. In France and Wales, training rights can be accumulated based on annual disbursements, depending on individual characteristics, whereby certain groups (for example, those with lower educational attainment in France) receive higher amounts. ILAs are financed through compulsory training levies for firms and fixed contributions on turnovers for the self-employed. Firms and specific institutions (for example, public employment services) may have an option to complement funding for their beneficiaries. Individuals can use their own credits in their learning accounts to finance certified training and skills assessment activities.

The success of ILAs is likely to depend on their ability to attract low-skilled learners as well as high-quality training programs. To attract the low-skilled and other vulnerable groups, it is necessary to address other constraints that prevent them from taking part in training activities (for example, childcare facilities). The ILA scheme in France, called *Compte Personnel de Formation* (CPF),<sup>60</sup> shows that the share of less qualified youth and adults using ILAs is substantial (for example, 30 percent of beneficiaries are jobseekers), while among the five most demanded domains of training are those that relate to foundational skills such as ‘development of orientation skills for social and professional activities’ (for example, entrepreneurship) and ‘computing, data processing, and data transmission networks’ (for example, digital literacy). While implementing ILAs is likely to

<sup>60</sup> The CPF provides all individuals aged 16 and older with a personal training account from the moment they enter the job market until they retire. It provides access to a large number of training courses to upskill and reskill, based on government transfer of €500 per year. See <https://www.vie-publique.fr/parole-dexpert/288514-compte-personnel-de-formation-quel-bilan-pour-le-cpf>. Wales also provides individuals over 19 with a Personal Learning Account that provides learners access to courses and qualifications that are fully funded by the government, with eligibility conditions such as earning caps of £30,596 per year. See <https://careerswales.gov.wales/courses-and-training/funding-your-studies/personal-learning-accounts> for more details. Singapore offers an ILA called SkillsFuture Credit that provides all Singaporeans aged 25 and above with a one-off credit of S\$500, along with ad hoc top-ups of additional credits since December 31, 2020, and additional credits for certain target groups (for example, those aged 40–60 from December 31, 2020) to be used for a wide range of training courses. See <https://www.skillsfuture.gov.sg/initiatives/mid-career/credit>



have a significant impact on financing and administration of ongoing financial instruments such as corporate tax deductions for training activities, the Thai government may consider this approach as a complementary avenue to foster foundational skills for youth and adults.

Thailand's TPQI has very recently started developing a similar scheme called E-coupon, which is designed to provide individuals with an annual training budget. It would be important that the training course offerings include a range of high-quality programs designed to foster foundational skills as well as job-specific skills. Moreover, complementary efforts such as information campaigns (Box 14) are likely to help vulnerable groups engage in these programs.

**Strengthening quality assurance:** Governments can help improve the effectiveness of programs designed to foster foundational skills by putting in place strong quality assurance mechanisms. This can be done through accrediting institutions, programs, and qualifications, as well as certifying teachers and their training programs, and specifying professional development requirements. In Thailand, the MOE, the MHESRI, the MOL, as well as associated agencies including the Teachers' Council of Thailand (TCT), are responsible for exercising quality assurance mechanisms. It is not clear, however, whether quality assurance requirements reflect the extent to which education and training institutions need to emphasize learners' acquisition of foundational skills. This is notable in the area of teachers' preparation. On one hand, the quality assurance of pre-service teachers' training has significantly improved, with the upgraded competency-based teachers' professional qualification standards and the most recent introduction of competency-based teachers' certification requirements which cover their capacity to foster learners' foundational skills.<sup>61</sup> On the other hand, professional development requirements for in-service teachers remain limited. While there are government approved professional development programs designed to foster teachers' ability to nurture learners' foundational skills, they tend to be optional. Moreover, teachers' recertification requirements are based on their self-reports on whether they have developed relevant skills according to the professional development standards. Thus, only highly motivated and qualified teachers may take these training courses. A number of OECD countries include digital pedagogy as part of mandated contents of professional development as well as pre-service programs (Box 11). In the United States, a number of states require educators to demonstrate mastery of skills to support students' SEL for licensure renewal or recertification (Box 12).

---

<sup>61</sup> The teachers' professional standards are based on Solo taxonomy and Bloom's revised taxonomy, developed into 4 competency levels for teacher license. Moreover, the TCT has recently introduced certification examination which is a situation-based test that covers diverse competency domains including socioemotional skills.



Including teachers' capacity of foster learners' foundational skills as required contents of professional development programs

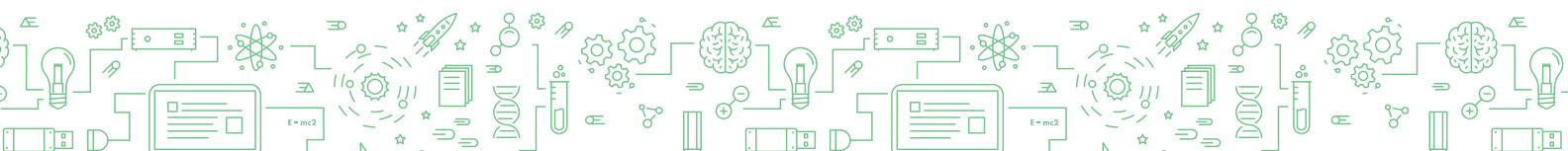
Teacher quality is one of the most important determinants of the quality of education and training. In Thailand, even 40–50 percent of young adults with tertiary education do not have a very basic level of digital skills (Figure 14). It is likely that a large proportion of teachers in Thailand have very limited proficiency in harnessing ICT for pedagogical practices and fostering learners' digital skills. Governments can influence teachers' readiness to foster learners' digital skills by approving the preservice and professional development programs. In Thailand, accreditation of preservice training program involves assessment of its curriculum by the Teachers' Council of Thailand (TCT) and the MHESRI according to the teachers' professional standards. The standards are now competence-based and includes learning outcomes associated with teachers' ability to exercise digital pedagogy as well as social and emotional learning (SEL).

However, professional development requirements for in-service teachers remain limited. In-service teachers' training, currently been delivered separately by different institutions (e.g., OBEC, OVEC, and local governments), appear to lack consistency across institutions and completeness in terms of addressing teachers' ability to foster learners' foundational skills. For instance, while there is only a moderate variety of government approved professional development programs which follow a set of professional standards such as the ability to encourage learners to think critically (i.e., important element of foundational skills)<sup>62</sup>, courses relating to foundational skills development tend to be optional.

Thailand may consider reviewing the quality of professional development programs in terms of its capacity to prepare teachers in fostering learners' foundational skills. A complementary approach is to require teachers to take some of these accredited professional development programs. For example, India mandates all teachers to take 50-hours of continuous professional development courses, which includes digital pedagogy and social and emotional learning.<sup>63</sup> Moreover, in France, Greece, Israel, Mexico, Sweden, and Belgium (French speaking), digital pedagogy is included among the mandatory courses that teachers have to take as part their compulsory professional

<sup>62</sup> For example, Developing Mathematics Teaching to be Inquiry-Based is a skills development program for teachers delivered by OBEC, in partnership with the Casio Marketing Company in Thailand Ltd.

<sup>63</sup> <https://mqiep.unesco.org/article/mqiep-in-practice>



development programs in preprimary and primary education (OECD 2022). This partly reflects that fact that in many OECD countries, teachers in primary and lower secondary education identified training in ICT skills as the second most important area of high need for professional development.<sup>64</sup>

---

<sup>64</sup> <https://gpseducation.oecd.org/revieweducationpolicies/#!node=41732&filter=all>

## Box 12

### Requiring teachers to develop their capacity to foster learners' foundational skills as part of their recertification requirements

In Thailand, the Teachers' Council of Thailand (TCT) issues initial teaching licenses to those who graduate from the preservice programs, which rely on programs offered by accredited universities to ensure minimum standards are met to certify teachers. A very recent upgrade in the pre-service teachers' certification requirement includes a competency-based assessment which involves a situation-based test that covers the candidates' abilities to develop students' socio-emotional skills (for example, confidence and self-reliance). However, teachers are then recertified every five years by relying on their self-reports on whether they have been continually developing their practice and meeting the TCT's teachers' professional standards, which may fall short of assuring the quality of teachers. Thailand may explore introducing more rigorous recertification requirements that ensure development of teachers' pedagogical ability in fostering students' foundational skills, in line with the teachers' professional standards.

In the United States, California, Massachusetts, Minnesota, and New Jersey require educators to demonstrate mastery of a combination of skills to support students' social, emotional, and academic development for licensure renewal or recertification.<sup>65</sup> While the process of reviewing and updating teachers' professional development and certification requirements involves complex and lengthy stakeholder discussions, Thailand may consider ensuring teachers' acquire minimum pedagogical skills to foster learners' foundational skills as a priority.

---

<sup>65</sup> <https://edtrust.org/is-your-state-prioritizing-sead/#BP>







Mobilizing information campaigns that highlight the financial benefits of education and skills development

Providing learners and caretakers information on the income-earning benefits of education has increased school attendance and learning outcomes at lost costs in a number of countries (Banerjee et al. 2023). The key is to provide specific and context-relevant information that shifts people's beliefs about the benefits of education and quality of schooling, instead of relying solely on general encouragement to consider education positively. This approach can be very effective if specific and locally relevant information of decent quality from a trusted source is available, and if recipients have the means to act on the information.

According to Banerjee et al. (2023), context specific delivery of information can take various forms—for instance, using text messages or videos (Chile and Peru), parents’ meetings (Madagascar, Chile, and the Dominican Republic), or school report cards (Pakistan). In Mexico, information on the income benefits of education improved learning outcomes, with a larger impact for girls. In Peru, sharing information on the economic and social benefits of investing in education led to a reduction in school dropouts and improvement in long-term educational planning.<sup>67</sup> These interventions have proven to be highly cost-effective when delivered at scale.

Results from ASAT provide a good source of information that can be transmitted through an information campaign—for instance, those who are above the threshold level of foundational literacy earn 6,324 baht (or 179 USD) more in monthly labor income compared to those who have skills below the threshold level.

<sup>67</sup> <https://poverty-action.org/keeping-kids-school-relevant-information-peru>; and <https://www.povertyactionlab.org/evaluation/role-information-returns-postprimary-education-school-dropout>





## Mobilizing information campaigns that choose the right messengers to reach and influence target groups

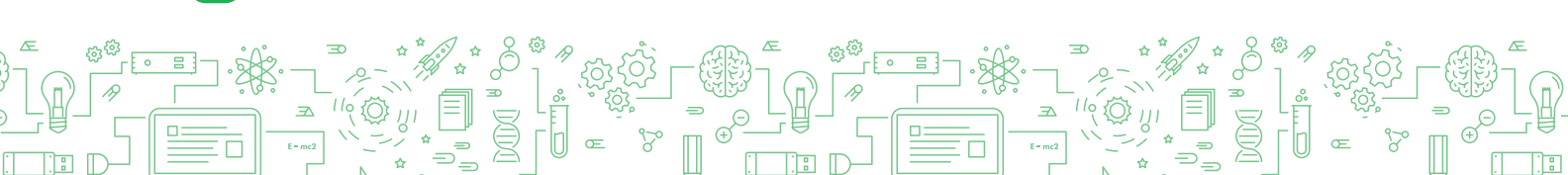
Choosing the right person to transmit the message can be as important as choosing the right information content, as it can bring far-reaching results to the most vulnerable and disadvantaged groups, which may have different sources and perceptions of information. Having the right messengers can be impactful in contacting and convincing specific audiences on the benefits of investing in foundational skills. Trusted messengers may vary depending on the context. They can range from experts, those who have been “converted” (that is, nonbelievers in education who became believers after a successful learning experience), vanguards (for example, well-known public crusaders on a particular topic), or even trendsetters (for example, celebrities or Instagram influencers).

During COVID-19-related vaccine campaigns, many countries referenced doctors, health care experts, and religious leaders to convince skeptics to vaccinate, building on people’s trust in experts. In Iraq, for instance, messages referencing doctors resulted in a 57 percent increase in the intent to get vaccinated.<sup>68</sup> In Cameroon, messages endorsed by experts and religious leaders increased people’s intent to get vaccinated by 83 percent compared to the control message. An adult literacy promotion program in the Netherlands, called the Ambassadors, demonstrated the power of using recruiters who have themselves overcome illiteracy through adult education. These ambassadors proved successful in encouraging other illiterate adults to overcome the stigma of participating in adult education programs (OECD 2005). Celebrity endorsements are also a common form of delivering information designed to endorse consumer brands, political candidates, or health campaigns. A meta-analysis covering 46 studies suggests a large positive attitudinal effect for male actors who match well with an implicitly endorsed object.<sup>69</sup> Thailand may consider using a combination of experts, “those converted,” and other visible figures to engage in a proactive information campaign to invest in foundational skills.

A large proportion of vulnerable children, youth, and adults in Thailand may not have access to the diverse learning opportunities available to improve their learning outcomes, labor market prospects, and civic engagement. The Thai government may take a much more proactive approach in using information campaigns to signal and incentivize potential learners of a wide range of learning opportunities that exist across Thailand. This may be one of the low-hanging fruits in fostering foundational skills and tackling the skills crisis.

<sup>68</sup> <https://blogs.worldbank.org/health/being-behaviorally-savvy-vaccine-communication>

<sup>69</sup> <https://link.springer.com/article/10.1007/s11747-016-0503-8>



## 2

## Next steps for Thailand: From a skills crisis to a learning society

This report presented a major crisis of foundational skills in Thailand: 64.7 percent of youth and adults can barely read and understand short texts to problem solve and 74.1 percent can barely use ICT devices to perform simple digital tasks. This is likely to be a discouraging finding for policy makers, educators, and parents who have worked tirelessly to ensure that Thai citizens can weather the storms and embrace the opportunities of the 21<sup>st</sup> century.

This report showed that the skills crisis is not a consequence of lack of attention from policy makers. To the contrary, policy makers have shown strong intentions to foster a wide range of foundational literacy, digital, and socioemotional skills for all children, youth, and adults by mobilizing a range of institutions that cater to each and every stage of education and training. Moreover, the government has started to translate its intentions into action by setting learning standards for foundational skills, facilitating preparation of instruments to support teachers and learners, and providing financial incentives to encourage employers to invest more in reskilling and upskilling.

The report also showed that the current skills crisis is likely driven by underlying weaknesses in Thailand's education and training system. Despite the extraordinary level of investment Thailand has made to expand access to education and training over the last three decades, there are structural limitations in the system that prevents learners from maximizing the learning opportunities available, and progressively developing foundational skills across the stages of education and training. This report pointed out five dimensions of Thailand's education and training system that are likely to have contributed to lowering the quality of learning experiences and limiting access to learning opportunities for the most vulnerable populations.

The good news is that Thailand has a variety of ways with which to improve its education and training system. Table 3 presents a summary of the recommendations with examples based on the analysis presented in the preceding section. The key messages are to:

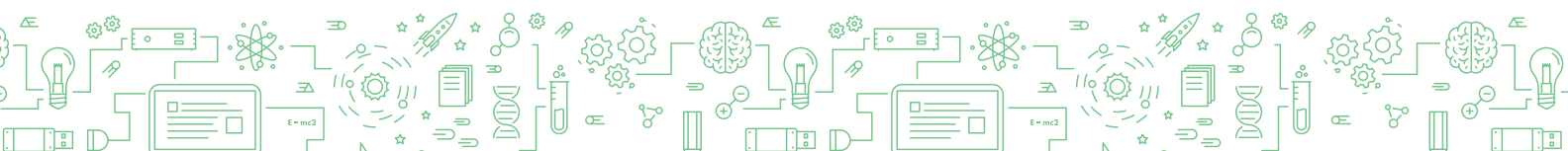
1. **Strengthen guidance for educators** by detailing the bad news (that is, the major skills crisis), proposing response strategies based on evidence-based programs, and improving the descriptions and consistency of standards so that learners can progressively develop skills over time.



2. **Establish a coordinating body at the province level** to (a) maximize the contributions of diverse actors working on education and training, (b) ensure enough attention is given to allow learners to start strong through early childhood development (ECD); and (c) leverage the contributions from the private sector.
3. **Deploy innovative instruments to improve quality and access to learning** at all levels of education and training, be it accelerating transition to competence-based curriculum, deploying tools to strengthen teachers' pedagogical practices, or exploring Individual learning accounts (ILAs) that can improve access to quality learning experience for vulnerable youth and adults.
4. **Ensure all teachers are capable of fostering learners' foundational skills** by mandating in-service teachers to take courses on pedagogical practices to foster foundational skills as part of their professional development, and ensure that these skills are well developed for their recertification requirements.
5. **Actively use information campaigns** to reach out to vulnerable groups that could benefit the most from foundational skills development, by communicating the right messages (for example, income returns to investing in skills), using the right messenger (for example, experts or local champions).

The Thai government may select some of the recommendations that are more feasible to deliver for political, financial, and technical reasons. However, the power of each reform idea comes from its complementarity with others. For instance, the capacity of coordinating institutions to help deliver reforms (Recommendation 2) hinges on a shared understanding of the skills crisis from all stakeholders and what works best to address the crisis (Recommendation 1) as well as teachers' capacity to improve pedagogical practices using available instruments (Recommendations 4). Moreover, the powers of mobilizing innovative instruments to foster learners' foundational skills (Recommendations 3) hinge on the fact that learners are aware of the learning opportunities and are convinced about their benefits (Recommendations 5).

This report focused on fostering foundational skills which can bring enormous benefits to the society. Naturally, the Thai government may also consider other objectives, such as increasing the number of those who can engage in high-skilled occupations such as advanced computer and data scientists and business and information system specialists, which may require technical and advanced skills that are occupation-specific. The objective may also be much broader, such as preparing happy citizens who can contribute to a moral and ethical society. Fostering


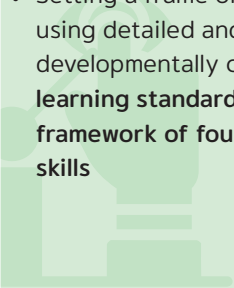

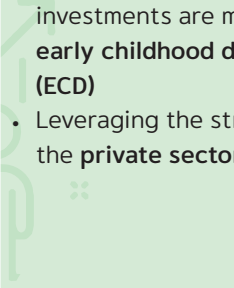

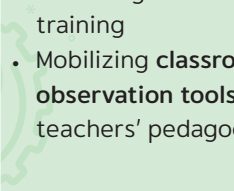


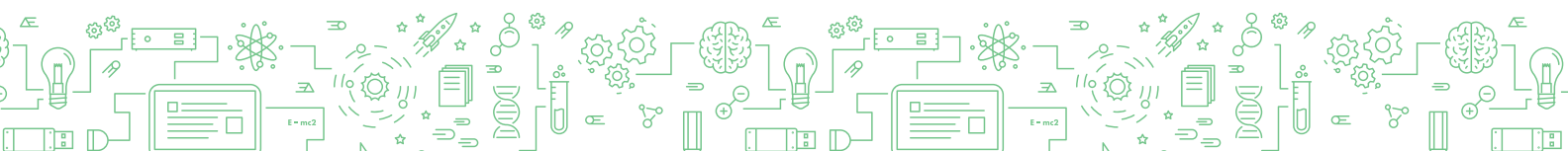
foundational skills can also contribute to achieving these specific and broader objectives. Foundational skills are fundamental, transversal, and progressive abilities that allow individuals to develop skills for critical occupations, achieve well-being, and contribute to the wider society (Figure 2). Foundational skills enable children, youth, and adults to translate their moral and ethical aspirations into concrete actions, such as becoming inspiring moral leaders, active volunteers, and caring family members.

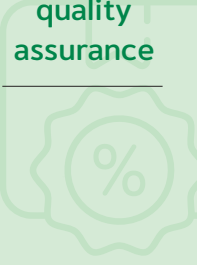

These recommendations, alongside other transformational efforts the Thai government is currently working on, will help tackle the skills crisis. But is this our end goal? Thailand would benefit from building a much stronger, resilient, and sustainable ecosystem of education and training. The pathways to achieving such an ecosystem likely require **establishing a learning society**, where everybody has a chance to learn, irrespective of his/her personal situation and location. In a learning society, every person has a chance to strengthen existing skills and also build new skills progressively through diverse education and training opportunities. Moreover, individuals are motivated and incentivized to learn for both leisure and jobs. In this society, everyone is a learner and a teacher, and embraces the fruits of knowledge sharing. A learning society is an integral part of a broader economic, cultural, and societal ecosystem.

Is Thailand capable of preparing such a learning society? Or is this a utopia that should be left to people's imagination or dreams? The answer partly lies in Thailand's ability to accelerate ongoing efforts to improve the quality of learning opportunities available across stages of education and training and enable vulnerable groups to foster a range of foundational skills required to flourish in the 21<sup>st</sup> century. However, all these efforts will not translate into a learning society without **establishing a learning culture**. A learning culture will not emerge naturally, as this requires coordinated actions involving all learners as well as institutions contributing to the entire ecosystem of learning. A way forward for the Thai government is therefore to establish a **"Social pact toward a learning society"** that can serve as the basis for building a learning society. This social pact would bring together all stakeholders and coordinate their efforts through a spirit of shared responsibility and accountability. The first step would be to establish a shared vision, commitment for actions by stakeholders, performance indicators to monitor progress, and public reporting requirements.

**Table 3:** Recommendations for the Government of Thailand to counter the skills crisis

What	How	Example
<p><b>1.</b></p> <p><b>Improve strategic guidance</b></p> 	<p><b>Provide educators with relevant information to understand and respond to the skills crisis by:</b></p> <ul style="list-style-type: none"> <li>• Demonstrating the nature of <b>skills gaps</b> using diagnostics of skills supply</li> <li>• Preparing and disseminating <b>evidence-based programs</b></li> <li>• Setting a frame of reference using detailed and developmentally consistent <b>learning standards</b> and a <b>framework of foundational skills</b></li> </ul> 	<ul style="list-style-type: none"> <li>• Skills gaps indicators based on Thailand's ASAT and OECD's PISA and PIAAC demonstrate the nature of the skills gaps.</li> <li>• The World Bank, the United States Department of Education, and CASEL provide repositories for designing evidence-based foundational skills development programs. The World Bank's provides guidance on designing new programs that imbed impact evaluations.</li> <li>• Estonia's national curriculum provides detailed and consistent standards of foundational skills across education levels. Singapore's Framework of 21<sup>st</sup> Century Skills, endorsed by diverse stakeholders, has been driving curriculum development and teachers' training.</li> </ul>
<p><b>2.</b></p> <p><b>Coordinate learning delivery</b></p> 	<p><b>Improve efficiency and inclusiveness of decentralized learning delivery by:</b></p> <ul style="list-style-type: none"> <li>• Establishing a <b>coordinating institution</b> at the provincial level</li> <li>• Ensuring sufficient investments are made during <b>early childhood development (ECD)</b></li> <li>• Leveraging the strengths of the <b>private sector</b></li> </ul> 	<ul style="list-style-type: none"> <li>• The Area-Based Education (ABE) program of the EEF established a coordination body within the provincial administration of Rayong, with a mandate to improve efficiency and inclusiveness of delivering education and training programs across the province.</li> <li>• An ECD program driven by the DNPF works closely with the provincial administration of Surin Province to ensure children develop foundational and physical skills.</li> <li>• A skills development program established by the Central Group works closely with the subdistrict-level administration in Chiang Mai Province to deliver education and training programs in schools and community centers that are directly linked to the labor market.</li> </ul>
<p><b>3.</b></p> <p><b>Deploy innovative instruments</b></p> 	<p><b>Improve teaching and learning by:</b></p> <ul style="list-style-type: none"> <li>• Accelerating transition to <b>competence-based curriculum</b> at all stages of education and training</li> <li>• Mobilizing <b>classroom observation tools</b> to improve teachers' pedagogical capacity</li> </ul> 	<ul style="list-style-type: none"> <li>• A large number of education systems (e.g., France, Canada, Singapore, Vietnam, and the Philippines) are already using competence-based curriculum in basic education.</li> <li>• World Bank's TEACH and Fundamental School Quality Level (FSQL) provide examples of instruments to measure and improve the quality of teachers' pedagogical practices.</li> </ul>



What	How	Example
<b>4.</b> <b>Strengthen quality assurance</b> 	<b>Ensure all teachers in the education system have enough capacity to foster foundational skills</b> by: <ul style="list-style-type: none"> <li>Requiring teachers to build their capacity to foster learners' foundational skills through <b>professional development programs</b></li> <li>Requiring teachers' capacity to foster learners' foundational skills as part of their <b>recertification requirements</b></li> </ul>	<ul style="list-style-type: none"> <li>Digital pedagogy is among the mandatory courses that teachers have to take as part of their compulsory professional development programs in preprimary and primary education in France, Greece, Israel, Mexico, Sweden, and Belgium.</li> <li>The states of California, Massachusetts, Minnesota, and New Jersey in the United States require educators to demonstrate mastery of a combination of skills to support students' social, emotional, and academic development for licensure renewal or recertification.</li> </ul>
<b>5.</b> <b>Mobilize information campaigns</b> 	<b>Reach and incentivize all learners to invest in foundational skills</b> by: <ul style="list-style-type: none"> <li>Deploying <b>information campaigns that highlight income-earning benefits</b> of education and skills development</li> <li>Deploying <b>information campaigns that mobilize the right messengers</b> to reach and influence the target groups</li> </ul>	<ul style="list-style-type: none"> <li>In Mexico, a publicly administered information campaign that highlighted the income benefits of education improved learning outcomes, with larger impact for girls.</li> <li>An adult literacy program in the Netherlands showed that local champions (the Ambassadors) who have successfully acquired basic reading skills despite poverty and stigma can be effective agents to encourage other vulnerable groups to engage in learning.</li> </ul>

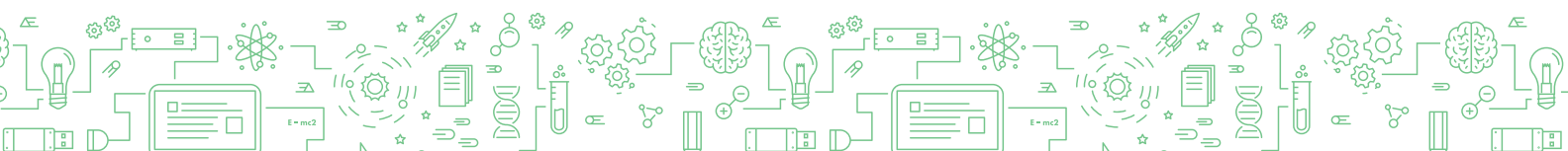
Note: ASAT is the Adult Skills Assessment in Thailand. PISA is the Program for International Student Assessment. PIAAC is the Program for International Assessment of Adult Competencies. The World Bank's repository is the Cost-Effective Approaches to Improve Global Learning (Banerjee et al. 2023). The United States Department of Education's repository is the What Works Clearinghouse. CASEL's repository is the Program Guide for Social and Emotional Learning (SEL). The World Bank's guidance for impact evaluation is Impact Evaluation in Practice (Gertler, et al. 2016).

Thailand may face a long and winding road toward a learning society. The new government can build on its strong aspirations and comprehensive action plans to foster foundational skills toward this noble cause.



# References

- ADB (Asian Development Bank). 2021. *Thailand: Country Partnership Strategy (2021–2025)*. <https://www.adb.org/sites/default/files/linked-documents/tha-cps-2021-2025-ld01.pdf>
- Banerjee, Abhijit, Tahir Andrab, Rukmini Banerji, Susan Dynarski, Rachel Glennerster, Sally Grantham-Mcgregor, Karthik Muralidharan, Benjamin Piper, Jaime Saavedra Chanduvi, Hirokazu Yoshikawa, Sara Ruto, Sylvia Schmelkes. 2023. *Cost-effective Approaches to Improve Global Learning - What does Recent Evidence Tell Us are “Smart Buys” for Improving Learning in Low- and Middle-income Countries?* Washington, DC: World Bank.
- Brömmelhörster, Jorn. 2010. “Climate Change: Is Southeast Asia Up to the Challenge? The Economics of Climate Change in Southeast Asia: A Regional Review.” *Asian Development Bank (ADB) Report Analysis*.
- Cartwright, Fernando, Koji Miyamoto, and Sarah El Wazzi. Forthcoming. *Foundational Skills: Concepts and Measurements*.
- Chuensuksawadi, Pichai. 2022. “Thailand’s EEC Is an Opportunity Not to Be Missed.” *Bangkok Post*. November 18, 2022. <https://www.bangkokpost.com/opinion/opinion/2440600/thailands-eeec-is-an-opportunity-not-to-be-missed>.
- Cizek, Gregory J., and Michael B. Bunch. 2007. *Standard Setting: A Guide to Establishing and Evaluating Performance Standards on Tests*. SAGE Publications Ltd.
- Dey, Matthew, Harley Frazis, Mark A. Loewenstein, and Hugette Sun. 2020. “Ability to Work from Home: Evidence from Two Surveys and Implications for the Labor Market in the COVID-19 Pandemic.” *Monthly Labor Review*. US Bureau of Labor Statistics: 1–19. <https://www.bls.gov/opub/mlr/2020/article/ability-to-work-from-home.htm>
- Eloundou, Tyna, Sam Manning, Pamela Mishkin, and Daniel Rock. 2023. “Gpts are Gpts: An Early Look at the Labor Market Impact Potential of Large Language Models.” *arXiv preprint* <https://arxiv.org/abs/2303.10130>
- Falck, Oliver, Alexandra Heimisch-Roecker, and Simon Wiederhold. 2021. “Returns to ICT Skills.” *Research Policy*, 50(7): 104064. <https://doi.org/10.1016/j.respol.2020.104064>
- Fraley, R. Chris, Niels G. Waller, and Kelly A. Brennan. 2000. “An Item Response Theory Analysis of Self-Report Measures of Adult Attachment.” *Journal of Personality and Social Psychology*, 78(2): 350. <https://psycnet.apa.org/record/2000-13328-012>









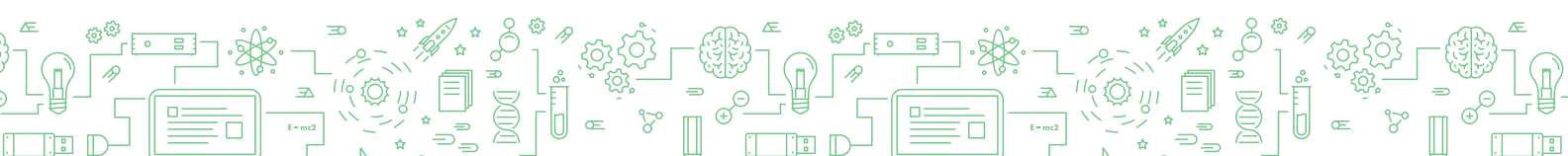
- ILO (International Labour Organization). 2021. "ILO Research Highlights Massive COVID-19 Impact on Tourism Employment in Asia and the Pacific." Press Release. 18 November 2021. [https://www.ilo.org/asia/media-centre/news/WCMS\\_827494/lang--en/index.htm](https://www.ilo.org/asia/media-centre/news/WCMS_827494/lang--en/index.htm)
- Javed, Bilal, Abdullah Sarwer, Erik B. Soto, and Zia-ur-Rehman Mashwani. 2020. "The Coronavirus (COVID-19) Pandemic's Impact on Mental Health." *The International Journal of Health Planning and Management*, 35(5): 993–996. <https://onlinelibrary.wiley.com/doi/abs/10.1002/hpm.3008>
- Kaendera, Stella, and Lamin Leigh. 2021. *Five Things to Know About Thailand's Economy and COVID-19*. International Monetary Fund, Asia and Pacific Department. <https://www.imf.org/en/News/Articles/2021/06/21/na062121-5-things-to-know-about-thailands-economy-and-COVID-19>
- Karantonis, Ana, and Stephen G. Sireci. 2006. "The Bookmark Standard-Setting Method: A Literature Review." *Educational Measurement: Issues and Practice*, 25(1): 4–12. <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1745-3992.2006.00047.x>
- Kautz, Tim, James J. Heckman, Ron Diris, Bas ter Weel, Lex Borhans. 2015. "Fostering and Measuring Skills: Improving Cognitive and Non-Cognitive Skills to Promote Lifetime Success." OECD Working Paper Series. <https://www.oecd.org/education/ceri/Fostering-and-Measuring-Skills-Improving-Cognitive-and-Non-Cognitive-Skills-to-Promote-Lifetime-Success.pdf>
- Lin, Ruyi, Junfeng Yang, Feng Jiang, and Jiaping Li. 2023. "Does Teacher's Data Literacy and Digital Teaching Competence Influence Empowering Students in the Classroom? Evidence from China." *Education and Information Technologies* 28(3): 2845–2867.
- Lorenz, Ramona, Manuela Endberg, and Wilfried Bos. 2019. "Predictors of Fostering Students' Computer and Information Literacy—Analysis Based on a Representative Sample of Secondary School Teachers in Germany." *Education and Information Technologies*, 24: 911–928.
- Lorthanavanich, Duangjai, Narumol Nirathron, Surat Teerakapibal, Nopadol Rompho, Arunee Tanvisuth, and Osuke Komazawa. 2021. "Population Ageing in Thailand. Lessons from One of the Most Aged ASEAN Member States." Economic Research Institute for ASEAN and East Asia (ERIA). [https://www.eria.org/uploads/media/Research-Project-Report/2021-06/Vol-1\\_00-Lessons-from-One-of-the-Most-Aged-ASEAN-Member-States.pdf](https://www.eria.org/uploads/media/Research-Project-Report/2021-06/Vol-1_00-Lessons-from-One-of-the-Most-Aged-ASEAN-Member-States.pdf)
- McGinnis, Devon. 2018. "What is the Fourth Industrial Revolution?" *Salesforce* (blog). <https://www.salesforce.com/blog/what-is-the-fourth-industrial-revolution-4ir/>
- Miyamoto, Koji, and Miguel Sarzosa. Forthcoming. "Measuring the Gaps in Adult Skills in Thailand."



- OECD (Organisation for Economic Co-operation and Development). 2005. *Promoting Adult Learning*. Paris: OECD Publishing. <https://www.oecd.org/education/innovation-education/35268366.pdf>
- OECD (Organisation for Economic Co-operation and Development). 2015. *Skills for Social Progress: The Power of Social and Emotional Skills*. Paris: OECD Publishing. <http://dx.doi.org/10.1787/9789264226159-en>
- OECD (Organisation for Economic Co-operation and Development). 2019. *Skills Matter: Additional Results from the Survey of Adult Skills*. Paris: OECD Publishing. [https://www.oecd.org/skills/piaac/publications/Skills\\_Matter\\_Additonal\\_Results\\_from\\_the\\_Survey\\_of\\_Adult\\_Skills\\_ENG.pdf](https://www.oecd.org/skills/piaac/publications/Skills_Matter_Additonal_Results_from_the_Survey_of_Adult_Skills_ENG.pdf)
- OECD (Organisation for Economic Co-operation and Development). 2020. "The Context of Early Learning in Estonia." *Early Learning and Child Well-being in Estonia*, OECD Publishing, Paris. <https://www.oecd-ilibrary.org/sites/24d65b83-en/index.html?itemId=/content/component/24d65b83-en>
- OPHI (Oxford Poverty and Human Development Initiative). 2019. *Child Multidimensional Poverty in Thailand*. <https://www.unicef.org/thailand/media/3171/file/Child%20Multidimensional%20Poverty%20in%20Thailand.pdf>
- O'Toole, Anna. 2016. "Three Facts Explaining Rural Poverty in Thailand." *Borgen Magazine*. <https://www.borgenmagazine.com/rural-poverty-in-thailand/>
- Perie, Marianne. 2008. "A Guide to Understanding and Developing Performance-Level Descriptors." *Educational Measurement: Issues and Practice*, 27(4): 15–29. <https://www.pewresearch.org/global/2015/03/19/1-communications-technology-in-emerging-and-developing-nations/>
- Republic of Estonia, Ministry of Education and Research. 2022. General Education in Estonia. <https://www.hm.ee/en/education-research-and-youth-affairs/general-education/general-education-estonia>
- Royal Thai Embassy. 2020. *What is Thailand 4.0?* Washington, DC. <https://thaiembdc.org/thailand-4-0-2/>
- Royal Thai Embassy. 2021a. *Bio-Circular-Green Economic Model (BCG)*. Washington, DC. <https://thaiembdc.org/bio-circular-green-bcg/>
- Royal Thai Embassy. 2021b. *Eastern Economic Corridor*. Washington, DC. <https://thaiembdc.org/eastern-economic-corridor-eec/>
- Saltiel, Fernando, Miguel Sarzosa, and Sergio Urzúa. 2017. "Cognitive and Socio-Emotional Abilities." *Handbook of Contemporary Education Economics*. Cheltenham.



- Schonert-Reichl, Kimberly A., M. Jennifer Kitil, and Jennifer Hanson-Peterson. 2017. To Reach the Students, *Teach the Teachers: A National Scan of Teacher Preparation and Social and Emotional Learning*. A Report Prepared for CASEL (Collaborative for Academic, Social, and Emotional Learning). Chicago.
- Sharp, Carla, Ian M. Goodyer, and Tim J. Croudace. 2006. "The Short Mood and Feelings Questionnaire (SMFQ): A Unidimensional Item Response Theory and Categorical Data Factor Analysis of Self-Report Ratings from a Community Sample of 7-through 11-Year-Old Children." *Journal of Abnormal Child Psychology*, 34: 365–377. <https://doi.org/10.1007/s10802-006-9027-x>
- Soto, John, and Oliver J. 2017. "The next Big Five Inventory (BFI-2): Developing and assessing a hierarchical model with 15 facets to enhance bandwidth, fidelity, and predictive power." *Journal of Personality and Social Psychology*, 1: 117-143. <https://psycnet.apa.org/buy/2016-17156-001>
- Tan, Jennifer Pei-Ling, Suzanne S. Choo, Trivina Kang, and Gregory Arief D. Liem. 2017. "Educating for Twenty-first Century Competencies and Future-ready Learners: Research Perspectives from Singapore." *Asia Pacific Journal of Education*, 37(4): 425–436.
- The Nation Thailand. 2022. "Global Heating Behind THB12.6tn Flood Damage, 2,000 Thai Deaths: NESDC." *The Nation*. November 19. <https://www.nationthailand.com/thailand/general/40023341>
- United Nations. 2019. *World Population Prospects 2019. Online Edition*, Rev.1. UN Department of Economic and Social Affairs, Population Division. <https://www.un.org/development/desa/pd/news/world-population-prospects-2019-0>
- UNESCO (United Nations Educational, Scientific and Cultural Organization). 2017. "The Why, What and How of Competency-Based Curriculum Reforms: The Kenyan Experience." *In-Progress Reflection No. 11 on Current and Critical Issues in Curriculum, Learning and Assessment*. UNESCO. Paris.
- Vandeweyer, Marieke, Ricardo Espinoza, Laura Reznikova, Miso Lee, and Thanit Herabat. 2020. "Thailand's Education System and Skills Imbalances: Assessment and Policy Recommendations." OECD Working Paper. [https://one.oecd.org/document/ECO/WKP\(2020\)49/En/pdf](https://one.oecd.org/document/ECO/WKP(2020)49/En/pdf)
- Winthrop, Rebecca, and Eileen McGivney. 2016. *Skills for a Changing World: Advancing Quality Learning for Vibrant Societies*. Brookings Institution.
- World Bank. 2018. *World Development Report 2019: The Changing Nature of Work*. Washington, DC: World Bank. [https://elibrary.worldbank.org/doi/10.1596/978-1-4648-1328-3\\_ch1](https://elibrary.worldbank.org/doi/10.1596/978-1-4648-1328-3_ch1).
- World Bank. 2021. *Aging and the Labor Market in Thailand*. Washington, DC: World Bank.



World Bank. 2022. *Rural Thailand Faces the Largest Poverty Challenges with High Income Inequality*. Bangkok: World Bank.

World Economic Forum. 2020. *The Future of Jobs Report 2020*. <https://www.weforum.org/reports/the-future-of-jobs-report-2020>

Yao, Hao, Jian-Hua Chen, and Yi-Feng Xu. 2020. "Patients with Mental Health Disorders in the COVID-19 Epidemic." *Lancet Psychiatry*, 7(4): e21.







## EEF – Equitable Education Fund (Thailand)

388 S.P. Building 13Th Floor Phaholyothin Road,  
Samsennai, Phayathai Bangkok 10400, Thailand



+66 2 079 5475



+66 2 619 1812



info@eef.or.th



<https://en.eef.or.th>



Equitable Education Fund Thailand



@EEF\_Thailand



eef\_thailand



EEF thailand