Policy Research Report

Supported by the UNESCO-IIEP Visiting Researcher Programme

Transforming Thailand's TVET System

An Integrated Framework for Foundational, Digital and Green Skills

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Bangkok | 2026

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Introduction

Background and rationale

Since the Asian Financial Crisis, Thailand has faced long running economic stagnation and productivity constraints (WB, 2024). National development plans to escape the so called middle income trap focus on a shift toward higher value production, with digital technology as a key lever (Ministry of Industry, 2017). At the same time, climate pressures and the transition toward a clean and sustainable economy are reshaping jobs and raising demand for green skills, alongside growing demand for digital skills. These shifts will be difficult to realise at scale if large shares of youth and adults lack strong foundational skills, including literacy, numeracy, and socio-emotional skills. Research estimates that economic losses due to forgone income among low performers of literacy and digital skills alone amount to 20.1 percent of Thai GDP in 2022 (EEF & WB, 2024, p. 24). TVET can play a key role by preparing learners for higher value work in a greener and more digital economy, but its contribution depends on whether learners enter and progress with sufficient foundational skills to benefit from vocational training and to continue building transferable skills.

Global trends drive the need for digital and green skills

Rising living standards and societal changes have led to decreasing birth rates and longer life expectancy. As a result, Thailand's population is rapidly ageing, with close to 20 per cent of the population being over 60, in 2023 and a projected 31.37 per cent in 2040 (Department of Older Persons, 2024, p. 12). An increasingly aged society translates into a shrinking workforce while putting pressure on public healthcare and social security systems (WB, 2024). Older persons are less likely to be equipped with foundational skills necessary for life in today's economy and society, making them less likely to benefit from digital technology and more vulnerable to adverse effects (EEF & WB, 2024; OECD, 2025). A fact evident in the increasing incidence of online scams and cybercrime targeting older people (Pituk et al., 2025). An ageing population further exacerbates the need for increasing skill levels among youth and working age adults to maximise productivity and innovative life-long learning practices that protect older people.

Thailand is experiencing climate change impacts which increase Thailand's vulnerability to urban flooding, heat waves, drought, water shortages, and changing rainfall patterns (WB, 2025). These threats exacerbate other economic and social challenges. Urban flooding and

extreme heatwaves negatively impact productivity, while drought, water shortages and changing rainfall patterns negatively impact agriculture (WB, 2025). To counter these threats, Thailand needs to accelerate its green transition and build an economy and society resilient to climate change impacts. TVET can play an important role in strengthening climate change adaptation through developing emerging green skills in its graduates (UNESCO, 2021). To this end, Thailand's TVET system needs to integrate green skills into curriculums and skills frameworks.

Another global trend with important consequences for Thailand's skill needs is the digitalisation of economy and society and the fourth industrial revolution (4IR). Digital technology is already transforming the Thai economy and emerging technologies such as AI and robotics will have further impacts on the labour market (Rattanakhamfu, 2020). The Thai government is supporting this transformation, promoting the development of key industries through tax incentives and the establishment of the Eastern Economic Corridor (Ministry of Industry, 2017). However, lack of skilled labour remains a key barrier to realising the potential of these developments while also threatening to leave those without access to skills development behind (OECD, 2025; Onlamul, 2025; Rattanakhamfu, 2020). Consequently, it is crucial to ensure that Thailand's TVET system is equipped to prepare its graduates for work in the digital age. Digital technology has the potential to improve learning outcomes and improve governance and management of TVET systems through digitalisation of learning management and monitoring and evaluation systems (UNESCO, 2023; UNEVOC, 2020). However, these opportunities can only be realised if both teachers and students have the skills necessary to utilise digital technology (Claro & Castro-Grau, 2023; UNESCO, 2022c).

Thailand's foundational skills crisis constrains upskilling in TVET

These implications for TVET point to a comprehensive skills agenda, where TVET education must address foundational, green and digital skills comprehensively, as strengthening green and digital skills depends on sufficient foundational skills. To weather these trends and benefit from the opportunities they bring, Thailand needs a skilled workforce that can carry its transformation into a high value economy. However, available secondary evidence points to a deep foundational skills crisis in Thailand (EEF & WB, 2024). As part of this research project, a separate UNESCO Visiting Research Note has been published that underpins this report and provides a detailed discussion of foundational skills in the Thailand TVET context. This section provides a brief overview of the findings of that note.

In this report, foundational skills refer to fundamental, portable skills that enable conveying and receiving information that is critical to training and workplace success (UNESCO-UNEVOC, n.d.). Skill areas that are often included in foundational skills are literacy and numeracy, basic digital skills, and socio-emotional skills (EEF & WB, 2024; WB et al., 2023). In TVET, these skills shape whether learners can engage with vocational learning in the first place and whether training translates into workplace performance. They are also a prerequisite for acquiring transversal skills such as digital and green skills as work tasks and technologies change (Claro & Castro-Grau, 2023; EEF & WB, 2024; OECD, 2025; UNESCO, 2021; UNESCO-UNEVOC, n.d.; WB et al., 2023).

The Adult Skills Assessment in Thailand (ASTA) suggests that more than 64% of adults and youth struggle with basic literacy tasks and more than 74% struggle to control digital devices (EEF & WB, 2024, p. 16). Taken together, these results point to widespread difficulty with basic information processing and day to day use of digital tools that underpin participation in training and work. Complementary evidence from PISA indicates that Thai youths' skills in mathematics, reading, and science have been steadily decreasing since the early 2010s (PISA, 2022).

For TVET, this baseline matters because many learners enter programmes with weak foundational skills, and the system often cannot fill these gaps. Weak foundational skills constrain efforts to strengthen digital and green skills in TVET, as learners struggle to engage with technology rich training and with new skill demands linked to the transition to a clean and sustainable economy (Claro & Castro-Grau, 2023; UNESCO, 2021). The UNESCO visiting researcher note provides a detailed synthesis of the baseline evidence and the main challenges in translating policy intent into consistent delivery of foundational skills in Thai TVET.

Towards a comprehensive skills agenda

Building on the foundational skills gaps mentioned above, this report takes the view that strengthening TVET outcomes requires a comprehensive approach. Foundational skills shape whether learners can engage with vocational learning, and they also underpin progress on digital and green skills. Given the importance of foundational skills in TVET and the challenges Thailand's TVET system faces in equipping its graduates with these skills, this report aims to inform policy makers on strengthening Thailand's TVET system and to provide a basis for future research. In particular, the report explores how Thailand can

strengthen green, digital, and foundational skills in its TVET system as an integrated skills agenda.

To analyse how national and institutional planning mechanisms can integrate green, digital, and foundational skills within TVET curricula, the report reviews Thailand's TVET policy and institutional environment, highlighting challenges and opportunities. The report further includes five case studies of best practices from the region and globally. Based on these case studies, key insights and their relevance for the Thai case are presented.

Based on the in-depth case study of Thailand and the best practice examples from across the region, a planning framework is developed to support an integrated approach to skills development in TVET. The framework translates Thailand's implementation gaps into two priority areas and cross-cutting interventions on monitoring and evaluation and on governance, aligning green and digital upskilling with inclusive education and equitable learning outcomes. Lastly, the report presents evidence-based policy recommendations supporting Ministries of Education and TVET institutions in Southeast Asia.

Methodology

This report is part of a larger research project on skills development in Thai TVET. As part of this project, a separate UNESCO Visiting Researcher Note focuses on foundational skills in the Thai TVET system. This report builds on those insights to develop an integrated recommendations framework across foundational, digital, and green skills, and therefore avoids repeating detailed foundational analysis where it is covered in the Note.

To provide a basis for informed decision making and targeted recommendations to policy makers, this report aims to answer the following questions: (1) Which approaches have been effective in integrating foundational, digital, and green skills in TVET systems globally and in Thailand; (2) how can educational planners ensure equity and inclusion in skills acquisition, particularly digital skills, for marginalized and low income students; and (3) what role can partnerships with industry, development agencies, and international organisations play in supporting TVET transformation and integrated skills delivery?

To answer these questions, a mixed methods approach was employed. In a first step, a structured desk review and policy analysis of the state of Thailand's TVET system was conducted. Policy documents, reports from international development organisations, and academic articles were reviewed and analysed, with attention to policy intent and delivery responsibilities across TVET provision, non-formal provision, and workplace training. Additionally, data from the ASTA and PISA studies in Thailand were synthesised to create insights into baseline foundational skill levels and distributional patterns relevant to TVET entry and progression.

In a second step, semi structured interviews were conducted to contextualise these sources and gauge the challenges and opportunities in Thailand's TVET system. Respondents were purposively sampled across national TVET governance and standards bodies, development partners, and selected providers. The first round of interviews covered stakeholders in Thailand including government officials from OVEC and TPQI, civil society actors including from the EEF and WB, and principals, teachers, and students in TVET institutions. A second round of expert interviews with officials from UNESCO IIEP, OECD, UNESCO HQ, and UNEVOC was conducted to situate Thailand into global planning frameworks. A total of 21 interviews were conducted, including eleven experts, five students, and five teachers from TVET institutions. Interviews followed a common guide and

were documented through written notes, with thematic synthesis used to identify convergent and divergent views. Interview insights are treated as indicative and triangulated with the desk review and secondary data.

In addition, five international case studies were undertaken to identify transferable implementation approaches relevant to integrated skills delivery in TVET, with particular attention to foundational, digital, and green skills. Data collection was desk-based and drew on policy documents, international organisation reports, and academic literature. Each case was analysed using a common extraction template, producing a concise set of Key insights and a short set of implications for Thailand framed as analytical relevance rather than prescriptive recommendations. Insights were then coded and synthesised across cases into five cross-cutting themes that structure the case-study synthesis section: pathways, portability, and progression; embedding transferable and future oriented skills; delivery capacity to implement reforms in practice; inclusion through delivery design; and governance, partnerships, and scaling mechanisms. The full case studies can be found in Annex I.

Based on the desk review, secondary data synthesis, interviews, and international case study findings, a set of focused recommendations was developed. To support this, an integrated planning framework was developed based on the UNESCO strategy 2022 to 2029 and adapted to the Thai context. The framework and draft recommendations were shared with a focus group of Thai and international experts for feedback, and this feedback was incorporated into the final report.

The evidence base is primarily desk based, and interview findings are treated as indicative signals rather than causal proof. Findings and recommendations are therefore presented as triangulated inferences grounded in the combined review of documents, secondary data, and stakeholder perspectives.

TVET in Thailand: Policy architecture and delivery challenges

Thailand's TVET policy framework establishes a comprehensive architecture that links TVET policy with high level national development policy. For instance, the 13th National Economic and Social Development Plan from 2023, emphasizes the importance of workforce readiness, vocational training and innovation-driven education. (UNESCO, 2022a, p. 17). Similarly, Thailand's long-term National Strategy 2018-2037, includes human capital development through vocational education, lifelong learning, and labour market alignment. (UNESCO, 2022a, p. 17). Additionally, Thailand recognises the importance of TVET for the ongoing digitalisation of the economy and society in its Thailand 4.0 policy, which aims to transform Thailand into a value-based and innovation-driven economy and places a strong emphasis on education reform to foster technology-driven creativity and progress, driving much of the discourse on TVET and company engagement (RECOTVET, 2020, p. 32; UNESCO, 2022a, p. 18). By aligning high-level strategies with vocational reform, the government has established an integrated structure, where national development goals directly inform the skills standards required for the workforce.

Thailand's TVET system spans multiple modalities, including formal TVET education, workplace-based training, and non-formal and lifelong learning programmes. Through the development of a National Qualifications Framework, and occupation-based skills standards, the Thai government aims to link these systems allowing individuals to transition between modalities and ensuring that no one is left behind. Additionally, curricula, and skills standards spanning formal TVET education, workplace-training, and non-formal lifelong learning programmes aim to integrate foundational, digital, and green skills. The following sections show how on paper, this design ensures that TVET functions as an important mechanism in imparting the population with the skills necessary for economic transition. Implementation, however, remains fragmented across agencies and plans.

Thailand's TVET policy context

Formal TVET

The main law overseeing matters related to formal TVET education is the Vocational Education Act from 2008. The act assigns the primary responsibility for the TVET system to

the Ministry of Education and gives authority to the Office of the Vocational Education Commission (OVEC) to oversee matters related to TVET in Thailand (UNESCO, 2022a, p. 18). OVEC oversees most of Thailand's public and private institutions either directly or through a network of umbrella organisations. Some of these include employer representative in leading roles, strengthening the integration of TVET with the private sector. One example of this is the Institute of Vocational Education Bangkok (IVEB), which oversees 13 other OVEC-run college and is chaired by a member to the Thai Chamber of Commerce (TCC) (RECOTVET, 2020, p. 32). In addition, OVEC is responsible for: "Providing recommendations for developing TVET related policies, developmental plans and standards and curriculum; Coordinating the improvement of TVET programmes and professional standards; Developing TVET teachers and personnel; and Coordinating the actions of government and the private sector in the development of the TVET system." (UNESCO, 2022a). OVEC's broad mandate implies a system designed for the seamless translation of national standards into classroom reality, provided that the institutional support for teacher-led delivery of integrated competencies remains consistent across its network.

Thailand's formal TVET system currently serves a total of 914,748 students, operating across three distinct qualification levels. The system is heavily weighted towards the upper-secondary level, with the Vocational Certificate accounting for 63% of the population (576,455 students). The Higher Vocational Certificate, which produces technician-level graduates, comprises the remaining bulk of the sector with 326,807 students. Interestingly, the data also highlights the system's small but distinct step into higher education, with 11,486 students currently enrolled in Bachelor's degree programs within vocational institutions. It is important to note that these figures represent only the formal degree-track students; the dataset does not include figures for non-formal short courses, likely underrepresenting the total number of citizens receiving vocational training (Ministry of Education, 2025d).

Data from the 2023 academic year indicates that the Lower Vocational Certificate functions primarily as a preparatory pathway rather than a terminal qualification for labour market entry. Among graduates from public institutions, 77.0% immediately pursued further education. In contrast, only 14.5% entered employment (including self-employment and private sector roles), while 5.8% remained unemployed or waiting for work. This trend demonstrates that the lower vocational track serves effectively as a bridge to the Higher Vocational Diploma or university level, rather than a direct supply line for the entry-level

industrial workforce (Ministry of Education, 2025b). For a comparison with formal TVET see Table 1

Non-formal TVET

Non-formal TVET is governed by the Promotion of Non-Formal and Informal Education Act, 2008 which promotes life-long learning opportunities through informal education initiatives under the oversight of the Office of Non-Formal and Informal Education (ONIE), also under the Ministry of Education (UNESCO, 2022a). In this area, various non-formal and adult programmes are provided in different settings. These include occupational development programmes which aim to develop students' vocational and occupation skills. Occupational development programmes focus on the development of life skills to overcome unemployment and meet community needs including programmes focusing on short occupation training programmes, skills training for job employment, group learning for students of the same occupation or trade, and occupational development through the application of digital technology. Additionally, non-formal vocational programmes offer short training, group vocational programmes, and vocational certification programmes equivalent to lower secondary (UNESCO, 2022a).

An informant explained that core building blocks for lifelong learning in TVET, include TPQI operated Credit Bank and Competency Credit Bank pathways, which allow adults to transfer learning between professional and educational qualifications, with recognition of existing skills and knowledge for experience-based credit. Additionally, adults can use the TPQI-NET self-assessment to check baseline skills before enrolling, and TVET institutions host assessment and certification so learners can gain qualifications and competency certificates on the way to work. The credit bank architecture establishes a theoretical framework for lifelong learning that is specifically adapted to the needs of Thailand's ageing workforce. It provides a systematic institutional path for people with foundational skill deficits to convert informal work experience into formal, portable credentials.

Recent administrative statistics indicate that vocationally relevant non-formal provision also operates at substantial scale. In the 2024 Educational Statistics, non-formal vocational training under OPEC served 340,325 learners, while OVEC special courses reached 585,194 learners (Ministry of Education, 2025a, p. 64). The Department of Learning Encouragement further reported 419,523 enrolments in education for vocational development (Ministry of Education, 2025a, p. 67). Taken together, these figures suggest that non-formal vocational provision has a significant system footprint, even if participation in

adult education and training remains low relative to the wider working-age population (OECD, 2025). For a comparison with formal TVET see Table 1.

Workplace and labour-market training

The Department of Skills Development (DSD) under the Ministry of Labour is responsible for workforce skills training, retraining and upgrading to meet the national qualification standards (RECOTVET, 2020, p. 32). In this role the DSD also ensures the implementation of the Skill Development Promotion Act from 2002, which encourages enterprises with at least 100 employees to provide training through tax incentives or compulsory contributions to the Skill Development fund when neglecting to provide training for at least 50% of staff (RECOTVET, 2020, p. 32). The DSD further takes responsibility for establishing national skills standards and promoting cooperation between public and private sectors. The DSD also provides testing and training to workers (UNESCO, 2022a). The DSD functions provide a theoretical bridge between the Ministry of Labour and the Ministry of Education, implying that workplace training and national skill standards are structurally aligned through the Skill Development Promotion Act.

Another key mechanism for workplace training is the well-established Dual Vocational Training (DVT) system. The main principle of this system is that students receive theoretical training at the college while practical training takes place in a company (RECOTVET, 2020). Educational institutions, public or private, select the students who will then receive their practical training in partner companies. The curriculum is based on both the standard curriculum from the ministry (70%) and on input from the partner companies (30%) (RECOTVET, 2020, p. 33). While DVT does not yet cover the whole TVET system, coverage is growing.

The theoretical robustness of this system is reinforced by a network of public-private committees, including the National Board of Vocational Training Coordination (NBVTC) and the PPP Committee on TVET. These bodies are designed to act as the coordination mechanism for the delivery chain, ensuring that industry voices from the Thai Chamber of Commerce and the Federation of Thai Industries are incorporated into the development of occupational standards (RECOTVET, 2020; UNESCO, 2022a). This governance structure implies that the TVET system is built for continuous alignment with labour market demands.

Linking TVET systems through skills frameworks

To operationalise the policy intent established in the previous section, Thailand aims to create a unified TVET system by integrating formal, non-formal, and workplace training

modalities. This integration is primarily facilitated through the National Qualifications Framework (NQF) and the standards developed by the Thailand Professional Qualification Institute (TPQI), which together link educational qualifications to occupational skills through unified standards and clear learning outcomes. A central feature of this architecture is the deliberate integration of foundational, digital, and green skills into national frameworks and assessments to avoid siloed reforms. By embedding these core competencies across all levels of the NQF, the system is designed to provide flexible learning pathways and ensure the validation of prior experience, theoretically enabling the workforce to adapt to the demands of a digitalised and sustainable economy.

The NQF unifies the existing Thai qualifications framework for higher education and the Thai qualifications framework for vocational education (UNESCO, 2022a, p. 15). The NQF has eight levels ranging from lower secondary to doctoral degree. The framework aims to benefit both industry and individuals by linking formal educational qualifications to occupational skills and qualifications by setting out unified standards for qualifications and clear learning outcomes. This will allow individuals to clearly visualise their learning trajectories and workers to access new learning pathways, through the validation of their previous experience be they formal, informal or non-formal (UNESCO, 2022a). The eight-level structure of the NQF suggests an architecture designed for maximum permeability. On paper, this allows for the seamless vertical and horizontal movement of learners, theoretically ensuring that individuals can progress from basic vocational certifications to advanced degrees without institutional barriers.

Professional skills standards and professional qualification certifications are developed by TPQI through several sub-committees, comprised of experts from the public, private, and academic sectors have been established. Through consultations, these committees identify priority sectors and occupations for which skills standards are then developed. For instance, in line with the Thailand 4.0 policy several subcommittees have been established to meet the needs of a digitalised economy, including logistic infrastructure, logistics and supply chain, robotics and automation, ICT and digital content (RECOTVET, 2020, p. 33). The establishment of sector-specific sub-committees comprised of public and private experts implies a system built for high responsiveness. This design suggests that occupational standards for the digitalised economy are theoretically kept in continuous alignment with the technical requirements of industry priority sectors.

The Office of the Education Council (OEC) under the Ministry of Education is the lead body for the NQF and acts as secretariat to the NQF committee (OEC, 2017). Under the National NQF Committee, OVEC is responsible for mobilising the NQF and aligning it with the ASEAN Qualifications Reference Framework for better regional integration (UNESCO, 2022a). The DSD also plays a key role in linking formal educational qualifications to occupational skills and qualifications to the NQF through the National Skills Standards Recognition System, which provides testing for national skills standards qualifications, testing for overseas qualifications, and sector or industry specific skills testing (UNESCO, 2022a, p. 21). By linking the National Skills Standards Recognition System to the NQF, the system architecture theoretically ensures that skills acquired in the workplace are valued equally to those gained through formal schooling. This creates a unified mechanism where the Ministry of Labour and the Ministry of Education use the same technical language to define workforce competency.

Efforts to include foundational and digital skills into these skills frameworks have been made. According to a TPQI official, TPQI has taken actions to include foundational skills and digital skills into national qualification frameworks and assessments stating that the TVET qualification frameworks includes "foundational skills such as literacy, numeracy, and problem-solving […] embedded alongside technical competencies." Digital literacy and AI literacy are included in the standards, assessed through computer-based tests, and linked to the national V-NET exam so that scores of 65 percent or higher can be converted into a TPQI Digital Literacy certificate. The decision to embed foundational literacy, numeracy, and digital skills directly into technical standards suggests a design where these competencies are treated as core requirements for trade proficiency. This approach implies that the TVET system is theoretically capable of remediating baseline skills gaps automatically as a student learns their specific vocation.

Thailand is further currently drafting the Green TVET Roadmap 2025–2030. The roadmap sets a clear direction to make vocational education a driver of sustainable development. Led by OVEC, it will align with national strategies on a green economy and human capital. Operationalising the roadmap requires that green competencies are translated into occupational standards, curricula and assessment, provider capacity and teacher development, and workplace learning arrangements in relevant sectors. A significant feature of the Green TVET Roadmap is the intended use of sustainability-focused projects as a vehicle for foundational skill reinforcement. On paper, this allows learners to apply core mathematics and literacy competencies to practical green tasks, such as digital energy

monitoring, thereby creating a technical framework where green, digital, and foundational upskilling are functionally integrated (OVEC, Preview).

Key implications of Thailand's policy architecture

Taken together, the preceding sections show that Thailand's TVET system already has a relatively comprehensive policy and standards architecture across formal TVET, non-formal provision, and workplace training. High level development strategies, OVEC's formal TVET mandate, non-formal and workplace-based pathways, the NQF, and TPQI-led occupational standards together create an institutional design intended to link national development goals with qualifications, skills standards, and learning pathways. On paper, this architecture is not only designed to support labour market alignment and mobility across learning modalities, but also to integrate foundational, digital, and green skills through common frameworks and standards. The main analytical implication is therefore not that Thailand lacks policy direction, but that an extensive architecture of intent and standards does not by itself ensure consistent delivery conditions across the system.

This shifts attention from policy design alone to the conditions under which policy is implemented. The following section therefore examines where this architecture does not translate consistently into learner support, progression, integrated skills delivery, and labour market outcomes. In doing so, it moves from the existence of frameworks and pathways to the question that is more directly relevant for the report's core discussions: which implementation approaches, inclusion measures, and partnership arrangements are needed when policy intent is already in place, but delivery remains uneven.

Table 1: Number of students in formal and non-formal TVET system in 2024

Pathway / programme	Lead agency	Enrolment	Source
Formal TVET	OVEC / Ministry of Education	914,748	(Ministry of Education, 2025d)
Non-formal vocational training	OPEC	340,325	(Ministry of Education, 2025a, p. 64)
Non-formal special courses	OVEC	585,194	(Ministry of Education, 2025a, p. 64)
Non-formal education for vocational development	Department of Learning Encouragement	419,523	(Ministry of Education, 2025a, p. 68)[1]

[1] *Note: Figures are drawn from different administrative tables and are not fully comparable. The formal TVET total aggregates formal degree-track enrolment across the Vocational Certificate,*

Constraints in translating policy intent into delivery

System performance and transitions

While Thailand's TVET system succeeds in attracting over 200,000 new students annually, it faces a critical challenge in retaining them through to graduation. Analysis of the 2022 cohort reveals significant student attrition in the educational pipeline. Of the 225,535 students who entered the Vocational Certificate level in 2022, only 136,483 successfully graduated three years later in 2025. This represents an attrition rate of 39.5%, meaning nearly two out of every five students leave the system without a qualification. This high rate of loss highlights a major efficiency gap; the system effectively recruits students but struggles to support them through completion, resulting in a substantial reduction of skilled labour entering the workforce (Ministry of Education, 2022, 2025d).

Even for those students who successfully complete their education, the transition into the labour market presents a secondary structural barrier. While national policy frameworks prioritize the development of an industrial workforce to drive economic growth, outcome data from the 2023 academic year reveals a significant structural disconnect between graduate supply and formal sector demand. Contrary to the expectation that TVET graduates will directly supply the industrial sector, the formal private sector absorbs a minority of the workforce. Among Public Higher Vocational graduates, only 19.9% entered formal private sector employment. The dominant outcome was self-employment (27.1%), indicating that the formal industrial economy is either not expanding sufficiently to absorb the supply of technicians, or that graduates face barriers entering corporate structures and are consequently channelled into the informal economy (Ministry of Education, 2025b).

Furthermore, unemployment risks appear to increase with qualification levels. While Lower Vocational graduates show a low unemployment rate of 5.8%, largely due to high rates of educational continuation, Higher Vocational graduates who actively seek entry into the workforce face a significantly higher unemployment rate of 15.8%. This data points to a specific bottleneck at the technician level, where the market struggles to absorb the skilled workers intended to support the Thailand 4.0 strategy (Ministry of Education, 2025b).

Finally, the system shows a low rate of skill dividend relative to the total graduating cohort. Only 33.0% of all traced Higher Vocational graduates successfully secured employment in a position that directly matched their field of study. This suggests a widespread inefficiency

Higher Vocational Certificate, and bachelor-level vocational. The non-formal rows report selected TVET-related provision only and exclude broader non-formal and informal learning activities.

in the allocation of human capital, where most graduates either do not enter the workforce or end up in generic roles that do not utilize their specialized technical training (Ministry of Education, 2025b).

These transition outcomes should not be interpreted solely as evidence of weak TVET quality on the supply side. Thailand's broader economic context also points to possible demand-side constraints, as the World Bank describes an economy marked by low investment, slowing productivity, sluggish growth, and subdued structural transformation, conditions that may limit the expansion of higher quality formal employment even where skills gaps persist (WB, 2024).The OECD likewise points to the continued weight of informal employment, substantial over-qualification, and wage levels for TVET graduates that are often not sufficiently attractive, suggesting that weak labour market outcomes reflect not only skill gaps and mismatch, but also the structure and incentives of the labour market itself (OECD, 2025). At the same time, the evidence used in this report is not sufficiently granular to determine whether formal demand for technician-level workers is growing, stagnant, or structurally limited across sectors, and this should be treated as an important area for further research.

Integrated skills delivery

Thailand's TVET policy design aims to integrate foundational, digital, and green skills, but interview insights suggest that gaps persist at the learner level. Teachers consistently pointed to weaknesses in Mathematics and English among TVET students. Some students also indicated that they struggle with Mathematics requirements in their studies and felt not well prepared from lower secondary education. In this context, foundational skills gaps are an immediate barrier to vocational learning and they also constrain efforts to strengthen digital and green skills, including participation in technology rich training and emerging green competencies (Mongkhonvanit et al., 2026).

Informants further suggested that TVET education often does not have the capacity to remedy these gaps in foundational skill levels through remedial or regular courses. Some teachers noted that they try to improve their students' foundational skills through tutoring and direct guidance, but that this work receives limited institutional support. Teachers and students also highlight the importance of project-based learning for student motivation and for strengthening foundational skills through real life applications. However, they noted that the scope for project-based learning and the coverage of internships and dual programs is limited (Mongkhonvanit et al., 2026).

This pattern points to challenges in translating policy intent into consistent delivery. Other sources mirror this, noting a strong policy intent to foster foundational skills that has not been well accompanied by comprehensive and coordinated interventions (EEF & WB, 2024, p. 40). The same source also highlights that 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 (EEF & WB, 2024, p. 63). For the detailed baseline evidence and fuller discussion of foundational skills in the Thailand TVET context, readers are referred to the UNESCO Visiting Research Note published as part of this research project.

Delivery capacity and resources

Interviews suggest that many teachers would like to strengthen students' foundational skills within TVET programmes, but opportunities to build the required teaching capacity remain limited. Teachers described receiving mostly short, one-off training and pointed to a lack of systematic, industry relevant professional development. As a result, foundational skills support often depends on individual efforts rather than being enabled through consistent institutional support. This aligns with secondary evidence suggesting that while resources exist to support learners in building foundational skills, particularly digital skills, fewer tools are available to help teachers strengthen their own capacity to teach these skills (EEF & WB, 2024). These delivery constraints also shape how effectively TVET institutions can integrate digital and green skills alongside vocational training.

Particularly for the development of digital skills, digital infrastructure such as an internet broadband connection and digital devices at school are a key requirement. While available data from OVEC shows that most schools have nominal access to the internet and computers for learning with only about 1% of OVEC run schools reporting no internet access and only 7.65% of OVEC run schools reporting no access to computers for teaching nationwide in 2025 (Ministry of Education, 2025c, 2025e). However, these numbers do not give any indication about number of computers per student or internet speed nor do they include schools that are not under OVEC in the non-formal and TVET sector. A mapping of all schools, including non TVET schools, in Thailand shows that smaller schools and those in rural areas are less likely to have digital devices or access to the internet (ITU, 2021). The report (ITU, 2021) also highlights that while some schools might report access to the internet or computers in some cases this nominal access does not translate into classroom access.

Informants also highlighted unequal access to devices among students, which leads to many of them having to rely on mobile phones. One key factor contributing to disparities in learning conditions is the fragmented and decentralised nature of Thailand's education system (EEF & WB, 2024). One informant explained that resources are often allocated based on number of students, which leaves smaller schools that are disproportionately located in marginalised areas behind.

Equity and learner success

Equity constraints shape learner success and skills development in TVET. Inclusive TVET systems, defined as systems "that meets the needs of all learners, regardless of their social background, gender, level of achievement, ethnicity, disability, migration status, etc", are beneficial to all stakeholders involved (UNESCO, 2025, p. 20). In Thailand, regional disparities in education quality are a major barrier to improving skill outcomes nationwide (OECD, 2025). The Adult Skills Assessment in Thailand (ASTA) found that youth and adults with literacy and digital skills below the basic threshold are more likely to live in rural areas. For literacy, 70.3 percent of rural adults fall below the threshold compared to 58.0 percent in urban areas. For digital skills, 78.7 percent of rural youth and adults are below the threshold compared to 68.7 percent in urban areas (EEF & WB, 2024, p. 28–29). The rural urban skill gap persists when controlling for socio-economic variables such as gender, age, urban/rural residence, and educational attainment, pointing towards structural causes in the quality of schools and other learning opportunities (EEF & WB, 2024, p. 31). Priorities include improving access to high-quality teaching in underserved areas, for example through specialised training on multi-grade teaching, incentives to attract and retain teachers in rural schools, and the use of digital technologies to link qualified teachers with remote areas (OECD, 2025).

Disadvantaged groups, including students from low-income households, rural areas, as well as female students, face persistent barriers that limit their access to quality skills development. These groups can benefit from financial support to cover education costs and non-financial measures such as stronger parental engagement and awareness initiatives (OECD, 2025). In TVET, interviews suggest that a key driver of the high dropout rate is financial pressure. Students and teachers noted that financial factors are one of the key drivers of students dropping out. While teachers also noted other factors such as lack of emotional resilience in the face of high pressure due to limited foundational skills, students clearly single out financial stress and related family responsibilities as a key reason for dropping out. One student explains: "I want to study, but money problems make it hard

to continue." These experiences point towards a lack of structural financial support for disadvantaged students (Mongkhonvanit et al., 2026).

Recognising the importance of reducing educational inequality the Thai government under leadership of the Equitable Education Fund (EEF), has implemented a range of initiatives. The fund's flagship programme is the High Vocational Innovation Scholarship which aims to assist underprivileged youth facing limited prospects (EEF, 2023). To this end the initiative provides financial assistance for vocational education and employment opportunities upon graduation. Awarded scholarships include a monthly allowance and discounted school fees (EEF, n.d.).

The High Vocational Innovation Scholarship further aligns with the Thailand 4.0 Policy and addresses skills gaps in key industries. The scholarships and training opportunities target industries with significant potential and future industries that currently face labour shortages (EEF, 2024b). This alignment not only addresses national workforce skill gaps but also increases employability of programme graduates. Through its close collaboration with industry and application of DVT, the initiative further ensures the usefulness of skills learned during education (EEF, 2023). Additionally, the initiative also provides guidance, work-based training, and life skills support through the Hero-V system. It has trained volunteer mental health experts and introduced systemic changes, including an education funding system for disadvantaged youth (EEF, 2023).

To date, the programme has been very successful, celebrating the graduation of talented recipients of the Equitable Education in August 2025 (EEF, 2025). Nearly 80 percent of participants achieved strong academic results, and return on investment for the programme has been estimated at an impressive two to four times the initial investment (EEF, 2023, 2025). Consequently, the programme is on track to reach its goals to bridge the educational gap and create pathways for social mobility, as one student put it: "the scholarship helped me overcome my fears and reach my goals. I'm proud of how far I've come" (EEF, 2025).

Next to its flagship initiative the EEF leads other projects supporting disadvantaged groups. In cooperation with the Central Group, the fund has launched a DVT initiative for persons with disabilities. Drawing upon experiences from the 'Diversity Hiring Policy' at Central Restaurants Group, the programme serves as a gateway for persons with disabilities to access the labour market, enhancing opportunities to explore and discover themselves

through real work experiences. This initiative aligns with the High Vocational Education Scholarship, as some of the participants are scholarship recipients (EEF, 2024a).

The EEF also works to address the digital skills gap in collaboration with Sea (Thailand), a leading global internet company. Together they launched the "Digital Skills Development Program" for Thai vocational students, which uses e-Commerce to elevate digital skills for vocational students from low-income families, and enable them to diversify sources of income in a low-cost and low-risk environment. The project is divided into two phases, including an e-commerce online course, and a business competition with an initial fund of 10,000 Baht and a total prize pool worth Bt60,000. To date the project has reached 4,000 vocational students, equipping them with e-Commerce knowledge, entrepreneurial skills and mindset, as well as employability for the digital age (The Story Thailand, 2021).

However, while these programmes show great potential, they only reach a very small number of TVET students. Consequently, they cannot systematically address the financial constraints many students face across the country. Additionally, current funding models primarily address tuition fees but often overlook the significant opportunity costs, such as foregone wages and living expenses, that affect low-income families. As a result, economic pressure forces many learners to exit the education system prematurely to enter the workforce. This financial insecurity is a likely driver of the high attrition rates identified earlier, effectively preventing vulnerable populations from acquiring advanced technical skills.

Partnerships, coordination, and system learning

Thailand has established multiple mechanisms intended to align TVET with labour market needs through public private collaboration. Private sector engagement is seen as crucial for TVET to serve industry needs and increase employability of TVET graduates, and it can also contribute to improved governance and programme relevance (UNESCO & ILO, 2018). In Thailand, industry actors provide input on TVET policy and programmes through several committees. These include the Public-Private Partnership (PPP) Committee on TVET, the Public-Private Steering Committee, the National Qualifications Framework (NQF) Mobilization Committee, and the National Board of Vocational Training Coordination (NBVTC) (RECOTVET, 2020, p. 33; UNESCO, 2022a, p. 20). In parallel, workplace learning arrangements such as Dual Vocational Training (DVT) are designed to support applied learning and continuous industry input into curricula (RECOTVET, 2020).

However, evidence presented above suggests that coordination and partnerships do not consistently translate into delivery conditions for learners. Interview insights point to uneven institutional support for addressing foundational gaps and to limited scope and coverage of internships and dual programs. These constraints matter for an integrated skills agenda, as employers are central to applied learning opportunities that support digital and green skills development alongside vocational training. Strengthening system learning and feedback loops can help to close this intent-to-delivery gap. For example, the Public-Private Steering Committee includes a working group focused on upgrading skilled workers through flagship initiatives and a labour market information database (RECOTVET, 2020, p. 33; UNESCO, 2022a, p. 20). Digitalisation of learning management and monitoring and evaluation systems can further support this system learning function, but only if institutions and teachers have the capacity to use these tools effectively (UNESCO, 2023; UNEVOC, 2020). X

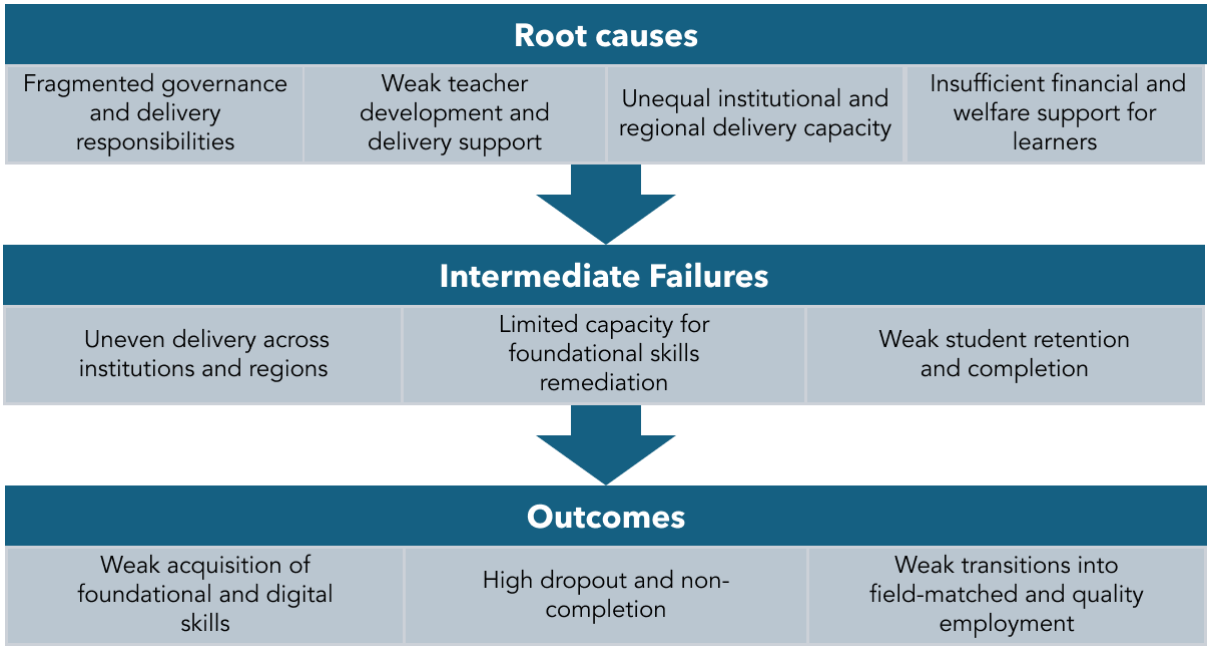
From implementation gaps to system outcomes

Taken together, the five implementation gaps suggest that the main problem is not a set of isolated weaknesses, but a connected failure along the standards-to-delivery chain. Fragmented implementation and coordination, weak teacher development and institutional support, unequal delivery conditions, and insufficient learner support all reduce the system's capacity to translate strong policy intent into consistent practice. In practice, these constraints diffuse responsibility across agencies and institutions, leave foundational and digital skills support dependent on individual initiative, and reproduce uneven learning conditions across institutions and regions. They are then reflected in three linked delivery failures: inconsistent implementation across providers and regions, limited capacity to remediate low entry level skills, and weak student retention in the face of financial and institutional constraints (EEF & WB, 2024; ITU, 2021; Ministry of Education, 2022, 2025f).

These delivery failures help explain why low foundational and digital skill development, dropout, weak field matched employment, and poor progression into quality work appear together rather than as separate outcomes (EEF & WB, 2024; Ministry of Education, 2022, 2025f; PISA, 2022, p. 1). The issue, therefore, is less the absence of standards, frameworks, or policy ambition than the weakness of the delivery conditions needed to make them effective at scale (EEF & WB, 2024, p. 40). This interpretation also helps explain why existing frameworks remain only partially realised in practice, particularly for students and institutions facing the

greatest constraints. The following sections therefore turn to global and regional lessons to identify what kinds of implementation practices, institutional supports, and coordination mechanisms may help address these linked constraints in the Thai context.

Figure 1: Problem tree of implementation constraints in Thai TVET



Global and regional lessons

Building on the Thailand analysis, case studies are used to identify mechanisms that help close the intent-to-delivery gap in integrated skills reforms. This section synthesises lessons from the case studies to highlight practical system functions that support implementation, scale, and sustained quality. The five case studies cover countries across Asia-Pacific and beyond including, India, Indonesia, Kenya, Singapore, and Viet Nam. The synthesis is organised around five themes: pathways, portability, and progression; embedding transferable skills within curricula and assessment; delivery capacity through teacher development and institutional support; inclusion through delivery design; and governance, partnerships, and scaling mechanisms. Taken together, these themes point to where implementation tends to break and to the connective mechanisms that keep standards, curricula, resourcing, and practice aligned. The detailed case studies can be found in Annex I.

Pathways, portability, and progression

Across the case studies, strengthening pathways is closely linked to making learning portable and formally recognised across institutions and learning modes. In Singapore, modular training with stackable credits build towards full qualifications and participation is widened through recognition of prior learning and work experience alongside open access to training (Lim et al., 2024; SkillsFuture SG, n.d.). In India, micro credentials are aligned with the National Skills Qualifications Framework and integrate with DigiLocker and the National Credit Framework, with credits formally recognised to support transitions into employment and higher education (PIB, 2025). In Kenya, learning management systems and learner record infrastructure aim to provide a single database on learners and qualifications, enabling tracking of progression and completion and supporting credit accumulation and transfer alongside digitised recognition processes (UNESCO, 2023). Taken together, these examples suggest that pathway reforms depend on connective mechanisms that make learning legible and transferable, including qualification frameworks, credit rules, and trusted record systems, rather than relying only on expanding provision.

Embedding transferable core and future-oriented skills

Across the case studies, integrating transferable skills and future oriented skills is treated as a design choice in frameworks and curricula, not an add-on. In Singapore, Critical Core Skills are embedded in national frameworks to support transferability across sectors and to keep training aligned with evolving industry needs (Fung et al., 2021; SkillsFuture SG, n.d.). In Viet Nam, greening TVET curricula follows three differentiated approaches, embedding basic green skills across occupations, developing occupation-specific green skills, and creating curricula for emerging green occupations (DVET, 2018; Mernineit & Huyen, 2016). In India, PMKVY 4.0 places emphasis on 21st century skills and explicitly includes digital and life skills alongside vocational training (IBEF, n.d.). Taken together, these examples suggest that integrated skills delivery is more likely to be sustained when systems define a core set of transferable competencies within national frameworks and provide clear curricular approaches for embedding them across occupations and levels, rather than relying on isolated course additions.

Delivery capacity to implement reforms in practice

Across the case studies, reforms only translate into changed learning outcomes when delivery capacity is treated as a core implementation requirement rather than a downstream assumption. In Kenya, the digitalisation agenda explicitly links system change to teacher capability, with the teacher-training curriculum revised to include ICT and instructor device access supported through a one-device-per-teacher policy (UNESCO, 2023). In Indonesia, the programme invested directly in instructor training on the creation and delivery of online training, and the approach was replicated by the ministry in later iterations, indicating that delivery models can be strengthened through practical training and institutional uptake (ILO, 2022; UNESCO, 2022c). In Viet Nam, instructor training for greening reforms included specific pedagogical approaches and the design and management of enterprise-based training phases, emphasising interaction between college teachers and in-company trainers as part of delivery practice (Mernineit & Huyen, 2016, p. 35–36). Taken together, these examples suggest that system reforms are more likely to be sustained when teacher development and institutional capability are built into the reform package, including the capacity to deliver new content, new pedagogies, and new training arrangements in practice.

Inclusion through delivery design

Across the case studies, inclusion is advanced primarily through delivery design choices that reduce barriers to entry and improve learner success, rather than through general expansion alone. In Indonesia, the programme's focus on women in STEM illustrates how targeted programme design can raise participation and generate strong learner demand among disadvantaged groups (ILO, 2022). In India, community-based provision under JSS targets vulnerable populations and adapts training delivery for low-literacy learners, including accessible learning materials and assistive tools (UNESCO, 2017). In Kenya, inclusion measures combine blended learning with Universal Design for Learning approaches and specific accessibility software to expand access for learners and teachers, including in rural contexts (UNESCO-UNEVOC, 2023, p. 2). In Singapore, open access to training is paired with financial support and earn-and-learn pathways, helping broaden participation for learners facing financial constraints (Lim et al., 2024; SkillsFuture SG, n.d.). Taken together, these examples suggest that inclusion is most credible when it is built into the delivery model through targeted outreach, flexible modalities, and support mechanisms that connect participation to progression and completion.

Governance, partnerships, and scaling mechanisms

Across the case studies, implementation at scale depends on governance arrangements that clarify responsibility, mobilise partners, and create mechanisms for replication and uptake. In Viet Nam, greening reforms are associated with political leadership and clear responsibility for coordinating change, alongside a top-down approach that still allows stakeholder input (DVET, 2018; Mernineit & Huyen, 2016). In Singapore, structured co-production with employers and unions supports training relevance and strengthens school-to-work transitions, linking skills development to labour-market demand and workplace pathways (Fung et al., 2021; Lim et al., 2024; SkillsFuture SG, n.d.). In Indonesia, multistakeholder partnerships are treated as a delivery model that expands resources and reach, while pilot approaches are used to develop replicable models before broader scaling (ILO, 2022; UNESCO, 2022c). In Kenya, partnerships with industry and other stakeholders support delivery at scale, and system trust is strengthened through secure learner records and credentialing approaches that reduce fraud and improve transparency (UNESCO, 2023; UNESCO-UNEVOC, 2023, p. 2). Taken together, these examples suggest that delivery reforms are more likely to endure when governance aligns incentives and roles across actors and

when scaling is planned through partnerships, institutionalisation, and trusted system functions rather than relying on one-off interventions.

Implications for Thailand's integrated skills agenda

For Thailand, these lessons reinforce that closing the intent-to-delivery gap in an integrated skills agenda depends on delivery conditions for learners, not policy intent alone. Pathway reforms depend on connective mechanisms that make learning legible and transferable, including qualification frameworks, credit rules, and trusted record systems, rather than relying only on expanding provision. Integrated skills delivery is more likely to be sustained when systems define a core set of transferable competencies within national frameworks and provide clear curricular approaches for embedding them across occupations and levels, rather than relying on isolated course additions.

Reforms only translate into changed learning outcomes when delivery capacity is treated as a core implementation requirement rather than a downstream assumption, with teacher development and institutional capability built into the reform package. Inclusion is most credible when it is built into the delivery model through targeted outreach, flexible modalities, and support mechanisms that connect participation to progression and completion. Implementation at scale depends on governance arrangements that clarify responsibility, mobilise partners, and create mechanisms for replication and uptake, with governance aligning incentives and roles across actors and scaling planned through partnerships, institutionalisation, and trusted system functions rather than relying on one-off interventions. These implications inform the integrated planning framework and recommendations that follow, developed from the UNESCO strategy and adapted to the Thai context.

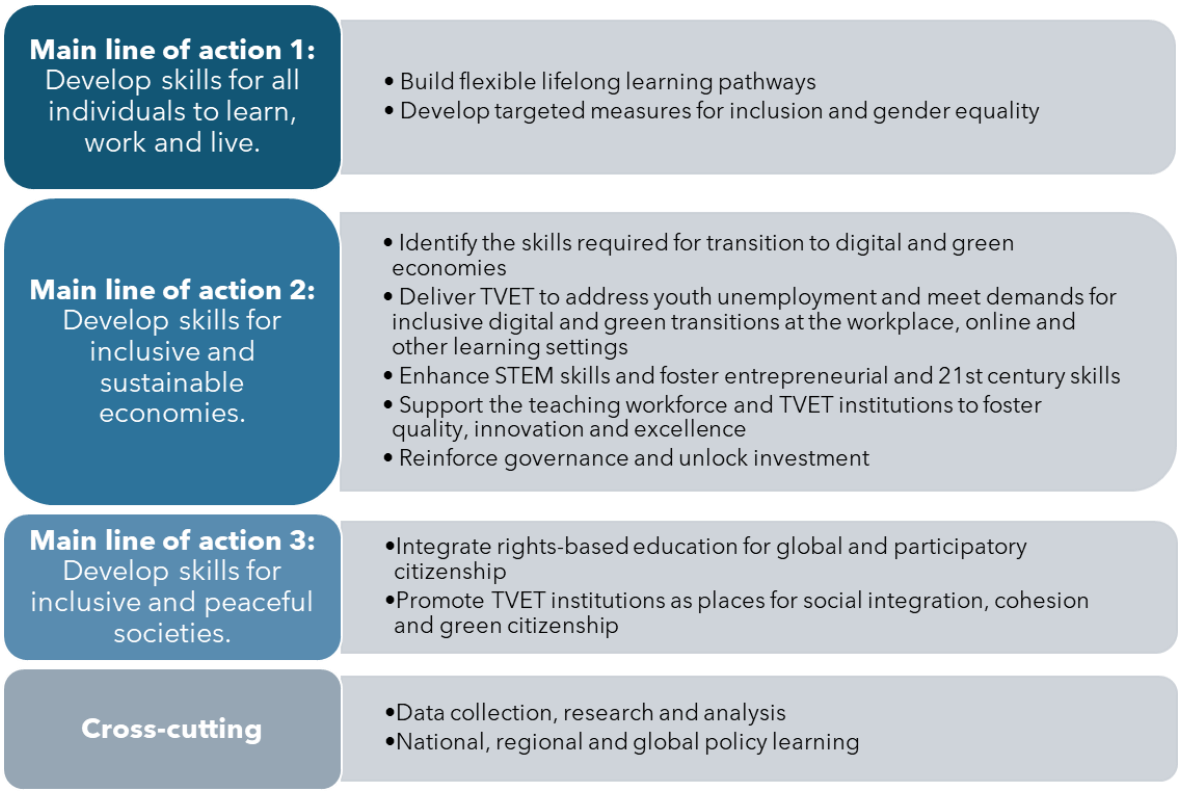
Recommendations: An integrated planning framework

Planning framework summary

To provide coherent recommendations for strengthening foundational skills in Thailand's TVET systems, this report provides an integrated planning framework that integrates learning from global case studies and the analysis of the Thai context. To ensure alignment with global initiatives and agendas, the framework was developed based on the 'Transforming technical and vocational education and training for successful and just transitions: UNESCO strategy 2022-2029' (UNESCO, 2022b). However, to ensure relevance in the local context the priority areas of the strategy have been adapted to the situation in Thailand.

The UNESCO strategy contains the following three main lines of action: to develop skills for all individuals to learn, work and live; to develop skills for inclusive and sustainable economies; and to develop skills for inclusive and peaceful societies (see Figure 2). In addition it includes cross cutting interventions including data collection, research and analysis, and policy learning (UNESCO, 2022b). For this framework the first two lines of action and cross-cutting interventions have been adapted to the Thai context. The framework is designed to address the aspects of the UNESCO strategy most directly related to TVET skills delivery and Thailand's economic transition, particularly the integration of foundational, digital, and green skills, while the line of action on skills for inclusive and peaceful societies is not developed here as a separate pillar.

Figure 2: UNESCO strategy framework.

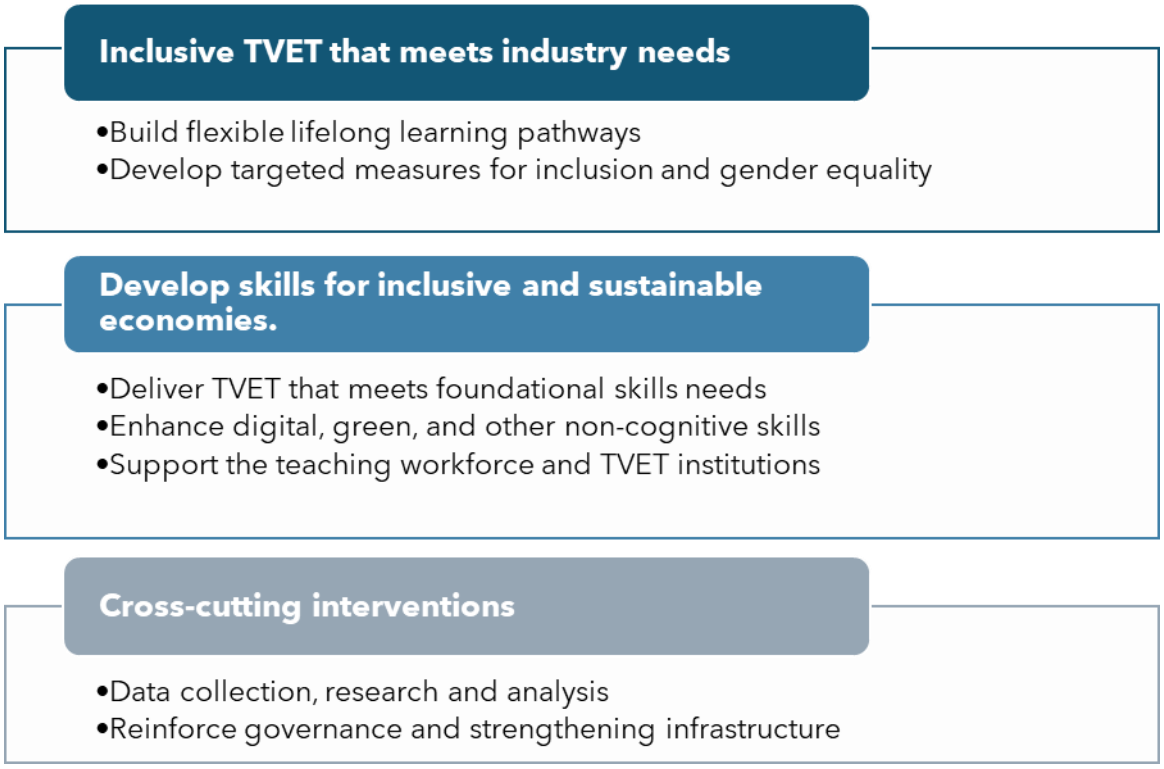


The Thailand analysis suggests that these implementation gaps are not isolated problems, but linked failures along the standards to delivery chain (see Figure 1). The integrated planning framework translates this diagnosis into two connected priority areas and two cross cutting interventions (see Figure 3). Priority Area 1 responds to uneven delivery conditions, insufficient learner support, and weak retention by strengthening an inclusive and flexible TVET system that meets industry needs, so learners can enter, persist, and move through pathways into relevant work. Priority Area 2 responds to weak teacher development and support, limited remediation, and weak integration of foundational, digital, and green skills by focusing on what is taught and how it is delivered, including the institutional and workforce conditions needed to develop skills for inclusive and sustainable economies. The cross-cutting interventions on monitoring and evaluation and governance address the system level conditions that shape implementation, by making performance and equity outcomes more visible and by strengthening the link between policy intent, standards, and delivery responsibilities. For a full mapping of interventions to problem areas identified see **Error! Reference source not found.** in Annex II.

Recommendations under this framework were informed by regional and global good practices identified in the case studies. The themes of pathways, portability, and progression, together with inclusion through the delivery model, informed

recommendations under Priority Area 1 by pointing to the importance of flexible pathways, targeted learner support, and delivery conditions that enable participation, persistence, and progression. The themes of embedding transferable core and future oriented skills, together with delivery capacity to implement reforms in practice, informed Priority Area 2 by showing that integrated skills reforms depend both on what is embedded in curricula and standards and on whether teachers and institutions can deliver those reforms effectively. The final theme, governance, partnerships, and scaling mechanisms, informed the cross-cutting interventions by highlighting the importance of coordination, system learning, and implementation arrangements that can translate policy intent into delivery at scale.

Figure 3: Thailand integrated planning framework



Recommendations by priority area

Inclusive TVET that meets industry needs

These recommendations respond to implementation gaps in transitions, learner persistence and completion, and uneven delivery conditions by strengthening pathways and targeted supports.

Build flexible lifelong learning pathways

- Integrate programmes that focus on foundational, digital, and green skills into existing TPQI's Credit Bank and Competency Credit Bank, to support progression and portability across learning routes.

Develop targeted measures for inclusion and gender equality

- Increase accessibility to scholarships and other stipends that support low-income students at formal TVET institutions, to support participation, persistence, and completion. Partnering with industry to develop work and study programmes to support these efforts could be one potential avenue.
- Extend informal and non-formal programmes to communities in rural and poor areas, to broaden access and reduce geographic disparities. These programmes should focus on skills directly linked to livelihoods while connecting to foundational skill levels of participants and should include digital and green skills.
- Adopt rural first approaches to schools and training centres, prioritising investment and support for institutions serving disadvantaged communities in order to reduce uneven delivery conditions and improve learner retention and progression.
- Pilot innovative digital solutions to improve the quality of rural TVET education, supported by partnerships between TVET institutions, industry, government, and development organisations.

Develop skills for inclusive and sustainable economies

These recommendations respond to gaps in integrated skills delivery and delivery capacity by strengthening embedding in standards and curricula, targeted support for learners with low foundational skills, and enabling conditions for delivery.

Deliver TVET that meets foundational skills needs

- Embed foundational skills into the National Qualifications Framework for all occupations, to strengthen consistency of expected outcomes.
- Embed foundational skills into curricula for formal, informal, and non-formal TVET programmes, to support more consistent delivery across provision.
- Consider the implementation of foundational skills programmes that directly target those with the lowest levels of foundational skills. Existing self-assessments can be used to channel students into these programmes.
- Expand existing self-assessment to include other foundational skills next to digital skills, to better identify learner needs.

Enhance digital, green, and other non-cognitive skills

- Embed digital and green skills into the National Qualifications Framework for all occupations, to strengthen consistency of expected outcomes.
- Embed digital and green skills into curricula for formal, informal, and non-formal TVET programmes, to support more consistent delivery across provision.
- Expand self-assessments to include green skills, to strengthen diagnosis and targeting.

Support the teaching workforce and TVET institutions to foster quality, innovation and excellence

- Build flexible learning pathways for TVET teachers that focus on teaching digital and green skills, to strengthen delivery capacity. The TPQI's Credit Bank and Competency Credit Bank could be extended to apply to TVET teachers, incentivising continued improvement of teachers.
- Update existing TVET teacher curricula to include digital and green skills, to support consistent delivery.

Cross-cutting interventions

These interventions respond to gaps in monitoring, system learning, and coordination that limit the visibility of performance and equity outcomes and weaken the translation of policy intent and standards into delivery conditions for learners.

Data collection, research and analysis

- Consider indicators that directly link to foundational, green, and digital skills levels in monitoring and evaluation frameworks for institutions and relevant government agencies, so that monitoring captures skills outcomes.
- Conduct an annual review of the state of foundational, green, and digital skills.
- Build a collection of best practice case studies and pilot projects across Thailand that have the potential to be replicated or implemented at scale, to support learning and scaling.

Reinforce governance and partnerships

- Increase collaboration with industry to include employer financial contributions to programmes that directly target foundational, green, and digital skills, including through increasing coverage of DVT and other work-study-based programmes.
- Create a steering committee with relevant government stakeholders that focuses on the integration of foundational, digital and green skills across government initiatives and policies.
- Consider the drafting of a foundational, green, and digital skills policy or guidelines document that streamlines the implementation of these skills across the TVET sector.

Conclusions

Thailand's shift towards a more digital and greener economy increases the demand for TVET learners who have strong foundational skills and can apply digital and green competencies in occupational contexts. This report forms part of a larger research project and builds on a separate UNESCO Visiting Researcher Note on foundational skills in Thai TVET. It therefore focuses on an integrated recommendations framework across foundational, digital, and green skills, and avoids repeating detailed foundational analysis where it is covered in the Note.

The Thailand analysis shows an extensive policy and standards architecture across formal, informal, and non-formal provision, designed to support progression, quality assurance, and relevance. Implementation, however, remains fragmented across agencies and plans, and coordination and partnerships do not consistently translate into delivery conditions for learners. The resulting implementation gaps appear most clearly in system performance and transitions, integrated skills delivery, delivery capacity and resources, equity and learner success, and partnerships, coordination, and system learning.

The integrated planning framework translates these gaps into two priority areas and cross-cutting interventions that guide the recommendations. Priority Area 1 focuses on building inclusive and flexible TVET systems that meet industry needs, strengthening pathways and learner progression. Priority Area 2 focuses on developing skills for inclusive and sustainable economies, including the delivery conditions needed to embed foundational, digital, and green skills in programmes. Cross-cutting interventions on monitoring and evaluation and on governance support system learning and coordination so that policy intent and standards are more consistently translated into delivery. International case studies inform this framework by highlighting recurring points where implementation breaks and by identifying mechanisms that help keep standards, curricula, resourcing, and practice aligned, while interview insights in this report are treated as indicative and triangulated with the desk review and secondary sources.

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Annex I: Case studies

India: The Skill India Programme

Overview

Skill India was launched as the flagship skills development programme of the Indian government in 2015. The programme aimed to introduce apprenticeship training, technical intern training programmes, and online skill platforms (IBEF, n.d.). In 2025, the programme was restructured to combine three schemes into one composite framework and to streamline skill development efforts. These include: the Pradhan Mantri Kaushal Vikas Yojana 4.0 (PMKVY 4.0) scheme, which focuses on short-term training, micro credentials, and digital delivery (IBEF, n.d.); Jan Shikshan Sansthan (JSS), a community based training programme targeting disadvantage groups (Ministry of Human Resource Development, 2004); and NAPS, a apprenticeship training programme (IBEF, n.d.). In particular, the PMKVY 4.0 and JSS schemes emphasise foundational skills through different mechanisms.

The PMKVY 4.0 scheme includes short-term vocational training and reskilling and upskilling through Recognition of Prior Learning (RPL). The programme focuses on customised courses with high employability with a focus on 21st century skills while also including digital and life skills (IBEF, n.d.). Emphasising lifelong-learning the programme targets people aged 15-59 years old, while recognising building on existing skill levels(PIB, 2025). Trainings are delivered in Skill Hubs that are established through partnerships with educational and government institutions across the country (IBEF, n.d.).

JSS focuses on community-based training focusing on literacy and livelihood skills. The programme delivers accessible, flexible, and inclusive training for disadvantaged groups such as women, rural youth, and economically disadvantaged groups and caters to the age group of 15 -45 years of age (PIB, 2025, p. 3). JSS curriculums cater to those with low literacy levels and include skills-based learning that focuses on skills directly related to participants livelihoods in both self-employment and wage based livelihoods (Ministry of Human Resource Development, 2004). Additionally, the program "plays a vital role in social empowerment, creating awareness on health, hygiene, financial literacy, gender equality, and education within communities" (PIB, 2025, p. 3).

All training under the Skill India aligns with the National Skills Qualifications Framework (NSQF). Training under these programmes lead to micro credentials that seamlessly

integrate with DigiLocker, a digital government solution for storing official documents such as degrees and certifications, and the National Credit Framework. Consequently, credits earned through these programme are formally recognised facilitating a smooth transition into employment and higher education (PIB, 2025).

Impact story

One example of the success of this approach is the JSS centre in Malappuram in Kerala state at the Southern tip of India. Since 2006, the centre has combined literacy with practical vocational and life skills training, emphasizing participation and contextual learning. Using approaches like participatory rural appraisal, it tailors its curriculum to local livelihoods, covering topics such as agriculture, health, and financial literacy. Training is offered in regional languages and Braille, to ensure inclusivity of training. A "talking pen" that reads out text out loud when pointed at it was also used for training participants with low literacy skills (UNESCO, 2017).

Tailoring their approach to the needs of the community and focusing on foundational skills and inclusion ensured positive community impact. Learners can earn literacy equivalency certificates alongside practical training in fields such as food processing and textiles. Graduates often start small businesses or gain formal employment, supported by entrepreneurship assistance from local banks and agencies. With over 50,000 participants trained and over 43,000 now employed, the programme has strengthened community self-reliance, improved health awareness, and expanded women's participation in the local economy (UNESCO, 2017, p. 3).

Key insights

- **Whole-of-system coverage:** The Skills India programme spans formal, workplace, and community learning, supporting a more inclusive skills development system.
- **Foundational skills channels:** Foundational skills are integrated through both the JSS and PMKVY 4.0 programme, using different delivery mechanisms for different learner groups.
- **Community-based reach:** The community-based JSS programme shows how training can be designed to reach vulnerable learners through accessible and flexible provision.
- **Recognised pathways:** Mapping training and micro credentials to national skills frameworks and digital government solutions supports recognised pathways to employment and further education.

What this means for Thailand

- **Pathways and transitions:** The India case suggests that portability and formal recognition of credentials can make movement between training, work, and further learning more practical, aligning with Thailand's transition and system performance constraints.
- **Equity linked to pathways:** The JSS example indicates that targeted foundational provision is more likely to strengthen system equity when it connects to recognised standards and progression routes, rather than remaining a standalone intervention.

Indonesia: Women in STEM Workforce Readiness and Development Programme

Overview

The ILO Women in STEM Workforce Readiness and Development Programme in Indonesia aimed to provide underprivileged women with critical soft and technical STEM-related skills for better employment and career advancement in ICT through TVET educational programmes. The programme provided web development training to female TVET students, training for TVET instructors, e-commerce training during the Covid-19 pandemic, and soft skills and leadership training (ILO, 2022; UNESCO, 2022c). The programme demonstrated the importance of targeting both students and instructors as well as how skill training programmes can target disadvantaged groups directly.

The web development component of the programme was conducted in collaboration with private sector actors, targeting 600 female students and graduates from TVET institutions

across Indonesia. However, due to large demand the programme reached close to 7000 participants greatly exceeding their initial target (ILO, 2022, p. 2). The establishment of an enterprise partnership with Axioo Class Program, a CSR initiative of the ICT company Axioo, also led to the 126 women finding a job, creating a job, or becoming entrepreneurs in the ICT sector (ILO, 2022, p. 2). This success demonstrates the potential of partnership with the private sector in reaching and supporting target populations.

Cooperating with the Ministry of Manpower's Directorate of Instructors and Training Personnel and Skilvul, a digital learning platform, the programme further continued to provide training to TVETs' instructors on the creation and delivery of online training to support distance learning during the covid-19 pandemic. The training reached 180 instructors from 131 TVETs in 28 provinces and improved self-confidence of instructors, interactive teaching, and new digital skills as demonstrated in online simulations. The ministry replicated the programme for later iterations due to its relevance and high demand (ILO, 2022; UNESCO, 2022c).

In response, to the Covid-19 pandemic, the programme further developed e-commerce training for MSME owners and workers in retail sector affected by the pandemic. In collaboration with the Indonesian Retailers' Association (APRINDO) and Clevio Camp, six rounds of training were conducted over 23 provinces. This training was the first fully online training by the ILO in Indonesia demonstrating the value of innovative training methods using digital technology (ILO, 2022, p. 3).

Key insights

- **Targeted inclusion:** Targeting disadvantaged groups, in this case women, can increase demand and participation in TVET programmes.
- **Partnership delivery model:** Multistakeholder partnerships (ILO, government, private sector, NGOs) can expand resources and reach for implementation.
- **Teacher capacity:** Teacher training is a core delivery lever for more sustainable TVET transformation.
- **Pilots to scale:** Pilot approaches can generate replicable models with lower initial costs than system-wide reform.

What this means for Thailand

- **Equity and learner success:** The Indonesia case suggests targeted pilots can increase participation among disadvantaged groups, however it is important to connect such initiatives to mainstream delivery and a clear pathway to scale, so they strengthen system equity rather than remaining standalone interventions.
- **Delivery and coordination:** The case suggests that partnership-based pilots, paired with teacher capacity building, can generate replicable delivery models and support coordination across actors when scaling approaches within the system.

Kenya: Digitalisation of TVET

Overview

Kenya is one of the leading African countries in the digitalisation of government and economy, with innovations such as the M-PESA digital payment systems or planned citizen database and digital government services at all levels (UNESCO, 2023). To drive the digital transformation, Kenya has introduced ICT into a number of high-level policies such as the "2030 Vision", and the 2019 ICT Strategy, a revision of the 2006 ICT Strategy. In addition, Kenya has made efforts to drive the digitalisation of TVET, in order to produce citizens equipped to deal with these systems and contribute to the digital transformation (UNESCO, 2023). Next to policy reform, Kenya has also initiated projects that leverage digital technology to increase accessibility and improve quality of TVET education (UNESCO-UNEVOC, 2023).

Digitalisation of TVET

Successful digitalisation of all aspects of TVET education depends on comprehensive high-level policy frameworks guiding lower-level implementation. Kenya's main ICT policy, the 2019 ICT Strategy, highlights education as key driver to create a knowledge society and

lists e-learning as a major mode of education. The strategy further highlights the need to train teachers so that they can facilitate this type of learning. Consequently, a teacher-training curriculum was revised to include ICT across all levels of education and under the 'one-device-per-teacher' policy, instructors were supported to acquire their own digital equipment (UNESCO, 2023).

Kenya is further aligning TVET curricula and standards with industry needs and digitalisation. The national ICT Strategy commits to embedding ICT subjects across all levels of education and guides at the policy level to drive digital transformation in TVET. The Kenya National Qualifications Authority (KNQA) is responsible for developing occupational and training standards in consultation with industry to reflect new digital requirements at work. It coordinates with curriculum bodies, universities, and TVET institutions that hold the legal mandate to design programmes, while relevant quality assurance agencies approve diplomas and certificates (UNESCO, 2023).

Digital technology also present opportunities to modernize Kenya's learning management systems. KNQA's National Qualifications Information Management System (NAQIMS) and the planned Kenya National Learners Record Database will provide a single, secure database on learners, qualifications, and awarding institutions. Centralized records make it possible to track dropout, progression, and completion rates, and to build a nationally accepted system for credit accumulation and transfer. Digitized recognition processes can reduce delays for local and international students and generate trend data to guide further study choices. By using blockchain to register qualifications and manage learner records, NAQIMS strengthens transparency and security, helping to curb fraudulent certificates and increase trust across the system. Together these tools lay the data foundation for interoperable, scalable learning management solutions in TVET (UNESCO, 2023).

Digitalisation for inclusion

Digital innovative systems can also foster more inclusive TVET systems. The Kenya School of TVET piloted the 'Digitalization and partnership programme', which leveraged strategic partnerships and digital technology, to make TVET education more accessible and to increase the capacity of TVET trainers. Initially designed in response to the distance-learning needs of Covid-19 pandemic, the programme includes the creation of Open Distance and e-Learning (ODeL) satellite centres across Kenya aimed at building capacities of TVET trainers, the establishment of a National ODeL Centre to address issues related to infrastructure, technology, quality assurance and learner engagement in the TVET sector,

and the creation of a robust online learning environment which provides accessible lifelong education (UNESCO-UNEVOC, 2023).

In addition to providing access to TVET education in rural and underserved areas, the programme includes several pathways to increase the inclusivity of training content. The programme applies flexible and blended learning approaches, allowing students access to training via a mix of online and classroom-based teaching. Additionally, the project, applied Universal Design for Learning principles in e-Learning content development to create more inclusive e-learning content. Consequently, the content includes different mediums (videos, audio and text) and the systems have in-built accessibility software, enabling students with disability to navigate it with minimal assistance while catering to diverse learning needs. Lastly, KSTVET created a digital, self-paced, 'employability skills' module, which allows students to learn important employability skills at their own pace (UNESCO-UNEVOC, 2023, p. 2).

The programme also recognises that successful content development and delivery depend on sufficient infrastructure and quality instructions. Consequently, the programme partnered with Google to make the learning platform ODeL accessible through mobile phones. KSTVET also took efforts to ensure sufficient internet bandwidth for all its platforms. In addition, the learning platform also includes content for teachers, providing TVET trainers across the country with free-of-charge courses (UNESCO-UNEVOC, 2023).

The programme has been a success creating a case example of how digital technology can transform the TVET sector. The initiative has increased the numbers of students enrolling in TVET, including in areas with limited or no internet coverage. Additionally, the initiative has expanded digital skills training opportunities relevant to the current job market. For instance, by 2023 in partnership with Google 300 TVET instructors were trained in intermediate-level Android application development who then trained 10,000 students in 50 TVET institutions across Kenya (UNESCO-UNEVOC, 2023, p. 2).

Key insights

- **Policy framework:** Digitalisation of TVET requires a comprehensive policy framework to guide the digitalisation of curricula, learning delivery, and learning management systems.
- **Inclusive delivery:** Innovative digital solutions can increase access and facilitate more inclusive TVET systems for both students and teachers, but depend on sufficient infrastructure and accessible content design.
- **Learning management gains:** Digitalisation of learning management systems can improve education outcomes and efficiency.
- **Integrity and trust:** Secure digital learner records and credentialing can strengthen transparency and reduce fraudulent qualifications, increasing trust in TVET systems.

What this means for Thailand

- **From intent to delivery:** The Kenya case reinforces that digitalisation requires aligned policy direction, implementation instruments, and sustained capacity to translate intent into classroom delivery.
- **Managing pathways and inclusion:** Digital learning management and learner record systems can support learner progression and completion and strengthen inclusion when designed as part of the delivery model.

Singapore: SkillsFuture initiative

Overview

Singapore's SkillsFuture Initiative, was launched in 2015 as a nationwide initiative for adult education, responding to Industry 4.0, globalization, and technological disruption, to sustain employability and social cohesion (Lim et al., 2024, p. 2). The initiative is guided by four thrusts: informed learning choices, an integrated education–training system, employer recognition of skills, and a culture of lifelong learning (Lim et al., 2024, p. 5). The scheme is underpinned by strategic frameworks that guide curriculum development and implementation, including 23 Industry Transformation Maps and 34 Skills Frameworks that define sector-specific and cross-cutting skills (Fung et al., 2021, p. 202).

Inclusive training

The initiative builds on three key complementing programmes: the SkillsFuture credits, Earn and Learn, and Work-study degrees. SkillsFuture credits give every Singaporean aged 25 and above an initial balance of SGD 500 (as of August 2023) to cover part of the fees for approved training courses. The credits are replenished from time to time, enabling citizens

to keep upgrading their skills throughout their careers (Lim et al., 2024, p. 5). In addition, the SkillsFuture Earn and Learn Programme targets individuals with diploma and technical certificates to equip them with industry relevant skills and work experience. Participants will study a part-time or post-diploma course while receiving structure on-the-job training. Lastly, the Skills-Future Work Study programme, allows people already at work to pursue further degrees while remaining in their jobs (Lim et al., 2024).

In addition to the financial support through SkillsFuture credits, SkillsFuture programmes contain measure to make them accessible to everyone. Firstly, training under the initiative require no academic prerequisites while prior learning and work experience are recognized (SkillsFuture SG, n.d.). Additionally, graduating from modular training with stackable credits build towards full qualifications (SkillsFuture SG, n.d.).

Alignment of training and industry needs

The SkillsFuture initiative emphasises life-long learning to equip Singapore's workforce with relevant skills. To ensure industry alignment of curriculums, the Workforce Skills Qualifications framework trains, assesses, and certifies competencies, aligned to industry-based Skills Frameworks (SkillsFuture SG, n.d., p. 1). Additionally, courses are often offered through universities and polytechnics, which keep higher education aligned with workforce needs (Fung et al., 2021, p. 200; Lim et al., 2024, p. 6). Foundational skills are an important part of this framework, including critical core skills across the three categories of thinking critically, interacting with others, and staying relevant, including skills such as decision making, collaboration, communication, adaptability, digital fluency, and learning agility (Fung et al., 2021; SkillsFuture SG, n.d.).

Another important aspect that contributes towards the alignment of training with industry needs, are close public private partnerships. These include corporate partnerships such as the Salesforce Youth Programme a partnership with Salesforce which provides subsidized training and wage support for young hires or with global software company UiPath, offering free online training for automation skills (Fung et al., 2021). Training within SMEs are also supported through initiatives such as the National Centre of Excellence for Workplace Learning which support SMEs integrate training into daily operations (Fung et al., 2021).

Key insights

- **Flexible lifelong learning:** SkillsFuture treats skills as continuous and portable rather than tied to degrees, and uses stackable modules to support progression and adaptability.
- **Systemic core skills:** The Critical Core Skills approach embeds transferable foundational skills within national frameworks.
- **Competency based and inclusive:** Open access and recognition of prior learning lower barriers, and financial support plus earn-and-learn initiatives broaden participation for learners with financial constraints.
- **Public private co production:** Partnerships with employers and unions strengthen training relevance and school-to-work transitions, including work-and-earn approaches developed with the private sector.

What this means for Thailand

- **Pathways and learner success:** The Singapore case implies that portability, stackable learning, and recognition of prior learning can strengthen progression pathways and broaden participation when built into system design, aligning with Thailand's transitions and equity constraints.
- **Standards to delivery alignment:** Embedding core skills in national frameworks, paired with structured co production with employers and unions, suggests a mechanism to sustain relevance and applied transitions, aligning with Thailand's integrated skills delivery and coordination challenges along the standards-to-delivery chain.

Viet Nam: Greening TVET

Overview

Viet Nam's TVET reform aims to green its TVET systems. Importantly, the reform aims to align TVET with the country's National Green Growth Strategy, which aims to restructure Viet Nam's economy towards more sustainable use of natural resources and reduced carbon emissions. (UNESCO-UNEVOC, 2021). Taking a comprehensive approach to greening TVET, the reform targets both curriculums and TVET institutions (Mernineit & Huyen, 2016). The reform was carried out with strong political support and initiated through a top-down approach to enable significant and simultaneous changes to multiple institutional and legal frameworks. While allowing specific overlap between stakeholders at other levels this approach was successful in initiating the collective effort necessary for comprehensive reform (UNESCO-UNEVOC, 2021).

Greening TVET curricula

The reform takes three approaches to greening TVET curriculums. First, green skills are integrated into all occupation courses, so that employees in all sectors have the basic skills necessary to evaluate the environmental impact of their work and take basic steps towards sustainability. Second, is the integration of identification, development and training of occupation-specific green skills. In some industries specific technical skills are necessary to manufacture or operate emerging sustainable technologies, thus curricula for these occupations need to include these specific technical skills. Lastly, it is necessary to develop curricula for specific green occupations that are emerging with the transition towards a green economy (DVET, 2018; Mernineit & Huyen, 2016).

Examples of these efforts to green Viet Nam's TVET curricula include the integration of modules on environmental protection and sustainable tourism into Vietnam Tourism Occupational Standards (VTOS), and the development of a catalogue cross-occupational learning outcomes for Green TVET (DVET, 2018). An example of is the development of further training programmes including green skills for the occupations: Electronics Technician for Energy and Building Technology and Mechanics Technician for Sanitary, Heating and Climate Technology. These training programmes, were developed in collaboration with TVET institutions, sector associations, relevant ministries and the Directorate for Vocational Education and Training (UNESCO-UNEVOC, 2021).

In addition to integrating green skills into curricula, it is also important to train TVET instructors in delivering lessons based on these new skills. For instance, in cooperation with sewage companies a course aiming to improve the capacity of TVET instructors to teach the pilot technical vocational training programme for "Sewage Engineering Technician", an innovative programme focusing on the sustainability needs for sewage systems. The course covered advanced pedagogical approaches like student oriented teaching and teaching with case studies; basics of designing and implementing vocational training phases at an enterprise; managing training records and criteria to evaluate students at an enterprise; importance of interaction between teachers of a vocational training college and in-company trainers of sewerage companies; and advanced knowledge of wastewater treatment and drainage (Mernineit & Huyen, 2016, p. 35–36).

Greening TVET institutions

Greening TVET institutions can take various forms all aiming to improve the sustainability of TVET institutions and instilling a green mindset in TVET students. One approach focuses on

green TVET communities, which understands TVET institutions as a nucleus for the green transformation of surrounding communities. For instance, at Ninh Thuan Vocational College, students formed the "Volunteer club for Green – Clean - Beautiful – Ninh Thuan province", which organises monthly activities such as cleaning the beach or other public areas. Other activities include raising public awareness and a sense of responsibility to protect a liveable environment and to contribute sustainable communities (DVET, 2018; Mernineit & Huyen, 2016).

Other approaches focus more on the culture and management within TVET institutions. These approaches aim to foster a green institutional culture that creates graduates with awareness of sustainability issues (Mernineit & Huyen, 2016). One example is the Vocational College of Mechanics and Irrigation (VCMI) in Dong Nai province, which has implemented small daily actions such as saying no to plastic bottles, keeping classes and workshops clean, and weekly school wide cleaning activities (DVET, 2018). Other institutions also implemented initiatives that aim to create awareness of sustainability in management structure. The Kien Giang Vocational College in the South of Viet Nam, has established a club of environmental volunteers, which carries out environmental activities that raised environmental awareness of teachers, students, and staff, and became actively involved in the development of green campus and environmental protection at the college (Mernineit & Huyen, 2016).

Key insights

- **Multipronged reform:** Greening TVET requires a multipronged approach that targets both curricula and TVET institutions.
- **Differentiated integration:** Green skills can be embedded through basic green skills across occupations, occupation-specific technical green skills, and curricula for emerging green occupations.
- **Leadership and responsibility:** Political leadership and clear responsibility support transformation at scale, and a top-down approach that allows stakeholder input can strengthen reform.
- **Instructor capacity:** Delivering new green skills in practice requires investment in instructor capacity to implement updated curricula.

What this means for Thailand

- **Integrated delivery constraints:** The Viet Nam case implies that greening in TVET depends on aligned changes across curriculum, institutional practice, and teacher capacity, consistent with the integrated skills delivery and delivery constraints identified for Thailand.
- **Coordination along the delivery chain:** The case suggests that clear responsibility and strong leadership can help coordinate change across instruments and actors, aligning with Thailand's governance and system learning challenges along the standards-to-delivery chain.

Annex II: Integrated planning framework theory of change

Framework component	Problem addressed	How change is expected to occur	Main actors	Key assumptions
Priority Area 1: Inclusive TVET that meets industry needs	**Root causes** • Unequal institutional and regional delivery capacity • Insufficient financial and welfare support for learners **Intermediate failures** • Weak student retention and completion • Outcomes • High dropout and non-completion • Weak transitions into field-matched and quality employment	Through stronger pathways, targeted learner support, and more inclusive access conditions.	• OVEC/Ministry of Education • TVET institutions • TPQI• Employers/industry partners	Learners can access support and pathways are recognised and linked to work opportunities.
Priority Area 2: Develop skills for inclusive and sustainable economies	**Root causes** • Weak teacher development and delivery support **Intermediate failures** • Limited capacity for foundational skills remediation • Uneven delivery across institutions and regions **Outcomes** • Weak acquisition of foundational and digital skills	Through stronger embedding in standards and curricula, targeted remediation, and improved teacher and institutional delivery capacity.	• OVEC/Ministry of Education • TVET institutions• TPQI • Teacher training and curriculum bodies	Institutions and teachers have the capacity and support to apply curriculum and remediation changes in practice.
Cross-cutting intervention: Monitoring and evaluation	**Intermediate failures** • Weak student retention and completion • Limited ability to detect uneven delivery and weak remediation early **Outcomes** • High dropout and non-completion • Weak acquisition of foundational and digital skills • Weak transitions into field-matched and quality employment	Through better indicators, regular review, and stronger system learning from cases and pilots.	• OVEC/Ministry of Education • Relevant government agencies • TVET institutions	Data can be collected consistently and used for timely course correction and system learning.
Cross-cutting intervention: Governance and partnerships	**Root causes** • Fragmented governance and delivery responsibilities • Unequal institutional and regional delivery capacity **Intermediate failures** • Uneven delivery across institutions and regions	Through stronger coordination, clearer implementation guidance, and closer industry collaboration.	• OVEC/Ministry of Education • TPQI and DSD • Employers/industry bodies • Public-private coordination committees	Agencies cooperate, responsibilities can be aligned, and partners remain engaged in implementation.