

# Singapore: Building a future economy with TVET at its heart



## About the research

This case study is lifted from a global research project by the RSA and WorldSkills UK. The project identified innovative skills systems across the world and sought to identify key lessons and insights for the UK. The role and potential of skills competitions was a key area of focus.

## Lessons for the UK

- **The benefits of a ‘whole government’ approach:** The design and delivery of skills policy and practice in Singapore is purposeful and well-coordinated, actively involving key stakeholders, including employers, unions, citizens, experts and different tiers of government. SkillsFuture is a clear example of this.
- **The importance of a long-term orientation and the potential for skills competitions to build future skills:** Singapore has a highly sophisticated and well-resourced infrastructure to anticipate future challenges and make necessary changes to skills systems so that they are sustainable in the long term and future proofed. Major skills reforms often happen in ‘cycles’ in response to an understanding of long term challenges. Skills competitions have been used as an important lever for building skills in areas that are likely to be important to the economy and people in the future.
- **Building TVET as a cohesive ecosystem:** Singapore has dedicated significant investment and energy into aligning the activities, resources and institutions of TVET to allow learners to be able to navigate through the opportunities available to them seamlessly and in a manner that is suited to their stage of learning and career development.



## Singapore: Building a future economy with TVET at its heart

Singapore's skills system has developed in line with, and in response to the demands of, its changing economy. Growing demand for technical skills in the 1980s, and then skills relevant to a more knowledge-based economy in the 1990s and 2000s, have been addressed by adaptations in the skills system. These reforms have also greatly improved the status of vocational learning amongst citizens and employers. Skills competitions have been deployed as a highly useful tool in supporting this reorientation of the Singaporean economy.

### Moving TVET from the periphery to the centre of the skills system

The Institute of Technical Education (ITE) was set up by government in 1992 as a post-secondary institution, partly designed to change the status and reputation of vocational learning, which had until then been seen as the last resort for low achievers. One of the ambitions for the ITE was to be a world-class demonstration of the value and relevance of vocational education to a knowledge-based economy.

The ITE provides career opportunities for young adults, FE and training for adults, and industry-based training programmes, as well as developing national occupational skills certification and standards. It oversees three colleges and five polytechnics, covering subjects including creativity, services, commerce, engineering and ICT, and has state-of-the-art campuses with close links to international companies to ensure training is up to date and relevant to industry. Technical education is now seen as a viable alternative to academic routes, and a practicable progression route into university, with 65 percent of those moving into post-secondary education taking a vocational route. Salaries of those graduating from the ITE have risen, and employment rates six months post-graduation are nearly 90 percent, adding to the perception of vocational learning as an aspirational choice.

### Creating a movement for skills and lifelong learning

Most recently, in recognition of the rapidly changing demands of the global economy, and the need for its workforce to regularly update their skills to keep pace, the Singapore government developed the SkillsFuture movement. Launched in 2014, SkillsFuture is driven by a statutory Ministry of Education board, which oversees a wide range of activities, designed to embed and facilitate a culture of continuous education and lifelong learning.

The movement includes WorldSkills participation, SkillsFuture personal learning credits, MySkillsFuture (a learning and jobs portal), SkillsFuture fellowship and Employer Awards, training programmes and career guidance.

“The important impetus behind SkillsFuture was... a backdrop of slowing local workforce growth due to an ageing population and rapid changes in the global economy due to technological advancements, creating business disruption... So the idea behind SkillsFuture is to recognise that individuals need to embrace lifelong learning and they need to constantly refresh their skillsets so that they are future-oriented and industry-relevant.”

— Senior skills official

The main aims of SkillsFuture are:

- To help individuals make well-informed decisions, whether they are in education, training or careers.
- To provide an integrated high quality system of education and training that responds to constantly evolving needs.
- To promote employer recognition and career development based on skills and mastery.
- To foster a culture of lifelong learning for everyone.

“There is a recognition by government that people will not be working in one career their whole lives. Lifelong learning continues after graduation.”

— Senior skills official

Young people can access education and career guidance, internships and talent programmes. Individuals in their early careers benefit from apprenticeships, and training subsidies. Vocational secondary school graduates can enter university, with almost 40 percent doing so, and can in some cases transfer credits from their existing learning to complete their degrees more quickly. Rather than vocational learning being considered second-rate, as it was pre-reform, it is now a passport to higher learning, with its value being fully recognised.

Mid-career workers can also access training fee subsidies, bite-size courses, study awards and fellowships. Lifelong learning is now viewed as an important component of the Singapore’s overall education system, as it enables workers to continue their professional development throughout their working lives, and to update their skills in line with the demand in the country’s economy. Specific programmes exist to support mid-career workers to convert to a new profession in Singapore’s growth sectors, either through in-work training or training and then job placement. Employers can also develop their own curriculum for an ‘earn and learn’ programme for their employees.

SkillsFuture has been further developed in response to a 2017 Committee on the Future Economy report, which included recommendations on deepening international connections, acquiring and utilising deep skills, building strong digital capabilities, and developing Industry Transformation Maps. These Maps, and their accompanying Skills Frameworks, set out key information on a total of 23 different sectors, the occupations within the sectors, career pathways, and emerging skills requirements.

Changes are also in progress to align mainstream schooling more closely with the needs of Singapore's economy. A new programme of 'applied learning' is in development to ensure children develop socially as well as academically, and get exposed to in-demand skills such as computing, robotics and electronics.

## WorldSkills as a platform for reorienting to a future economy

Singapore has been competing in WorldSkills since 1994, expanding from eight to 26 skills areas, and it is closely linked to the wider SkillsFuture movement through sponsorship and key personnel: the Chief Executive of SkillsFuture is the Chair of the WorldSkills Singapore Council, and the Deputy Chair of the Council is the CEO of the Institute of Technical Education. There is therefore a clear line of influence between government skills policy as designed and implemented by SkillsFuture, and WorldSkills Singapore.

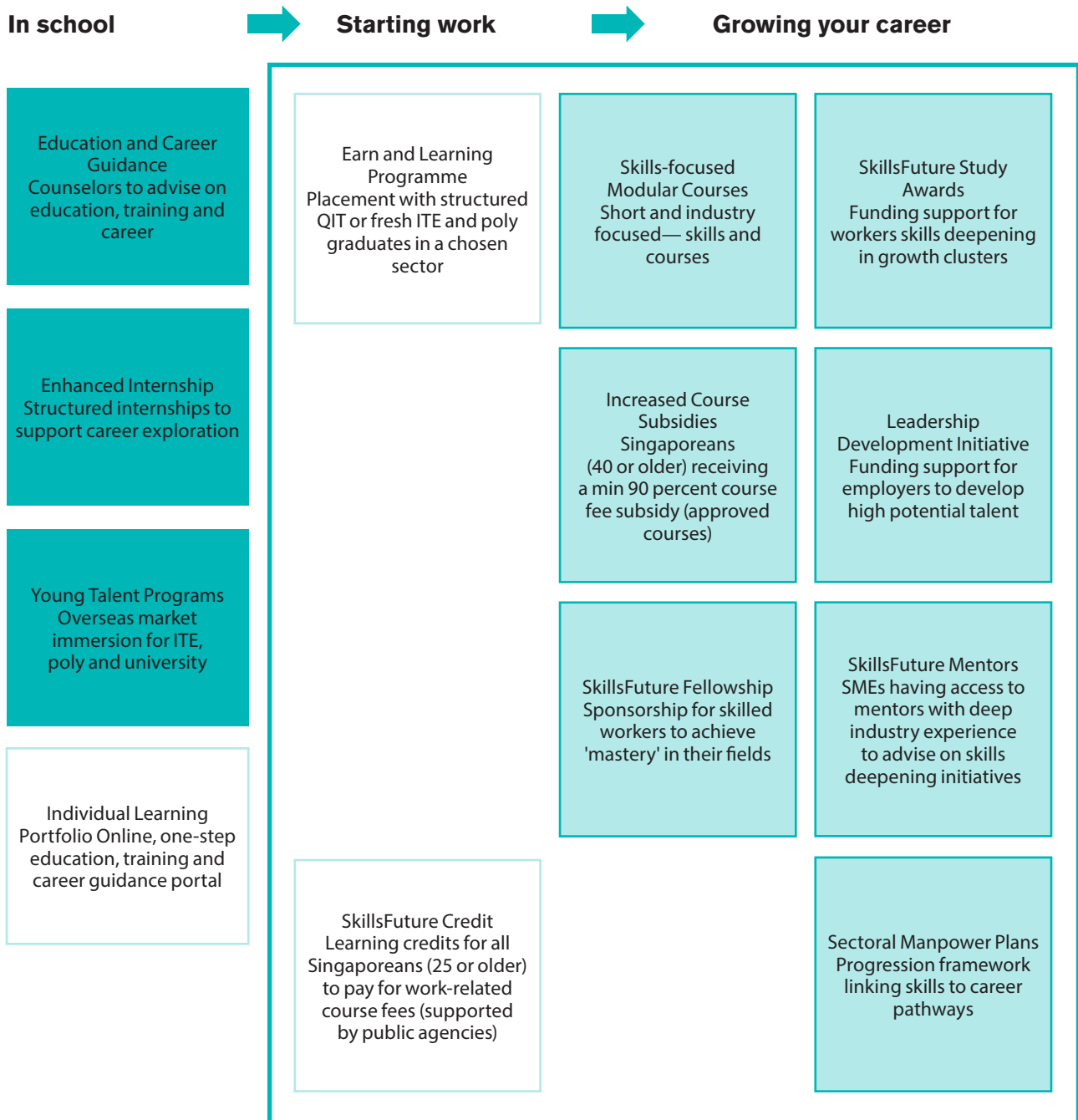
The WorldSkills Singapore Council decides which skills will be prioritised in the competition: these are generally closely aligned with those required for the country's economic development, and mirror Singapore's development into a knowledge-based economy. In this way it complements the overall SkillsFuture movement, for example where it is clear that a new skills demand or industry is emerging, WorldSkills Singapore introduces a new competition to encourage people to acquire the relevant skills. Current priorities include the introduction of competitions in cyber security and water technology; water technology is crucial to Singapore's prosperity because of its strategic importance.

Skills competitions are considered to be an effective platform to provide advocacy for vocational learning, and career counselling for young people, to familiarise them with career options and growth sectors.

"WorldSkills Singapore's broader objective is to showcase skills excellence in respective areas, and to provide skills advocacy and career counselling for young people wanting to know what the various options are of studies and careers that these skills areas can offer."

— Senior WorldSkills official

# The SkillsFuture approach



Source: OECD-ILO (2017) *Better Use of Skills in the Workplace: Why it matters for productivity and local jobs*

## Lifelong learning through personal training accounts

SkillsFuture Credit is a personal learning account, launched in 2016, which aims to encourage and facilitate individuals to take ownership of their own skills development and learning. All Singapore citizens receive the one-off credit of 500 Singapore dollars (around £280 at the time of publication) when they turn 25, accompanied by a directory of over 25,000 government approved courses. Before introducing SkillsFuture credit, government spent time developing the training infrastructure to ensure it was of sufficient size and quality, and also introduced a new model of quality certification for training and standardised quality framework to ensure consistent standards.

“We are heartened that the vast majority of people do use credit for courses related to their work.”

— Senior skills official

The courses available through SkillsFuture credit are already heavily subsidised; the credit enables learners to cover the 30 percent of course fees that individuals would normally have to pay for themselves. The credit is also about promoting ownership of skills development by learners, and stimulating demand. Learners select their course and apply to spend the credit through the MySkillsFuture portal; once the credit is ‘spent’ it is paid directly to the provider delivering the course, which could be public (polytechnic or university) or private.

The majority of courses are work-related, and learners are encouraged to take courses which best meet the needs of the economy and emerging skills gaps, entitled the SkillsFuture Series.

“SkillsFuture series [contains] skillsets we think are clearly emerging and in need in companies in Singapore. [We have] tried to brand these courses and direct people towards taking [them] as they are likely to benefit from [them] in their careers.”

— Senior skills official

Since the launch of SkillsFuture credit 16 percent of those eligible have made use of it, with 97 percent of courses taken being work-related. The percentage of adults aged 35-64 participating in continuing education has increased from 30-48 percent since the introduction of SkillsFuture in 2014.



## CASE STUDY SUMMARY

# Singapore

Singapore has a well-established skills system that serves the needs of its economy and promotes economic mobility. Through innovative initiatives such as personal training accounts, it is also anticipating future challenges and responding to the imperative for lifelong learning.

Category  
Innovator

Population  
5.6 million

WEF Human capital  
index ranking  
11

WEF Inclusive  
development ranking  
N/A

## Impact Stories

- 16 percent of eligible Singaporeans have made use of their credit.
- 97 percent of the courses taken are work relevant.
- Since the introduction of SkillsFuture Credit, 48 percent of 35-64 year olds have participated in adult education training, up from 30 percent.
- In 1997, only 37 percent of Singaporeans viewed ITE favourably. By 2010 that figure was 69 percent.
- Singapore has very low levels of youth unemployment. 90 percent of ITE graduates receive job offers within six months of graduating.

## Overview of the system

- TVET system comprised primarily of polytechnics and since 1992 the Institute of Technical Education (ITE).
- Until the 1990s, VET was considered as 'last resort' provision, but ITE transformed the reputation of VET as being for low achievers.
- ITE includes state-of-the-art campuses closely connected to international companies, focusing on developing the vocation and technological skills needed for a knowledge based economy. Significant investment flowed into VET.
- Vocational education now accounts for 65 percent of those that go onto post-secondary education. 25 percent are accepted into ITE and 40 percent attend polytechnics.
- Polytechnics offer around 150 diplomas, linked to industry needs.
- Lifelong learning is a key component of Singapore's skills system (see SkillsFuture Singapore).

## Approach to skills competitions

- Skills competitions are organised by ITE and the country's polytechnics, and sponsored by the Ministry of Education, SkillsFuture Singapore and various industry sponsors.
- WorldSkills Singapore is a key part of the FutureSkills movement to update citizens' skills and support lifelong learning to meet industry needs.
- Skills competitions often provide a way to 'future proof' skills and respond to emerging trends/changing skills needs by establishing excellence in that particular area.
- For example recently new competitions have been introduced in cyber security and rapid transit technology, and new areas identified include the Internet of Things (IoT) and blockchain.
- Competitions also provide a platform for skills advocacy and career counselling — encouraging and supporting people to pursue in-demand or soon to be in-demand areas of skills development

## Key strengths and innovations

- SkillsFuture Singapore and SkillsFuture Credit.
- Strengthening workforce development and career support became a key priority from 2010.
- SkillsFuture Singapore was launched in 2014, as a 'movement' encompassing a range of programmes beginning in middle school and stretching into adulthood. Reforms were supported by international benchmarking.
- For young people this included stronger career guidance, enhanced internships and individual learning portfolios.
- For those in their early careers this included apprenticeships and subsidies to continue education
- For those in mid-careers it involved course fee subsidies, study awards and subsidies, and bite sized modular courses to rapidly develop new skills.
- Personal training accounts (SkillsFuture Credit) were launched in 2016.
- SkillsFuture Credit is a supply rather than demand side initiative: the aim is to stimulate demand and interest for individual-led lifelong learning, and to nudge them towards particular sectors of the economy.
- The credit is offered to everyone once they turn 25, and has a value of around £280. There are 25,000 courses available managed by a few hundred certified training providers.
- Some courses (SkillsFuture Series) are designed to respond to emerging skills gaps in Singapore and their branding (with the SkillsFuture label) helps to nudge people towards these courses.