

# Shanghai: Skills for economic transformation



## 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

- **Joining up:** There are strong links in Shanghai between the city's economic development strategy, the overall make-up of the economy, and the skills and vocational learning system.
- **Test, learn and roll out:** One of the strengths of Shanghai's system is a high degree of openness to experimentation and innovative approaches, with a focus on piloting, reviewing and then rolling out new policies and initiatives on the basis of evidence.
- **Inclusive responses to industrial change:** There are lessons to take from Shanghai's approach to retraining workers displaced by the closure of traditional industries – including targeted programmes linked to emerging growth sectors and the city's economic vision.
- **Using skills competitions to spur employer engagement:** In Shanghai employers provide direct insight into industry needs which then inform competition development. They also provide staff to teach in vocational institutions and in WorldSkills team training. Over the years this has allowed, for example, much stronger engagement between schools and businesses.
- **Push for more local flexibility, resources and powers:** Shanghai has benefited from the freedom and flexibility provided to it by the Chinese state to experiment and develop its own solutions to local skills challenges, allowing the city to create more effective and locally rooted institutions.
- **Breaking down barriers between vocational and academic learning:** Shanghai has dedicated considerable time and effort to building bridges between vocational and academic learning, including through actively testing new approaches such as Academic Credit Banks, which recognise learning outcomes, allow people to accumulate credits throughout their life and transfer credits to universities and other learning organisations, with a strong focus on transferability.



## Shanghai: Skills for economic transformation

Shanghai has undergone major economic and social transition since the 1990s, with a shift from low-value manufacturing to a global player in services and high-tech, high-value production. The closure of many of the outdated and increasingly obsolete state-owned enterprises (SOEs) by the Shanghai Municipal Government (SMG), and their vision of the new economy, led to large scale redundancies and a major skills mismatch.

Workers made redundant from the SOEs in the late 1990s found their skills no longer in demand, having previously expected a job for life with no need to retrain for a new industry. The emerging priority sectors such as finance, trade and high-value manufacturing struggled to find suitably skilled and qualified workers to support their growth. Large numbers of internal migrants were also moving to Shanghai, primarily from poorer, rural areas of China, many of whom had low levels of skills and education. The SMG therefore realised that a comprehensive programme of skills development and retraining was necessary to support their vision of Shanghai as a global city.

### Shanghai Talent Strategy and municipal innovation

In 2004 the SMG launched their comprehensive Shanghai ‘Highland of Talent’ Strategy, in a nationwide context of increased investment in vocational education. The Strategy was focused on developing a talent pool to meet the needs of the economy, both through attracting talent from elsewhere, and also developing the skills of the existing workforce. Skills provision was reformed to be much more market-oriented and aligned with the city’s economic development strategy. The approach addressed both higher level skills and also upskilling the segments of the workforce with low level or outdated skills.<sup>1</sup>

The upskilling programme included training for the unemployed and migrant workers, with a focus on industries with in-demand skills, and stronger links to large employers, for example setting up training centres within company premises. The SMG had a strong focus on innovation throughout the reform programme, with innovations in funding, institutional and operational arrangements all tested, refined and very often rolled out more widely. The training programme for unemployed workers is one example: it began with a focus on those made redundant from the SOEs, and then expanded during the early 2000s to cover other cohorts, a broader range of sectors, and school and college leavers, with an expanded curriculum which aligned to the needs of the developing economy.

<sup>1</sup> Zhang, R. (2009) *The Shanghai "Highland of Talent" Strategy, from Designing Local Skills Strategies*. Paris: OECD Publishing

The current vocational skills programmes in Shanghai build on the major reform of the 2000s, with an ongoing focus on training people to meet the needs of the economy, and prioritising migrant workers and other low skilled residents. Vocational learning has continued to develop into a more comprehensive lifelong learning model, aiming to support individuals through career progression and change throughout their lives.

After primary school, students can take a vocational pathway via Junior Secondary Technical Vocational Schools, followed by Vocational High Schools, Specialised Secondary Schools or Skilled Workers' Schools, and additionally move on to Higher Technical Vocational Education if required. By 2015, Shanghai had 89 vocational secondary schools, 52 colleges and 95 training centres, with impressive results gained by secondary vocational students: in 2015 98 percent of vocational secondary graduates went into work or on to further learning.

Vocational schooling and vocational skills training for adults are the responsibility of the Shanghai Education Bureau and the Municipal Labour and Social Security Bureau at city level, which work extremely closely to deliver an integrated, strategic approach; this level of cooperation is unusual in China. Although high level priorities and targets are set out by national government, Shanghai benefits from significant devolved powers to develop its own strategies and implementation plans. This is considered to be one of the key factors in its success, as it allows policy and programmes to be tailored to meet the needs of the local population and economy. Crucially, Shanghai also has the financial resources to implement its plans at scale, and on a long-term basis.

A major programme of improvements to vocational education in China began in 2014, with the launch by national government of a reform plan. The plan, developed across a number of government ministries, set out plans to smooth transitions from secondary vocational learning into higher levels, and between academic and vocational pathways. It also set out ambitions for greater employer involvement in vocational learning, an expanded provider base, and the devolution of more power from the centre to allow local governments to tailor skills provision to meet local needs.

Vocational curricula in China now tend to contain a significant element of broad, foundational skills and knowledge, which is not industry specific but can be transferred across different roles and sectors. Thus, workers are better able to transition between roles, employers and sectors, and develop skills which will be of use throughout their careers, and the economy and employers benefit from a workforce more agile and able to adapt to new skills demands. Vocational providers in Shanghai have developed strong and successful relationships with employers, sometimes being geographically located near the industries they serve. Nine vocational education groups facilitate cooperation between employers and education institutions, for example ensuring teachers have regular industry experience, and in turn, placing skilled professionals in vocational institutions to teach part-time. This ensures the development of vocational provision that addresses the needs of Shanghai's employers, and that it is up to date and relevant.

The commitment to innovation demonstrated in the 2000s reform programme has continued, with the SMG carrying out a range of pilots to develop new provision and approaches to expanding the vocational offer, and meeting a wider range of needs. Vocational schools are working with universities to pilot ways to open up pathways from vocational into academic learning: if students' grades from vocational school are good enough, they can enter university without having to take the notoriously difficult entrance exam. This not only opens up new learning pathways for vocational students, who previously would have been considered as low achievers, it also acknowledges the broad range of skills, knowledge and aptitudes needed in Shanghai's knowledge-based and high-tech economy.

### Raising status and quality through WorldSkills

Shanghai first competed in WorldSkills in 2011, one of the first cities or regions in China to do so. For Shanghai, this built on a long history of skills competitions, which are well embedded at employer and sector level in the city. Multiple competitions take place every year, raising the profile and status of vocational skills, and forming part of the selection process for the national WorldSkills team.

“The image of TVET is rapidly changing, for example skills competitions are in the press, [it's] serious business! Winners get jobs and kudos, it improves the status of lower socio-economic groups.”

— WorldBank official

WorldSkills standards have been used to inform Shanghai's vocational learning curricula, to raise standards to international levels, reflecting the city's desire to be a global leader in its key sectors. From a slow start, employers have come to see WorldSkills participation as a badge of quality amongst students, and a way to identify new recruits. China's participation in WorldSkills has been one of the drivers of an improved status and attitudes towards vocational learning, coupled with government efforts to improve standards, and the good standard of living now possible through skilled employment without academic qualifications.

“Shanghai worked very smartly to import the WorldSkills standards... they learned from the standards and they tried to take some elements from the standards and make good use of them... they went into the curriculum for their TVET system. Shanghai learned from the world-class standards.”

— Senior Shanghai WorldSkills official

“Traditionally we give more attention to the academic education... WorldSkills' place is very important in changing this attitude, [even though] we still have a long way to go.”

— Senior Shanghai WorldSkills official



## CASE STUDY SUMMARY

# Shanghai

Shanghai responded to the upheaval and economic restructuring of the Chinese economy in the 1980s and 90s with a skills-led economic transformation that has supported a transition to a high value, knowledge based economy.

### Category

Turnaround place

### Population

24 million

### WEF Human capital index ranking

N/A

### WEF Inclusive development ranking

N/A

## Impact Stories

- From a peak in 2002/03, unemployment in Shanghai decreased steadily, and is considerably below the average for urban Chinese areas.
- Shanghai has the highest minimum wage in China (set locally).
- It was impacted less than other Chinese cities by major skills shortages in the 2000s and constrained economic growth from the 2008 recession.
- Per capita GDP increased steadily between 2011 and 2016.

## Approach to skills competitions

- Shanghai has a rich history of skills competitions stretching back to the 1950s, with various competitions at national, city and company/factory level.
- Skills competitions elevate the status and public profile of vocational education. 100,000 people participate in the city's skills competitions.
- WorldSkills standards inform and improve the city's vocational learning curriculum.
- The emphasis on quality and competition based on international standards has incentivised efforts to drive quality improvements in the vocational learning system.
- There is a clear value proposition for businesses, which has driven business engagement in WorldSkills and vocational learning.
- The above includes talent identification, companies providing insight into the most up to date skills required, and providing staff to teach in vocational institutions.

## Overview of the system

- Historically the status of vocational education has been lower than general education.
- A series of reforms since the 1990s, as well as devolution of responsibilities from central government to Shanghai's municipal government, have started to change this dynamic.
- VET is delivered by secondary vocational schools, colleges and training centres, and other providers authorised by government agencies.
- Four types of vocational secondary school: schools offering 3-year certificates, typically to enable entry into work; schools that have switched from general to vocational education, leading to work or tertiary education; skilled worker schools which provide occupational licenses; adult specialised high schools.
- Four types of tertiary VET institution: technical colleges or polytechnics; specialised junior schools; adult learning full time and part time courses.
- Majority of funding for the system comes from the municipal government; adult learners typically pay for training up-front and are refunded by government when they achieve qualifications. Subsidies are also provided to employers.

## Key strengths and innovations

- The collapse of state-owned enterprises (SOEs) and transition into high-value economy from 90s onwards created a major skills challenge.
- The response, through a series of reforms, initiatives and pilots, was to focus on attracting talent; elevating the quality of the skills system; and prioritising adult re-training.
- Vocational education was seen as crucial to this. A major innovation came in 2004 with a comprehensive talent strategy that connected skills and education to economic development, with a focus on upskilling and re-training, eg training agriculture workers in modern technology and marketing.
- Skills interventions were connected explicitly to priority sectors, for example through training centres within large companies and sectors.
- Improvement was supported by a culture of innovation, piloting and using pilots to share provision more broadly.
- Good quality 'bridging provision' connect vocational education graduates to tertiary opportunities.
- The devolution of powers to the municipal government played a key enabling role.
- Per capita GDP increased steadily between 2011 and 2016.