

Adopting global skills innovation for the UK



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May 2019



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About the partners



About the RSA

The RSA (Royal Society for the encouragement of Arts, Manufactures and Commerce) believes that everyone should have the freedom and power to turn their ideas into reality—we call this the Power to Create. Through our ideas, research and 29,000-strong Fellowship, we seek to realise a society where creative power is distributed, where concentrations of power are confronted, and where creative values are nurtured. The RSA Action and Research Centre combines practical experimentation with rigorous research to achieve these goals.

About WorldSkills UK

WorldSkills UK is a partnership between business, education and governments. We unite experts from across the UK to run skills competitions for thousands of young people every year in key economic skills areas. We champion young people's training achievements and success at our annual National Finals and the top achievers, Team UK, then undergo further intense technical and mindset training to prepare them for international competition. Our competitors are trained to worldclass standards, bringing back their hard-earned know-how to directly benefit their employers.



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About FETL

The Further Education Trust for Leadership (FETL) exists to strengthen the leadership of thinking in and about the further education system. All our work is located in at least one of two domains: the leader in the system, by which we mean the place of leaders and leadership in the wider educational ecology; and the system in the leader, our shorthand for how the values of leaders, their culture, belief, ideas, character and disposition influence their own thinking and approaches in performing their role.

All of FETL's commissioned work and grand-funded projects, our written and digital communications, aim to foster a future-focused understanding in one or both of these domains. We provide funding and other development opportunities for colleagues to turn their preoccupations into research-based provocations for change. This work contributes to developing the evidence, thinking and options the sector will need as it leads and adapts to its role to a changing world. It is also the basis for the new work commissioned by FETL's Board. We create space for further learning, for opening new areas for exploration and collaboration. In this way, we hope to engender the next stage of knowledge-enriched leadership, characterised by autonomy, foresight, creativity and independence.

Acknowledgements

The RSA is grateful to a number of individuals for their support throughout this project.

We would especially like to thank everyone that participated in the research process, including the interviews, workshop and roundtable in Scotland. We are grateful to international WorldSkills leads for participating and helping us to coordinate the case study research: Christine Davatz (Switzerland), Jia Jie (Shanghai), Bruce Poh (Singapore), Katerina Tatarenko (Russia) and Kader Si-Tayeb (France).

We would like to thank Dame Ruth Silver DBE from FETL and Dr Neil Bentley-Gockmann OBE, Emma Roberts, Ben Blackledge, Rosamund Hampshire and colleagues at WorldSkills UK for their support throughout.

We are grateful to colleagues at the RSA that supported and informed the research. In particular, Adanna Shallowe, Becca Antink, Kayshani Gibbon, Shirin Maani, Aima Ahmed, Ahmed Shaal, Anthony Painter, Amanda Kanojia and Ed Cox.

Foreword

Dame Ruth Silver DBE, President of the Further Education Trust for Leadership (FETL)

The Further Education Trust for Leadership (FETL) is delighted to have supported this fascinating and much-needed research project, and to have remained close to it through to publication of its excellent report.

It arrives at a time when the UK's further education (FE) and skills system is under unprecedented scrutiny and re-evaluation, and asks a timely and important question: what can we learn from the best and most innovative practice worldwide and in particular from those countries to which the UK can be most directly and pertinently compared.

Such comparisons are not new: the education press has been awash in recent decades with generally unfavourable comparisons to competitor countries, most notably Germany, Austria and Switzerland, often held up as the leading models of well-developed technical education.

What I like about this report is that it does not suggest there is nothing to build on in the UK—some of the 'success factors' it identifies are already present, in some form or another, here—or suppose that it is possible simply to import another country's skills system wholesale into the UK national context.

As the authors write, the review of global practice is about learning rather than borrowing, building on our own strengths rather than trying to mimic others'. As a result, the report is able to offer proposals for development and innovation that are far from alien and, from the point of view of implementation, decidedly doable.

This is important. Over the years, I have seen many ministers prepared to tear up what has gone before in the name of self-confident but illconceived innovation. This is often where things go wrong in further education and skills. Innovation is not the same as invention but is too frequently thought of as such. Instead, we should think of innovation as a season's new growth: it needs to grow organically from what was there before, not spread like ivy over it, stunting or strangling the growth or innovation that is already in the system.

And, of course, as every gardener knows, what you plant in one part of your garden can have an impact on everything else living there. Ensuring a plant grows healthily requires not just an understanding of the needs of that plant, but of how it fits in a complex 'ecosystem' characterised by interdependency. No good gardener begins the process of renewal with a blank sheet of paper.

I hope the report will be widely read. I hope it will lead to further learning, in colleges and training providers, in cities and other communities, and particularly in the corridors of Whitehall. We need to learn from our peers, talk and listen to them, and do so in a thoughtful, critical and structured way. WorldSkills is providing a wonderful platform for this sort of learning, and I trust it will spread and deepen with time. As the report says, we are in a moment of opportunity in the UK. For too long, we have tolerated a loss of human potential that should not be accepted in any civilized society. We need to look elsewhere and everywhere in finding ways to unlock that potential, not only to enhance Britain's laggard levels of productivity but for reasons of social justice too. I trust the fresh thinking and fresh approaches to doing described in the report will help ensure that the innovators in our own system no longer have to swim against the tide. They are much needed.

Dr Neil Bentley-Gockmann OBE, CEO of WorldSkills UK

WorldSkills UK works to accelerate the development of young people's skills from national to world-class standards through UK-wide and international skills competitions. We know that achieving excellence is determined not just through delivering a higher technical skill-set, but it is also through developing the resilience and creative mindset that are vital for driving higher performance at work.

We know this because to maintain our position in the top 10 in the WorldSkills medal tables we have been benchmarking internationally and honing our training methods year after year. But we have not systematically mainstreamed our know-how to add value across UK skill systems. This has to change.

We believe that the best way for us to have a much broader impact is by developing and sharing our methodology on what it takes to become worldclass in skills and our insights into how other countries in the WorldSkills global network are innovating to develop skills systems to meet their economic needs and boost their competitiveness.

That is why we have created a Productivity Lab within WorldSkills UK. This is designed to undertake research and transfer knowledge to help mainstream world-class excellence across UK skills systems, helping to make the UK more productive and competitive.

We're delighted to have worked with FETL and the RSA on our first major insights project looking at what four very different countries and regions have done to raise their game in skills in the face of changing economies and societal pressures.

The findings are fascinating, and, above all, the RSA's research shows that other countries have improved their skills systems by strategically integrating the use of WorldSkills competitions. In Singapore, WorldSkills competition involvement is closely aligned to the skills needs of its economic development programme. In Russia, WorldSkills standards have been completely mainstreamed to transform its technical education system, while in Switzerland and Shanghai, WorldSkills competitions are used to show that vocational education and training can be just as prestigious as university education. Given the RSA's broad research outlook this report also analyses what these findings mean for other parts of the skills system and have developed recommendations for policymakers to consider further. Our role, however, is simply to focus on what lessons WorldSkills UK can draw from the case studies and consider further how to become more aligned with the strategic development of UK skills systems to help boost economic performance.

WorldSkills UK already does a lot to raise aspirations and inspire success amongst thousands of young people every year through competitions, but we know we can and must do more. We intend to make the best possible use of WorldSkills International as a global benchmarking platform, the only one of its kind for international skills, to help ensure the UK remains at the cutting edge of international best practice in skills innovation.

We will be working hard over the coming months and years to respond to this challenge and look forward to working with all our partners in industry, education and governments to build world-class skills systems right across the UK to boost productivity and competitiveness.

Introduction

This report is the culmination of a seven-month research project led by the RSA in partnership with WorldSkills UK and supported by FETL. It has investigated inspiring examples of global innovation in TVET and skills, with the aim of drawing out lessons for UK policymakers and practitioners, including the FE sector, as they work to confront the major skills, productivity and social inclusion challenges facing Britain. Working with WorldSkills UK has allowed us to examine a relatively under-explored but highly promising platform for skills innovation: skills competitions.

In a major review of skills at the middle of the decade, the Organisation for Economic Co-operation and Development (OECD) described technical and vocational education and training (TVET) as a 'hidden world' in many countries, including the UK. The implication was that TVET, including adult skills and lifelong learning, provides considerable social and economic value, but sometimes doesn't get the visibility and investment it deserves.

This is beginning to shift across the UK, even if system-wide change and capacity-building hasn't fully caught up with ambition. Places across the UK are thinking creatively about how best to use the resources at their disposal to create more inclusive and productive economies. In England some of them are using the opportunity presented by the devolution of the adult education budget (AEB) to strive for more coordinated skills ecosystems linked to local industrial strategies.

In Scotland, Wales and Northern Ireland the devolved administrations have spearheaded their own policy innovations, linking skills more strategically to regional economic development through partnership and collaboration between institutions and with employers. Major areas of Whitehall policy—from the Apprenticeship Levy and T Levels through to the Industrial Strategy and English devolution—signal a clear intention to revitalise our skills systems and align them more strongly to economic policies to promote inclusive growth and productivity.

There is also no shortage of inspiring innovation on the ground. Against a challenging backdrop of cuts, rigid accountability and policy tinkering, the FE sector has shown ingenuity, systems leadership and resilience. There are growing hotspots of innovative practice, from the 21 colleges in the West Midlands that have formed a collective to promote regional skills policies that support productivity and social inclusion, through to the excellent examples of employer-FE collaboration, such as the Industry Academies established by the City of Glasgow College.

The 'hidden wealth' of TVET is also exemplified by skills competitions, which provide a bridge between skills institutions in the UK and the best national and global practices. They have the potential to embed excellence and elevate the status of vocational education. Yet TVET has been described as a hidden world precisely because its potential hasn't been fully realised. Some of the most inclusive and economically dynamic countries in the world have high quality, well-funded TVET and lifelong learning as a core part of their skills systems. As the UK enters a crucial period for its skills reform agenda, there is a great deal it can learn from global innovation and best practice. WorldSkills UK—a partner of this project—has developed a wealth of insight into international systems and initiatives, and it demonstrates the value we can derive from national and global benchmarking through platforms such as skills competitions.

In this report we draw on a deep dive into global innovation and best practice—supported by WorldSkills UK insights and networks—to surface learning and propose a set of 'key success factors' or design principles that we think can help UK policymakers and practitioners think through and respond to the challenges they face. These are:

- Stakeholder-led, locally rooted governance.
- No dead ends.
- High quality, high status.
- Vision setting and movement building.
- Learn and innovate.

The case studies chosen — Switzerland, Shanghai, Russia and Singapore — showcase the art of the possible. They have very different skills and economic systems, but they have all had to respond to moments of crisis and opportunity. From the institutionalised innovation of social partners in Switzerland, the local experiments that have driven systems change in Shanghai, through to the embedding of global WorldSkills standards in Russia and the future-proofing of skills in Singapore, there is much we can learn to capitalise on the opportunities in the UK.

As others including SKOPE and the Edge Foundation rightly point out, reviewing global practice must be rooted in policy learning rather than policy borrowing. Our intention is not to encourage decision makers to import systems or policies from other countries—as is sometimes the temptation when ministers visit Germany or Singapore. Rather it is to extract useful insights that can help us go further in a way that is sensitive to our unique context, strengths and challenges.

The key success factors we have identified are therefore by no means alien to the UK—in fact, several are being actively promoted or pursued. However, for whatever reason they have not been embedded enough to have system-wide impact. They tend to exist in particular regions, sectors or pockets of practice. This report concludes by offering some proposals from the RSA for how policymakers and practitioners might systemically embed these design principles.

International skills competitions

For 66 years, WorldSkills UK has been a leading player in WorldSkills International. This global movement drives a collective skills agenda to create economic benefit for nations, and increased ability for young people to be able to make career choices. It brings together 80 countries to organise the biennial 'skills olympics'. Recently held in London (2011), Leipzig (2013), Sao Paolo (2015), and Abu Dhabi (2017), the next competitions will take place in Kazan this summer (2019) and Shanghai (2021).

Calgary, CA 2009 Top 10 medal results:	London, UK 2011 Top 10 medal results:	Leipzig, DE 2013 Top 10 medal results:	São Paulo, BR 2015 Top 10 medal results:	Abu Dhabi, AE 2017 Top 10 medal results:
1. Korea	1. Korea	1. Korea	1. Brazil	1. China
2. Switzerland	2. Japan	2. Switzerland	2. Korea	2. Korea
3. Japan	3. Switzerland	3. Chinese Taipei	3. Chinese Taipei	3. Switzerland
4. Chinese Taipei	4. Brazil	4. Japan	4. Switzerland	4. Brazil
5. Canada	5. United Kingdom	5. Brazil	5. China	5. Russia
Equal 6th:	6. France	6. Austria	6. Japan	6. Chinese Taipei
France United Kingdom	7. Finland	7. Germany	7. United Kingdom	7. France
Austria Australia	8. Chinese Taipei	8. France	8. Austria	8. Austria
Brazil	9. Australia	9. Finland	9. France	9. Japan
	10. Austria	10. United Kingdom	10. Germany	10. United Kingdom

Methodology

The approach to conducting our research is outlined below.

Phase 1: Data analysis and case study selection

Key relevant global datasets were used to carry out an analysis of how countries across the world performed on key skills, economic and social inclusion measures, including over time. The principal datasets used were the World Economic Forum's (WEF) Inclusive Development Index, WEF's Human Capital Index, OECD's Adult Survey of Skills, and key OECD national and regional datasets related to productivity and inequality. Alongside this, we looked at performance at WorldSkills International competitions and undertook a literature scan to identify interesting practice. A short list of possible case study areas was developed and the final four were chosen based on how well they suited the typology outlined in chapter 2.

Phase 2: 'Deep dive' case study research

We undertook a mixture of semi-structured interviews and literature and document scanning to conduct deep dives into the selected case study areas. We spoke to a range of professionals and experts, including the WorldSkills leads of each place, skills system professionals, policymakers, industry and social partner voices, and academics and experts.

Phase 3: Engagement with UK practitioners, policymakers and experts

The case study research enabled us to develop a set of 'key success factors' that can inform UK policy and practice. We used an extensive co-design workshop to test these success factors; identify some of the challenges they have faced in a UK context; and to identify hotspots of innovative practice that can be built on. This was supplemented with a roundtable in Scotland and follow-up semi-structured interviews, including with stakeholders in the other devolved nations.

Phase 4: Report

The learning from the three phases is brought together in this final report.

1. The context for innovation in UK skills

The demand for new and creative thinking and practice, including learning from global innovation to revitalise TVET in the UK, has grown in response to the major social, economic and skills challenges facing Britain. Despite the difficult history of skills reforms, we are in a moment of great opportunity. For all its challenges, there is a great deal of untapped potential in the UK. A growing openness to re-thinking the foundations of policy and practice, of how we develop, shape and govern our skills systems, also creates a real need to learn from the best global practices. To do this, it is important to understand the UK context.

The burning platform: Productivity, inequality and the future of work (and learning)

The UK has a well-established productivity problem that has grown since the 2008 global financial crisis. Productivity growth has been at its slowest for over two hundred years, which has caused the gap between Britain and its international competitors to grow.¹ Our productivity issues are also contributing to the high levels of inequality in the UK, because they have very clear social and place-based dimensions. Regional differences in productivity in the UK are the highest in Europe, while we also have a 'long tail' of people employed in low wage sectors that are significantly less productive than equivalent sectors in competitor countries.² Many of these workers are 'trapped' in low pay over the long-term.³

Britain ranks 21st out of 29 high income countries in the World Economic Forum's Inclusive Development Index (IDI), which measures key growth, inclusion and intergenerational equity indicators to provide a picture of how inclusive an economy is.⁴ The UK's high level of inequality is closely associated with weak social mobility, as illustrated by the so called 'Great Gatsby Curve'.

According to the OECD, 50 percent of the economic advantage that high-earning parents have over lower-earners is passed down to their sons—higher than almost every other advanced economy and compared to less than 20 percent in the Nordics, Australia and Canada.⁵

2 Inclusive Growth Commission (2017) *Making our Economy Work for Everyone*. [pdf] London, RSA. Available at: www. thersa.org/globalassets/pdfs/reports/rsa_inclusive-growth-commission-final-report-march-2017.pdf.

3 Social Mobility Commission (2017) *The great escape? Low pay and progression in the UK's labour market*. [pdf] London: Social Mobility Commission. Available at: www.resolutionfoundation.org/app/uploads/2017/10/Great-Escape-final-report.pdf

4 World Economic Forum (n.d.) *The Inclusive Development Index 2018 Summary and Data Highlights*. [pdf] Switzerland: World Economic Forum. Available at: www3.weforum.org/docs/WEF_Forum_IncGrwth_2018.pdf

5 OECD (2010) A Family Affair: Intergenerational Social Mobility across OECD Countries [pdf] OECD. Available at: www. oecd.org/centrodemexico/medios/44582910.pdf

¹ Office for National Statistics (2017) International comparisons of UK productivity (ICP), first estimates: 2006. [pdf] Office for National Statistics. Available at: www.ons.gov.uk/economy/economicoutputandproductivity/productivitymeasures/ bulletins/internationalcomparisonsofproductivityfirstestimates/2016

McCann, P. (n.d.) *Productivity Perspectives* [pdf] Productivity Insights Network. Available at: productivityinsightsnetwork. co.uk/app/uploads/2018/06/P-McCann-Final-synthesis.pdf

These challenges will also be influenced by the impact of technology on our economy and the nature of work in the future. As research by the RSA's Future Work Centre illustrates, we may need to prepare for a number of possible eventualities, some of which will have dramatic impacts on the way we learn, work and re-train. This will create major challenges for particular groups in society, for example those whose careers are at greatest risk of automation, because of the tendency for technological change to reward those with certain types of skills and disadvantage others.⁶ Declining levels of participation in adult learning, and the tendency for those that are already high skilled and affluent to disproportionately participate in training, makes these challenges even more significant.

The importance of skills in meeting these challenges

Developing and investing in skills is critical to building a socially inclusive and productive economy, for a number of key reasons.

Skills and productivity are closely interlinked. Econometric analyses have shown that improvements in workforce skills contributed to 20 percent of annual productivity growth in the late 1990s and early 2000s, allowing Britain to significantly close the gap with its global peers. This has continued in the period since the 2008 recession, suggesting that continued skills improvements helped avert an even more severe economic slowdown.⁷ Skills variations may also be a significant factor in the UK's regional disparities in productivity, alongside other key drivers such as transport, R&D and management practices.⁸

Skills improvements complement other key building blocks of an innovative and inclusive economy. The effectiveness of investment in infrastructure, new technologies, research and innovation, regional growth and improved business practices and processes is influenced by how well skills are cultivated (their supply) and applied (their utilisation). As we prepare for the future, as Graham Hasting-Evans and Paul Bivand argue, unlocking and equitably sharing the productive benefits of technologies enabled by digitisation and artificial intelligence will require a step change in the development and utilisation of skills related to management, employability (including cognitive and non-cognitive skills) and the technical knowledge and know-how to use new technologies.⁹

⁶ Dellot, B., Mason, R., and Wallace-Stephens, F. (2019) *The Four Futures of Work*. [pdf] London, RSA. Available at: www.thersa. org/globalassets/pdfs/reports/rsa_four-futures-of-work.pdf

Office for National Statistics (2019) *Which occupations are at highest risk of being automated?* [online] Available at: www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/articles/ whichoccupationsareathighestriskofbeingautomated/2019-03-25

⁷ Department for Business Innovation & Skills (2015) UK Skills and productivity in an international context. [pdf] London: Department for Business Innovation & Skills. Available at: assets.publishing.service.gov.uk/government/uploads/system/uploads/ attachment_data/file/486500/BIS-15-704-UK-skills-and-productivity-in-an-international_context.pdf

⁸ CBI (2016) Unlocking regional growth: Understanding the drivers of productivity across the UK's regions and nations. [pdf] CBI. Available at: www.humberlep.org/wp-content/uploads/2017/07/CBI-Unlocking-Regional-Growth-Report-Dec-16.pdf

⁹ Hasting-Evans, G., NOCN and Bivand, P. and L&W (2018) *Skills to drive a productive society*. [pdf] Nocn Group., Learning and Work Institute. Available at: www.lepnetwork.net/media/1899/skillstodriveaproductivesocietypublication-singles-optimized.pdf

Equitable skills development supports economic inclusion, mobility and security.

Skills levels are strongly associated with social, economic and health outcomes — from wage premiums through to social participation and better health and wellbeing.¹⁰ Closing the significant social and regional disparities in skills development and utilisation can therefore contribute to tackling inequality and promoting social mobility. The impact of social background on skills proficiency in England and Northern Ireland is among the highest in the developed world.¹¹ According to an OECD analysis of regional growth, investing in those with the least skills matters more for growth and inclusion than simply trying to increase the share of workers with tertiary degrees.¹² Effective skills strategies — including VET, lifelong learning, re and-upskilling — can also make people and places more resilient and secure in the face of economic and technological headwinds. As an authoritative review into the future of skills by NESTA notes, "investing in skills must be at the centre of any long-term strategy for adjusting to structural change."¹³

Britain has a lot of untapped human capital — and TVET can play a key role in unlocking it.

Over the last few decades the UK has been highly successful at increasing the proportion of people with advanced (degree-level) skills, which has helped to create the conditions for success in key knowledge-intensive sectors that have driven British productivity.

Yet there has also been a degree of imbalance in our skills systems, with a long tail of people with a low base of skills and a much smaller cohort of people that have the intermediate level skills that are known globally to drive productivity.¹⁴ This has been linked to the UK's 'low skills equilibrium'.

The World Economic Forum's (WEF) comprehensive Global Human Capital Index—which captures both the development of skills and how well they are used to support the economy—ranks the UK 23rd internationally and well below many of its global competitors. It performs especially poorly on the 'capacity' (54th) and 'deployment' (51st) subindices, suggesting that large sections of the population are not developing economically useful skills—including through up—and re-skilling—and also that skills are not being deployed effectively at work.

12 OECD (2012) Promoting growth in all regions [pdf] OECD. Available at: www.oecd.org/site/govrdpc/49995986.pdf

13 Bakhshi, H., Downing, J.M., Osborne. MA.. and Schneider, P., (2017) *The futures of skills, employment in 2030*. [pdf] Pearson. Available at: media.nesta.org.uk/documents/the_future_of_skills_employment_in_2030_0.pdf

14 Department for Business Innovation and Skills and Department for Education. (2016) *Technical Education reform: the case for change*. [pdf] Department for Business Innovation and Skills and Department for Education. Available at: assets.publishing.service.gov. uk/government/uploads/system/uploads/attachment_data/file/536048/Technical_Education_Reform_-_Case_For_Change.pdf

¹⁰ Evans, S. and Egglestone, C. (2019) *Time for Action: Skills for economic growth and social justice*. [online] Learning and Work Institute. Available at: www.learningandwork.org.uk/resource/skills-vision-2030/ [Accessed 17 May 2019].

¹¹ OECD (2013) Survey of adult skills first results. [pdf] OECD. Available at: www.oecd.org/skills/piaac/Country%20note%20-%20United%20Kingdom.pdf

According to WEF, the UK has tapped into only 71.31 percent of its human capital potential. The OECD's Survey of Adult Skills also suggests that the literacy and numeracy proficiency of workers in England and Northern Ireland is set to decline. It is the only place where older workers (aged 55-65) are more proficient than 16-24 year-olds in both literacy and numeracy. At the same time, there is also a high degree of over-qualification, second only to Japan.¹⁵

Yet the scale of these challenges also highlights the size of the prize for Britain if it can rebalance its skills systems to maximise its human capital potential. TVET in particular — described as a hidden world in the UK — can play a key role in contributing to productivity growth and maximising the productive benefits of training and other forms of economic investment.¹⁶ This is especially the case in industries with lower ICTintensity — including lower and middle-wage sectors which account for a high proportion of overall employment and are likely to play an important role in closing the UK's productivity gap.¹⁷ According to analysis by CEDEFOP, a percentage point increase in vocational skills from initial VET alone (ie before labour market entry) contributes to a 0.75 percent increase in GDP in the UK.¹⁸

Evidence from countries with high-functioning Vocational Education and Training (VET) systems—such as Norway and Switzerland—suggests that VET and adult learning plays a critical role in labour market inclusion and progression; social mobility; resilience against economic shocks; and innovation and productivity.¹⁹ Seen in this light, the extent of untapped potential of human capital in Britain is a worry but it also presents a major opportunity. The degree of consensus and government interest in technical education reforms underscores this.

¹⁵ OECD (2013) Survey of adult skills first results. Op cit.

¹⁶ OECD (n.d.) A skills beyond school brief on the United Kingdom. [pdf]. OECD. Available at: www.oecd.org/education/ skills-beyond-school/Skills-beyond-school-United-Kingdom.pdf

Rincon-Aznar, A., Forth, J. ORCID: 0000-0001-7963-2817, Mason, G.,

O'Mahony, M. and Bernini, M. (2015). UK Skills and Productivity in an International Context. London, UK: Department for Business, Innovation and Skills. Available at: openaccess.city.ac.uk/20747/1/BIS-15-704-UK-skills-and-productivity-in-an-international_context.pdf

¹⁷ Inclusive Growth Commission (2017) Op cit.

JRF (2018) Raising productivity in low-wage sectors and reducing poverty. [online] JRF. Available at: https://www.jrf.org.uk/report/raising-productivity-low-wage-sectors-and-reducing-poverty [Accessed 16 May 2019]

¹⁸ European Centre for the Development of Vocational Training (2013) *Benefits of vocational education and training in Europe*. [pdf] Luxembourg: Publications Office of the European Union. Available at: www.cedefop.europa.eu/files/4121_en.pdf 19 Ibid.

The challenging context for innovation and reform

"No matter how much governments or others think they know about how well a policy ought to work, enigmatic variation can make it hugely hit and miss. A policy will be effective in one school not another, in one place not another, in one person not another, not because these places have done something 'wrong', but because what constitutes doing 'right' will be subtly, contextually, different." — Michael Blastland, The Hidden Half: How the World Conceals its Secrets

In The Hidden Half, Michael Blastland introduces the idea of 'enigmatic variation' to explain why policy often doesn't work as intended or fails to transfer from one place to another, even when those places share the same basic characteristics and the evidence for a particular intervention appears to be compelling. All too often we assume the world, and its social systems, have clearly discernible patterns, observable order and big forces with law-like effects. We therefore underestimate the degree of uncertainty and 'noise'—or enigmatic variation, the hidden half that Blastland speaks about—that exists, leading to an overconfidence about policy solutions and an under-appreciation of the awkwardness, the trial and error, inherent in designing and implementing effective policy.²⁰

In education and skills, as Sean Snyder notes, we assume we are operating in a complicated environment, when in fact it is one of complexity. Experts devise policies targeting a single or small set of problems and hope that they will be whole, widely replicable and easily actionable. These policies are built on "linear algorithms" that "simplify and break down systems into isolated, component parts", believing that specific inputs will produce predictable outcomes.

In reality, in complex systems cause and effect cannot be so easily deduced; and interventions cannot be so easily transferred, and often encounter unintended consequences.

Complex systems bely 'one-size fits all' solutions and demand iterative processes underpinned by local experimentation, flexibility and constant feedback.²¹

20 Blastland, M. (2019) The hidden half: how the world conceals its secrets. London: Atlantic Books.

21 Snyder, S. (2013), The Simple, the Complicated, and the Complex: Educational Reform Through the Lens of Complexity Theory. [pdf] OECD Education Working Papers, No. 96, OECD Publishing. Available at: dx.doi.org/10.1787/5k3txnpt1lnr-en Understanding skills systems in this way helps to explain why effective systems-wide reform has sometimes been difficult in the UK, despite several decades (and longer) of often well-intentioned attempts by policymakers (of all political hues) and systems leaders to address widely-recognised and enduring challenges. These have included, to name a few major ones, a desire to create active employer ownership of skills; aligning skills more effectively to the unique needs of local places; addressing the opaqueness and incoherence of qualifications and pathways; and creating a more socially coordinated governance for skills.²²

These difficulties have accentuated certain features of our policy governance that have created barriers to system-wide innovation. There has been considerable policy churn and tinkering, a high degree of centralised decision-making and accountability, and a generally low tolerance for risk, for example in ceding autonomy to local areas to take the lead in skills and creating a permissive environment for colleges to be innovative in exercising leadership and achieving their social missions.²³

According to extensive OECD research, it is important to develop open, dynamic and strategic skills policy governance that is flexible, involves a wide range of stakeholders, and promotes locally-led experimentation as the basis for scaling and learning.²⁴ In the absence of some of these key systemic conditions for innovation, in many respects the UK has come to rely on 'heroic' leaders and 'enlightened' employers. There is no shortage of innovative programmes and initiatives in the UK. However, they have tended to arise out of exceptional heroic or enlightened leadership, for example college principals coming together to persuade local employers to shape vocational provision and offer placements. This means that innovative practice sometimes requires swimming against the tide of funding, accountability and regulatory pressures. The ability for innovations to spread beyond particular pockets of practice and have a system-wide impact is therefore often limited.

²² Norris, E, and Adam, R. (2017) Why Britain is so prone to policy intervention, and what can be done about it. [pdf] Institute for Government. Available at: www.instituteforgovernment.org.uk/sites/default/files/publications/IfG_All_change_report_FINAL.pdf

²³ Fleckenstein, T. and Lee, S C, (2018) Caught up in the past? Social inclusion, kills, and vocational education and training policy in England. Journal of Education and Work.

City and Guilds group (2016) *Government's skills agenda is a case of 'two steps forward, one step back.*' [online]. Available at: www.cityandguildsgroup.com/whats-happening/news/sense-and-instability [Accessed 16 May 2019].

Skills Commission (n.d.) *Guide to the skills system*. [pdf] London: Skills Commission. Available at: www.policyconnect.org.uk/ sites/site_pc/files/report/625/fieldreportdownload/guidetotheskillssystem.pdf

²⁴ Burns, T. and F. Köster (eds.) (2016), Governing Education in a Complex World, Educational Research and Innovation. Paris: OECD Publishing.

2. Learning from global insights

One of the routes through which we can strengthen skills policy development and governance in the UK, particularly as a lever for supporting productivity and inclusive growth, is by learning from global practice. This has been identified by the OECD as one of the areas of weakness in the UK.

To address this we undertook a review of international TVET policy and practice, supported by a deep dive into a small number of countries and cities. Rather than simply selecting the highest performing countries and providing a snapshot analysis of the key features and strengths of their systems, we wanted to explore a range of places with different starting points and trajectories; not only those that have consistently excelled, but also those that have had to pick themselves up from difficult situations, or have had to innovate in the face of mounting challenges. The way in which countries were using skills competitions and the platform provided by WorldSkills was also taken into account as a key part of the selection process, and examining places' standings in the WorldSkills International medal table in recent competitions helped with this. To support the final case study selection, we developed a typology for case study selection with three key categories:

Consistent performers are the places that have relatively stable, high functioning skills systems that have consistently and, over time, delivered in terms of human capital development, productivity and inclusive growth. Analysis of OECD and WEF datasets offered a number of possible candidates, including Norway and Denmark. We elected to go for Switzerland not only because it has one of the most inclusive and innovative economies in the world, but also because it is not the typical coordinated market economy: like the UK, it has a deregulated labour market, relatively low tax levels and a complex political geography.

Turnaround places are those that may have struggled economically in the past and faced moments of crisis and uncertainty, but managed to respond effectively, with skills policies and innovation processes playing an important role in their resurgence. Based on analysis of international data, a review of literature, and engagement with global experts, we selected Shanghai, China. Now one of the world's major metro regions, Shanghai had to respond rapidly to the decline of its old industries and the shift to a more diversified, services-based and high value economy. TVET and adult retraining coupled with an enabling environment for policy innovation are said to have played an important role, so we were keen to learn more. Aspirational innovators are those places that may not all be high performers, but are pursuing interesting and potentially transformative policy reforms and innovations that in some cases go against the grain of their systems. We chose two countries to look at here. Russia was selected for the way in which it is extensively using international benchmarking, including through WorldSkills, to build, embed and spread excellence into its skills system, as a key strategic response to post-Soviet restructuring of its economy and the challenges brought about by the changing nature of work. Singapore was selected because of how it is responding to automation and economic change, including through innovative models of lifelong learning such as personal training accounts.

Policy learning versus policy borrowing

Our intention with the case studies is *not* to find examples of successful initiatives or reforms from abroad that we can 'borrow' for the UK or import into our own systems. This does not work. There are countless examples globally of efforts to import, for example, the Germanic apprenticeship model into countries that lack any of the economic, social and governance infrastructure that enables that model to be successful. This temptation sometimes creeps into UK policy discussions too, for example when ministers exalt the virtues of Singaporean education and speak of replicating its success.

Rather, we are interested in policy learning, a key distinction made by organisations such as the Edge Foundation and the Centre on Skills, Knowledge and Organisational Performance (SKOPE).²⁵ Our aim is to examine how effective change and innovation can take place in complex skills systems, and what the key factors of success are. Some of the key questions we have explored through the place-based research are:

- How they have used skills policy and practice as a lever for responding to social and economic challenges.
- How skills competitions have been used to support TVET and skills innovation.
- What the role of key institutions and leaders, such as colleges, was in driving change.
- How they have managed to introduce or implement successful reforms, especially those that have required systemic innovation.
- What are the critical enabling features and success factors of their systems.
- What are the policy, practical, institutional and resource levers they have pulled to achieve or pursue desired outcomes.
- What is their response to key economic challenges or crises, such as economic restructuring.
- What is their policy governance, including innovation processes.

The case studies and wider review of practice have in turn formed the basis of the key success factors for reform set out in the next chapter.

²⁵ UCL Institute of Education (n.d.) *FE and skills across the four countries of the UK*. [pdf] UCL Institute of Education. Accessed at: www.edge.co.uk/sites/default/files/documents/fe_and_skills_across_the_four_countries_of_the_uk_final.pdf

Switzerland: Institutionalised innovation



Skills-driven economic development with VET at its heart

Until a century and a half ago, Switzerland was a poor country. It had few comparative advantages and no natural resources that it could mobilise. As a result, as it industrialised it chose a path to economic development that continues to define the country. This included a relentless focus on improving human capital and investing in high-value economic activity that was oriented to the global economy. Ensuring international competitiveness and innovation became critical to its export-based economy; and vocational education would be a central pillar of this.²⁶

The story of Switzerland's ascendancy and continued economic success is therefore not one that is simply explained by top-down planning and stability, but rather a capacity to innovate and respond strategically to moments of significant change or crisis. The VET system, and its modernisation and capacity for innovative change and adaptability, has been at the forefront of this. For their part, skills competitions have helped to maintain the status of a world-leading VET system, even as other countries have faced challenges from a shift in societal preferences towards general education.

The foundations of Swiss VET success and the contribution of skills competitions

Switzerland has among the lowest levels of youth unemployment in the world. It consistently ranks towards the top of the global rankings of innovation, economic competitiveness, human capital development and economic inclusion.²⁷ Its TVET system plays a major role not only in preparing people to enter into and progress through the labour market, but also in aligning this human capital to processes of economic innovation. Our review of evidence and interviews indicate three key foundations of its success, with skills competitions playing an important role in helping to maintain and elevate the high status and quality of the TVET system.

Business leadership is exercised through stable, open and collaborative governance that is anchored in a shared social mission. TVET in Switzerland is employer-led in the sense that it responds to employer and economic demand: businesses, acting collectively through powerful industry associations, co-design and co-invest in TVET. Employers have real 'skin in the game': they provide the majority of TVET funding and see a net economic return for their investment.²⁸

²⁶ Hoffman, N., and Schwartz., R. (2015) *Gold Standard: The Swiss Vocational Education and Training System*. [pdf] Washington, DC.: National Center on Education and the Economy. Available at: ncee.org/wp-content/uploads/2018/09/ SWISSVETSep2018web.pdf

²⁷ For example, World Economic Forum's Inclusive Development Index and Human Capital Index.

²⁸ Wolter, S C., and Joho, Eva. (2018) *Apprenticeship training in England- a cost-effective model for firms?* [pdf] Bertelsmann Stiftung. Available at:www.bertelsmann-stiftung.de/fileadmin/files/BSt/Publikationen/GrauePublikationen/ LL_cost_benefit_study_England.pdf

But they are also part of a governance infrastructure, enshrined in a legislative framework with clearly articulated roles, that includes federal agencies, social partners including unions, and the cantons (local authorities). This is captured in a phrase that is commonly used by stakeholders in Switzerland: 'One mission, three partners.' Central government provides strategic management; industry associations and professional organisations develop training content, define occupational standards and provide apprenticeships; and the country's 26 cantons ensure the system is locally responsive. The latter is important to note: the principle of subsidiarity is embedded within TVET governance, so that while national standards exist, localities are encouraged to be innovative in their implementation. It should be noted that cantons have considerable autonomy over major areas of policy in Switzerland. The social partnership ethos also extends to the development of skills policy, which is supported by a series of 'Commissions' that bring together social partners.

There is a relentless focus on ensuring that learners and workers don't hit 'dead ends' at any point of their learning and working lives. There are three key aspects of this: permeability; lifelong learning and re-training; and highly effective and professional career advice, guidance and support.

It is relatively straightforward for learners to pursue further training and education, and switch between vocational and professional pathways, as well as between general and vocational education. As such, there are multiple pathways between different parts of the system, giving learners a range of progression and reskilling routes that they can pursue flexibly through the course of their lives.

There is a high degree of mobility and very few restrictions on people upgrading or updating their skills, or indeed switching between professional pathways. A strapline of VET Plus, an initiative to promote vocational education, captures this succinctly: 'Train to be [a] hairdresser, become a biologist.' High quality professional and continuing education ensures that there are opportunities for workers to upskill and retrain; professional education and training (PET) in particular is a key part of the Swiss system.

Careers advice and guidance—which begins in compulsory education and is then offered at local career centres by counsellors trained in understanding the skills system—helps people to make the right choices. For those that are struggling, there is extensive support including tutoring, bridging courses and, perhaps most innovatively, a 'case management' system that uses a caseworker model to offer holistic support from a broad range of public services to help those most at risk reintegrate into learning and work.

"What we avoid like the plague is to have dead ends in the system." —Senior officer of the State Secretariat for Education, Research and Innovation VET status and quality are mutually reinforcing, and skills competitions play an important role. In Switzerland vocational education is regarded as highly as general education, with two thirds of people choosing vocational education. There are a number of important reasons for this. Firstly, VET is considered a central priority by decision makers and industry leaders, and it receives significant public and private investment. Secondly, it is highly integrated with labour market needs and economic strategies, which ensures that the skills that learners develop and the qualifications they gain are economically valuable. The 'dual system' apprenticeship model, which combines work-based and classroom learning, is at the heart of this. Unlike many other countries, VET is not merely a social policy instrument for 'second chance' provision to those that are most excluded: it is a mainstream offer that balances social integration with an ability to attract and develop talent, including skilled workers at the forefront of the economy. Participation in VET also confers status and esteem. For example, apprentices not only develop the skills they need for work, but also their identities as professionals and citizens. This is built into the pedagogy of vocational education in the country.

It is here that skills competitions - SwissSkills, EuroSkills and WorldSkills — play an especially important role. They do so in three key ways. Firstly, they are used actively to build the brand and status of VET, reinforcing it as a high quality, world-leading route for learners to take and employers to benefit from. Participants and trainers in the competitions also act as "ambassadors" for their trade, helping to strengthen the connection between VET and the world of work. Secondly, the competitions help to identify, nurture and showcase the talent that exists within VET, reinforcing the status of Switzerland as a leading global economy with exceptional professionals. Indeed, a key benefit of the competitions is that they help to create a sense of "professional identity" among those that are connected. Thirdly, they are used as a sophisticated "marketing tool" to nudge people into directions that serve the current and future needs of the economy and reinforce it as at the heart of economic development. The exceptional performance of Switzerland in international skills competitions-it has consistently excelled in WorldSkills since joining in 1953-suggests that its approach has been especially effective in no small part because competitions are well integrated into the overall infrastructure of skills and economic development in the country, rather than being seen as an 'add on'.

"In Switzerland as in other countries University tends to be seen as 'elite'. Skills competitions help us to flip that, with VET seen as 'elite'." —WorldSkills and SwissSkills leader

"Skills competitions also help us to showcase our talent. In a sense, WorldSkills is a labour market for international companies to search for the best professionals in a particular trade."

-WorldSkills and SwissSkills leader

"In Switzerland apprenticeships are not social programmes — they are connected to the labour market." — CEO of a Swiss Industry Association

Institutionalised innovation: How VET thrives in Switzerland

A key factor in the resilience and adaptability of Switzerland's economy and skills system is the country's institutional capacity to respond to technological and economic change and crises through innovation and collaboration. According to Dr Ursula Renold, the system evolved very well in the second half of the 20th century, with two thirds of young people choosing the vocational route and a close proximity to labour market needs ensuring the quality and value of apprenticeships. However, one major challenge was that the VET system was essentially limited to the trade sector.

By the middle of the 1990s a crisis had hit the system as a result of the apprenticeship market 'crashing', with the supply of apprenticeships failing to match demand. This was part of a wider economic recession that impacted the country through the '90s. The response of key institutional actors in Switzerland — brought together through a coordinated social partnership approach — proved pivotal. They undertook a major analysis that identified that one of the primary causes of the crisis was that the education and skills system had become too siloed and lacked permeability. This meant that, in an age of globalisation and technological change, the pathways available to Swiss learners and workers risked becoming too narrow and rigid, with limited potential to upgrade or adapt their skills and educational and professional pathways. Decision makers became concerned about the risk of 'dead end education'.

In response to these challenges "the biggest innovation" in the VET system's history, notes Dr Renold, "came in the middle of the 1990s, where we invented first the Federal Vocational Baccalaureate (FVB) and then the Universities of Applied Sciences (UAS)." UAS are technically oriented tertiary institutions, and are accessed mostly by those that have completed an apprenticeship at 'uppersecondary level'. The FVB acts as the bridge for these learners into tertiary education at a UAS. This was followed up by constitutional changes in 1999 that determined that all occupations should be under the same umbrella law for VET to ensure national standards and consistency.

This had important implications for health care, social care and the arts in particular, which until then were outside of the system. The Federal Vocational and Professional Education and Training Act put this into force in 2004.

These innovations had two major implications. Firstly, they built permeability more firmly into the system, creating effective and publicly understood pathways for upgrading and upskilling. Secondly, they extended the VET system beyond the trades and into areas including health care, social care and other occupations that hitherto had not been included. This strengthened the link between VET and the economy. Dr Renold notes that the outcomes have been significant in terms of social mobility. "Between 2000-2012, our attainment rate in vocational education increased from 64 to 71 percent." Importantly, the crisis in apprenticeships had also been addressed. "The Swiss system has high sustainability and stability, but it is also adaptive... The skills system changes slowly, but all the time... It may be complex in its design but when you live in the system it's not complex."

-Senior skills professional

CASE STUDY SUMMARY

Switzerland

Switzerland has a highly successful skills system that is closely connected to industry and economic needs. It is a consistent performer—ranking as one of the most innovative, productive and inclusive economies in the world.

Category

8.5 million



Consistent performer
Population

WEF Human capital index ranking 3rd

WEF Inclusive development ranking 4th

Impact Stories

- Switzerland ranks among the highest in indices of innovation, productivity and inclusiveness in the world.
- One of the lowest levels of unemployment and youth unemployment (the latter averaging 3.49 percent between 2000-2018) in the world.
- Weathered 2008 recession far better than many other countries.
- Between 2000-2012 attainment rate in vocational education rose from 64 to 71 percent.

Overview of the system

- High quality vocational education. Two thirds of people choose to go the vocational route.
 Compulsory education ends at grade 9. Choice then is to go down a vocational or general education route.
- There is a high degree of permeability between vocational and general education, including University of Applied Sciences.
- Professional Education and Training provides high-quality options for workers to develop their skills.
- Apprenticeships at the heart of the vocational system (dual system). Based on Germanic model, with most time spent at a host company.
- Multiple routes into high quality professional and tertiary education.
- High level of coordination and partnership working: central government provides regulation and strategic management; industry organisations determine occupation standards and content; cantons implement and deliver.
- Majority of funding for VET is covered by employers.

Key strengths and innovations

- Permeability—numerous pathways within skills system and into labour market.
- Career guidance professional and systemic, locally delivered.
- Case management—high quality preventative support for those that are struggling. Long term strategic coordination—local and central government, business and
- social partners. Maintains stability and helps to 'future proof'.
 Strong industry associations that ensure skills system reflects economic needs and promotes mobility.
- Subsidiarity—national standards but with local flavour.

Approach to skills competitions

- Marketing and branding—ensuring the status of vocational education; framing it as 'elite'.
- Identifying, nurturing and promoting talent.
- Promoting professional identity.
- Skills competitions well integrated into skills system; some trades actively incorporate standards into assessments.

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.²⁹

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.

²⁹ 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.

Adopting global skills innovation for the UK

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

2. Learning from global insights

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 Turn-around place

Population 24 million

WEF Human capital index ranking N/A

WEF Inclusive development ranking N/A

Impact Stories

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- 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.

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 governmentt played a key enabling role.
- 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.

Russia: Embedding global standards



The shift from centrally planned to market-based economy in the 1990s was the driving force behind major changes to the Russian skills system. The responsibility for planning and delivery of vocational skills broadened from the state alone to focus much more on employers. Further reform took place in the 2010s with a more evidence-based approach to VET policy, developed through participation in the Torino Process (TRP), a holistic policy and system analysis, facilitated by the European Training Foundation (ETF). This led to a strengthening of standards, teaching and training.

The current system is underpinned by legislation from 2012, which regulates the whole Russian education system, its structure, principles and operation. A comprehensive strategy, adopted in 2013, sets out Russia's key goals for its VET system, including to meet the country's economic and social needs, to respond to socioeconomic change, to expand opportunities for different sections of the population to gain vocational skills throughout their working lives, and to consolidate the resources of employers, government and training providers. Underpinning the strategy are three key principles: the leading role of public-private partnerships in VET delivery; the strengthening of the role of non-governmental organisations in the system; and the internationalisation of VET.

The VET system is now administered at a federal and regional level, and delivered by state providers, non-profit autonomous organisations, and private sector organisations. The current system centres on two types of vocational institution. Technical schools and colleges teach programmes at both secondary and post-secondary levels. Post-secondary vocational diplomas can provide access to both higher level vocational learning, and university for those with some general education as well as technical training. Advanced vocational learning is the route into skilled careers such as nursing and accountancy, again with the potential to move into Higher Education.

Innovation through internationalisation

The ongoing modernisation of VET in Russia has a strong focus on internationalisation, with Russian standards being benchmarked against best practice globally, including through participation in WorldSkills, which Russia joined in 2012. There is also a strong emphasis on futureproofing the VET system, through anticipating future challenges and proactively preparing for them. There is, for example, a target to deliver training for the 50 most in-demand or growing vocations, and for this training to be in line with the best standards from abroad. WorldSkills Russia runs a dedicated digital skills competition, which aims to identify future digital skills requirements, develop educational programmes to address these needs and a model of skills assessment to verify learning outcomes. Skills in the programme include machine learning, virtual reality, AI and cloud computing. The anticipation of future skills needs applies not just to young people entering the labour force, but also to older workers, as lifelong learning has become a key element of the overall skills system.

There has been significant change and modernisation in vocational standards and qualifications, with a new national framework developed, covering a range of qualification levels, as well as the production of professional standards in over 1000 professions, overseen by 30 sectoral councils.

WorldSkills as a driver of change

WorldSkills standards have been central to the reform of standards and training within the VET system in Russia, informing assessments, qualifications and training for workers, educators and trainers. Comparison and benchmarking against the best global standards has been both a practical tool, with WorldSkills standards being embedded in the VET system, and has also generated energy and enthusiasm for change and reform. Improvements in the training of educators and trainers involved in the delivery of VET aim to ensure that the best international practices are delivered in Russia. The WorldSkills Academy in Russia trains thousands of teaching staff each year, through a cascade system whereby global benchmarks are learned at national level, before being filtered down to regional level.

One of the additional aims of Russia's WorldSkills participation, alongside embedding global standards in the skills system, is to strengthen the links between training providers and employers. In most sectors employer investment and engagement in vocational training is low, and WorldSkills provides a platform to develop greater cooperation and expand employers' roles and responsibilities.

Reform is not just driven from the centre, but also through regional activity, and at company and institution level. Regional centres have been created to promote key skills and competencies, and regional economic systems are integral to VET reforms. Regions can develop new WorldSkills competencies specifically to address a key regional sector or industry. Individual companies and academic institutions compete to prove their excellence, and companies use WorldSkills standards to develop their own staff. University participation in the WorldSkills movement has helped to break down barriers between academic and vocational learning.

"WorldSkills paves the way to organise close contact between industry and vocational educational institutions: this is one of the key objectives of WorldSkills Russia."

-Senior WorldSkills Russia official

Since 2012, legal and strategic reform and commitment to using WorldSkills as a tool for improvement have increased participation amongst young people in vocational education from 42 percent to 59 percent. A JuniorSkills programme, designed to expose 13-15 year-olds to vocational learning, has contributed to raising the profile and prestige of vocational skills. In development is a Skills Passport for WorldSkills competitors, which will record the learning completed as part of their WorldSkills training, and how they performed according to WorldSkills benchmarks. Recognition of the WorldSkills brand, which has helped to elevate the status of VET, has increased from virtually zero in 2012 to 30 percent in 2018. Employer investment in some sectors of the economy, namely gas, oil and civil engineering, has increased, with the creation and funding of vocational schools.

CASE STUDY SUMMARY

Russia

As Russia transitioned into a liberal economy, its skills systems and programmes—which had been created to serve Soviet era state industries—became fragmented. In recent years, the country has used skills competitions to transform its VET system, integrate it with the economy and anticipate future challenges.

Category Innovator

Population 144 million

WEF Human capital index ranking 16

WEF Inclusive development ranking 19 (among emerging economies)

Impact Stories

- In 2012, only 42 percent of school children opted to pursue vocational education. By 2018, this increased to 59 percent.
- Brand recognition of WorldSkills went from virtually 0 percent in 2012 to 30 percent in 2018. Competitions have elevated the status of VET.
- In 2018 250,000 adults and children were aware of WorldSkills; 1200 participated in some way; and 50 leaders—change makers—were established in the national education system.
- Finished 5th in WorldSkills 2017; a vast improvement from 2013, where it finished close to last.

Overview of the system

- There are two main types of VET institutions in Russia, technical schools (teknikum) and colleges, which teach programmes at secondary and post-secondary levels. Basic programmes at secondary level can last between 1-4 years, and contain both specialised technical training and more general secondary education. At the higher level, a Diploma of Vocational Education can be taken, giving access to higher level programmes, as well as entry to university.
- Advanced vocational learning, lasting 2-3 years after upper-secondary school, provides access to skilled trades including nursing and accountancy. Again, students can in some circumstances progress from advanced vocational learning into Higher Education.
- VET system administered at federal level (Ministry of Enlightenment) and regional levels.
- A variety of educational organisations play a role, including state providers, non-profit autonomous
 organisations and private sector organisations.

Key strengths and innovations

- VET is undergoing a process of 'modernisation', enshrined in key laws. A key element of this is 'internationalisation' and orienting the Russian system to the best foreign practices (eg WorldSkills, below).
- Effective use of cross-sector, holistic, evidence based and strategic review of VET systems and policies through the Torino Process, modelled on EU Copenhagen Process.
- Development of regional economic systems with integration of regions into VET reforms.
- Strong emphasis on anticipating future challenges and responding proactively; eg target of implementing training for the 50 most demanded and promising vocations in line with the best foreign standards.

Approach to skills competitions

- Skills competitions have been used as a platform to transform the entire skills system, across age groups (lifelong learning and future proofing has been a key component);
- WorldSkills global standards have been embedded into the VET system, including end point assessments
 and advanced training (based on WorldSkills standards) for workers, educators and trainers; this has been
 supported by a national framework to improve qualifications and ensure independent quality assurance.
- Advanced training for educators, directors and masters of vocational education seeks to ensure the best international practices are transferred into Russia.
- Benchmarking regions against global standards created energy for change and reform.
- 185 regional centres have been established.
- Introduction of competitions between companies and between academic institutions (including higher
 education institutions) have strengthened the incentives for improvement and excellence; at company level
 WorldSkills standards were used as a tool for staff development.
- Using competitions to anticipate future skills needs, including for older workers.

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-theart 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."

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.

The SkillsFuture approach



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

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

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 **Overview of the system** TVET system comprised primarily of polytechnics and since 1992 the Institute of Technical Singapore Education (ITE) Until the 1990s, VET was considered as 'last resort' provision, but ITE transformed the reputation Singapore has a well-established skills of VET as being for low achievers. system that serves the needs of its economy ITE includes state-of-the-art campuses closely connected to international companies, focusing and promotes economic mobility. Through on developing the vocation and technological skills needed for a knowledge based economy. innovative initiatives such as personal Significant investment flowed into VET. Vocational education now accounts for 65 percent of those that go onto post-secondary education. training accounts, it is also anticipating 25 percent are accepted into ITE and 40 percent attend polytechnics. future challenges and responding to the Polytechnics offer around 150 diplomas, linked to industry needs. imperative for lifelong learning. Lifelong learning is a key component of Singapore's skills system (see SkillsFuture Singapore). Key strengths and innovations Category SkillsFuture Singapore and SkillsFuture Credit. Innovator Strengthening workforce development and career support became a key priority from 2010. Population SkillsFuture Singapore was launched in 2014, as a 'movement' encompassing a range of 5.6 million programmes beginning in middle school and stretching into adulthood. Reforms were supported by international benchmarking. WEF Human capital index For young people this included stronger career guidance, enhanced internships and individual ranking learning portfolios. 11 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 WEF Inclusive modular courses to rapidly develop new skills. development ranking N/A 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. **Impact Stories** 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. 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 Approach to skills competitions Credit, 48 percent of 35-64 year olds have Skills competitions are organised by ITE and the country's polytechnics, and sponsored by the participated in adult education training, up Ministry of Education, SkillsFuture Singapore and various industry sponsors. from 30 percent. WorldSkills Singapore is a key part of the FutureSkills movement to update citizens' skills and support In 1997, only 37 percent of Singaporeans lifelong learning to meet industry needs.

Skills competitions often provide a way to 'future proof' skills and respond to emerging trends/

For example recently new competitions have been introduced in cyber security and rapid transit

supporting people to pursue in-demand or soon to be in-demand areas of skills development

Competitions also provide a platform for skills advocacy and career counselling-encouraging and

technology, and new areas identified include the Internet of Things (IoT) and blockchain.

changing skills needs by establishing excellence in that particular area.

- 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.

Adopting global skills innovation for the UK

3. Key success factors for skills innovation

The case studies in the previous chapter provide compelling examples of how TVET can play a crucial role in helping places respond innovatively to major economic and systemic challenges. In this chapter we draw out implications of these international insights for the UK. Rather than proposing that the UK borrows policies, structures or reforms from the case studies, we have brought the insights together into a set of 'key success factors' or design principles that can act as a stimulus for informing UK policy and practice.

A summary of the key success factors are set out in the table below.

Key Success Factors	What it means	Key constituent parts	Examples (including role of skills competitions)
Stakeholder-led governence	Shifting from market-based governance and government micro- management of skills to industry, learners, and (national and local) government working together with equal skin in the game.	 Subsidiarity with local ownership. Multi-stakeholder co-design, including strong industry associations. Co-investment—employer skin in the game. 	Switzerland—powerful industry associations, employers are key funders and cantons (localities) play a key role in the system.
No dead ends	Ensuring everyone has clear opportunities and support to progress, upskill and flexibly navigate between various career and learning pathways.	 Permeability. Career counselling and coordinated, holistic support. Flexible lifelong / adult learning. 	Switzerland—Case management (holistic caseworker support for those struggling in school / education), and University of Applied Sciences.
High quality, high status	Low status of vocational education isn't down to societal attitudes alone. The quality of the system (including the investment put into it) will impact the standing it has; status and quality need to be mutually reinforcing.	 Aligned to economic development / real demand within economy; not simply compensatory social policy. Social inclusion married with talent attraction. Explicit status-building: policy parity; promotion and marketing; learner esteem and professional identity. 	Switzerland, Singapore, Shanghai—strong focus on aligning skills to economic development. Skills competitions are used proactively to market and build the status of VET.
Vision setting and movement building	Responding to unprecedented global disruption to learning and work by mobilising key actors, influencing new behaviours and creating a vision for change that citizens can get behind.	 Mobilising place and anchor institutions. Influencing citizen and stakeholder behaviour. Citizen-led visioning. 	Singapore—SkillsFuture framed as a 'movement'. Switzerland—Vision 2030. Russia—Internationalisation and global skills standards used as a platform to support a renewed vision for skills. Shanghai—skills reforms rooted in vision for a new type of economy.
Learn and innovate	Building capacity within systems to learn, innovate and anticipate future challenges.	 Institutionalised global benchmarking and learning, underpinned by holistic self- assessment. Future-proofing. Testing, experimenting, piloting, scaling. 	Russia—integrating global practices, eg redesigning skills system according to WorldSkills standards. Singapore—intense global learning underpinned VET reforms and innovations in the 1990s.



1. Stakeholder-led, locally rooted governance

The way in which decisions are made and the coherence of the roles that different actors play within a skills system is a major determinant of its quality and success. The growing complexity of skills systems, including a proliferation of the stakeholders, voices and relationships that constitute them, makes effective governance all the more critical.

Yet in many places around the world, skills governance has come to rely on narrow market-based approaches, often allied with central government micro management. This has weakened the possibility of fostering collaborative, open and long-term oriented governance that takes a 'whole system' view, is organised around an appropriate local and sub-regional scale, cultivates leadership and responds to the real needs of learners, workers, employers and communities.

The case studies indicate that effective governance isn't just restricted to the so-called coordinated market economies with tightly regulated labour markets and formalised social partnerships. It can also be fostered in more liberal market economies with previously fragmented systems—evident for example in how Russia has sought to restore employer engagement in a TVET system still recovering from the collapse

of state industries and the rapid shift to a market economy.

Key features

- 1. Subsidiarity and local ownership. Skills-needs and employer demand can vary from place to place, depending on the local economic context. As a result, the principle of subsidiarity is embedded in many skills systems, as a way of ensuring that there are national standards but also considerable local flexibility and autonomy in shaping skills. In Russia, regional centres are empowered to develop competencies specifically to support a key regional sector or industry. In Switzerland, cantons work with local employers to ensure VET is place-relevant and that the implementation of national standards meets local needs. The skills system in Shanghai has grown out of significant local autonomy, ownership and experimentation.
- 2. Multi stakeholder co-design, including strong industry associations. The strongest governance systems are not those that are centrally planned and delivered, but rather those that are co-designed through open, participative and collaborative processes that bring together key actors to build trust and legitimacy and enable collective action. In a TVET context, industry associations and related professional organisations (for example unions) are especially crucial because of the role they play not only in ensuring skills provision meets employer demand and learner needs, but also in overcoming collective action problems in market economies that may weaken employer engagement (for example the fear of 'poaching'). As a result, in countries such as Switzerland and Singapore employers are much happier to actively engage in the governance of their skills systems.

But they are also further incentivised to do this because partnerships between actors extend beyond skills, and into economic development and industrial strategies. This helps to ensure an employer demand for skills, which is often missing in places (such as many cities of the UK) with a low skill equilibrium.

3. Co-investment—employer skin in the game. In many of the most successful systems, the effective engagement of employers is also underpinned by models of co-investment with a fair balance between individuals, public funding and private investment. Rather than expecting a steady supply of ready-made skills provided by the state, employers actively invest in and shape TVET, for example through funding apprenticeships, professional education and training and adult learning. In Switzerland, the majority of TVET funding comes from employers. Co-investment ensures that employers have a real incentive to actively engage in the system and to ensure that skills provision is aligned with economic demand; for example addressing skills shortages and mismatches, and under-utilisation.

Hot spots of UK practice and opportunity

A co-design workshop with practitioners policymakers and experts surfaced a range of existing initiatives and practice that illustrate what embedding this success factor in practice can look like on the ground. A few of these are presented below.

Local and regional coordination of skills through devolution in England.

Although governance in England remains highly centralised, local authorities, LEPs and combined authorities are demonstrating the promise of a more locally and regionally responsive skills ecosystem. For example, the West Midlands recently created the Further Education Skills and Productivity Group (FESPG), a collective involving the 21 colleges in the region, which is working alongside learning providers and civic leaders to try to develop regional skills policies that promote productivity and greater inclusion, including through devolved AEBs. The development of local industrial strategies is also supporting this.

The Apprenticeship Levy and T Levels reflect a strategic commitment from policymakers to ensure employers take greater responsibility for skills.

The Levy explicitly promotes employer co-investment, even if some have raised questions about its design and objectives (for example too target focused and not touching many SMEs). The shift from apprenticeship 'frameworks' to standards designed by employers is also reflective of this. The industry placements to be offered as part of T Levels also reflects a significant expectation from policymakers for greater employer involvement in skills (although concerns have been raised about how ready businesses are to offer them).

Scotland's Working Together Review and Fair Work Framework show what a social partnership approach to skills and job quality can look

like. For some, it represents the first attempt for several decades in the UK to develop a coherent and comprehensive approach to employment relations and job quality, with a focus on employers, unions and government working together.³⁰ The Scottish Enterprise and Skills Board is helping to take this forward, bringing together a range of agencies and organisations to better coordinate skills and economic policy to promote inclusive growth and productivity. The Taylor review of modern working practices also provides an opportunity to connect these agendas across the UK.

The Two-Way Street Leadership Exchange partnerships demonstrated how strategic leadership and employer co-design can enhance

productivity and skills. The nine-month project, supported by University College London's Centre for Post-14 Education and Work and working with a number of colleges across England, sought to test how employer-education and training partnerships could support pathways into work as well as reskilling, by leveraging their expertise on occupational standards, business process, curriculum and pedagogy. Leaders across these sectors worked together to find collective ways to enhance productivity and create employment and training opportunities, while also fostering sustained collaboration.³¹

Why it isn't yet embedded in the UK

There is broad recognition—including within government—that there are problems with the centralised and quasi market-based nature of skills governance, particularly in England. In effect there are two 'markets' operating without much alignment: a publicly funded market that provides qualifications based on government priorities, and a private training market that serves business needs. In the absence of any significant alignment, training providers have had to rely on the former, sometimes leading to a lack of connection to economic and employer need.³² The absence of strong sectoral associations has made this all the more difficult.

There have been numerous attempts in the last few decades to create "employer ownership" of skills, from sectoral institutions such as sector skills councils (SSCs) to the 'trailblazers' that are developing apprenticeship standards today.

³⁰ Keep, E. (2016) Improving Skills Utilisation in the UK- Some Reflections on What, Who and How? [pdf] Oxford, SKOPE. Accessed on: www.skope.ox.ac.uk/wp-content/uploads/2016/09/Keep-2016.-Improving-Skills-Utilisation-in-the-UK-Some-reflections-on-What-Who-and-How.pdf

³¹ UCL (2016) *Two-way Street Leadership Exchanges*. [online]. Available at: www.ucl.ac.uk/ioe/case-studies/2016/sep/two-way-street-leadership-exchanges [Accessed 16 May 2019].

³² UKCES (2011) *Employer Ownership of Skills* [pdf] UKCES. Available at: assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/306691/employer-ownership-of-skills-vision-report-final2.pdf

A recent Employee Ownership Pilot tested whether giving employers direct access to public funds, to co-invest with their own, would increase their investment in skills or make more effective use of skills among the workforce. The Apprenticeship Levy is also based on the principle of co-investment. The ambition to see greater employer involvement and ownership, and wider stakeholder involvement, is clearly growing.

These efforts have faced considerable challenges, primarily because they have not, in any fundamental way, shifted the system dynamics of centralisation, voluntarism and marketisation.

This is a view supported by recent research by FETL and the Association of Employment and Learning Providers.³³ SSCs were generally state-driven as they came to rely on government funding and tended to be effective in sectors where there was already a tradition of employer investment and cooperation between firms, for example construction and engineering. Early evidence suggests that there may also be issues with how the Apprenticeship Levy is being used, for example with evidence of employers recouping their funds through firm-specific and in some cases low value training. By targeting large employers, the principle of co-investment is not extending to smaller and medium sized businesses.³⁴ For sectors that have used general levies well in the past (such as construction) this is a step back in practice.³⁵ Moreover, the lack of integration between skills and economic development has meant that one of the drivers of poor employer engagement—a lack of skills demand—is not being addressed.

In England, local industrial strategies, the devolution of adult education budgets and the wider opportunities presented by city region devolution are raising the prospects of more place-based skills governance through local and regional partnerships. Area-Based Reviews are said to be adding to this. Nevertheless, funding cuts are imposing serious constraints on localities; the powers that have been devolved remain modest, and the centralising tendency within the system still persists. The ambition for more collaborative governance also has to be set against a backdrop of continued government incentivisation of a marketised system based on competition.³⁶ In many respects, as Professor Ewart Keep argues, this is rooted in the enduring influence of New Public Management (NPM) on British public services. NPM has extended market and commercial principles into ill-suited complex systems. For Keep, "one key consequence of moves to markets and competition has been a parallel shift towards ever greater central control of education... as well as a concomitant decline in the influence of local government."³⁷

³³ Warner, P. and Gladding, C. (2019) *Employers in the driving seat*. [online] FETL. Available at: fetl.org.uk/publications/ employers-in-the-driving-seat-2/ [Accessed 17 May 2019].

³⁴ IPPR (2017) Another Lost Decade. [pdf] London, IPPR. Available at: www.ippr.org/files/2017-07/another-lost-decade-skills-2030-july2017.pdf

³⁵ Ibid.

³⁶ Hodgson et al (2018) *Beyond employer engagement and skills supply*. [online] Available at: www.tandfonline.com/doi/full/1 0.1080/13639080.2019.1593331?scroll=top&needAccess=true

³⁷ Keep, E. (2018) Scripting the Future- exploring potential strategic leadership responses to the marketisation of English FE and Vocational Provision. [pdf] FETL. Available at: fetl.org.uk/wp-content/uploads/2018/07/FETL_scriptingthefuture-web.pdf



2. No dead ends

The most successful skills systems provide meaningful opportunities for everyone to develop and update their skills; to progress through and switch between various learning and professional pathways; to learn continuously throughout life, and to retrain when necessary.³⁸ In Switzerland and Singapore this has been a core part of their skills policy reforms and innovations, helping to build systems that have been resilient and responsive to the challenges brought about by technological and economic change.

Yet in many places, including to some respects the UK, skills systems are impacted by dead ends. Often this happens when a lack of parity and connection between general and vocational education leads to people cycling between low-value courses without the support to progress into more economically valuable and attractive parts of the system. It can also happen when pathways are intransparent, or when they become outdated and too rigid to respond to changing needs within the economy, especially for adult learners. The OECD, WEF and others have argued that the changing nature of work and the profound impact of new technologies means we need to make a concerted effort to build future-ready skills systems that are able to avoid locking people into dead ends.

Key features

- 1. Permeability. Permeability means loosening the rigid separation of different parts of the skills system, enabling individuals to move horizontally and vertically through education and training systems. Rather than seeing VET and general education as competing parts of a system, permeability helps to develop them as an integrated whole, allowing people to connect into both in a way that suits their skills development. The case studies show that a key part of enabling this is high-quality bridging and transitional support—seen for example in the way that Swiss people that have completed lower level (2-year) apprenticeships are supported to bridge into a full 4-year apprenticeship.
- 2. Career guidance and support. The potential of permeability depends on people—especially those that may be distant from learning or work—understanding the pathways that are available to them, and being supported to navigate and take advantage of them.

In several of the case study areas this has been achieved through high quality careers advice and guidance, often brokered by professionals with a high level of understanding of local labour markets and skills systems. Avoiding dead ends means being supported to make the right choices.

³⁸ Puckett, J., Davidson, J. and Lee, E. (2012) Vocational Education: The Missing Link in Economic Development. The Boston Consulting Group. Available at: www.bcg.com/documents/file117152.pdf

However, it can also require intensive, coordinated support to ensure people—especially those that face disadvantages—are provided with the opportunities to address barriers to further learning and progression.

3. Flexible lifelong, adult learning. Lifelong, adult learning is essential to creating a permeable skills system. There was a recognition in all of the case study areas that adult learning would be critical to managing economic change and driving social inclusion and productivity. Two key groups are identified as especially critical: younger professionals, for whom learning (particularly professional education and training) can support progression, and workers who may need to retrain due to structural economic change. Developing permeability means enabling flexible provision of different types of learning: from basic skills, to formal training, to informal, personalised learning as well as validation and recognition of prior skills. The use of personal training accounts in Singapore shows how this can be done in a way that empowers individuals while also ensuring that they are developing skills that serve the economy.

Hot spots of UK practice and opportunity

The Gatsby Benchmarks are actively supporting better careers guidance in a number of places across the UK. The eight benchmarks are based on national and international evidence for excellence in careers provision, ranging from careers education, tailored support and curriculum development through to employer interactions and workbased experiences. One example of them in practice is a pilot programme in the North East of England, where the LEP is coordinating the programme with a number of schools and colleges. Before it started in 2015, half of schools and colleges in the pilot achieved no benchmarks, but after two years over 85 percent reached between six and eight benchmarks.³⁸ The benchmarks are also being promoted by the national careers strategy and the careers and enterprise company. The possibilities for greater enforcement of the Baker Clause, which places a responsibility on schools to allow colleges and training providers to educate students on nonacademic routes—can also play a key role.

Career learning pilots, personal learning accounts and the National Retraining Scheme provide opportunities to enhance lifelong learning. While more strategic investment will undoubtedly be needed to elevate lifelong learning and adult participation in learning, the form it takes will be crucial. The National Retraining Scheme announced by the government provides a major opportunity to get things right. The career learning pilots being tested in five LEPs across the country will inform the national scheme, with a focus on finding ways to help adults to upskill, reskill and progress, including through the use of subsidies, outreach and career coaching. Many also argue for making personal training accounts a key part of the national offer, learning from the past implementation issues in England with individual learning accounts but also from how they have been used successfully in other places, such as France and Singapore.⁴⁰ The flexibility afforded by devolution of the AEB may also provide opportunities for more advanced adult learning.

CU Coventry (formerly Coventry University College) provides a model for flexible learning for school and college leavers as well as adults. The offer is based on students studying flexibly at their own pace, with each course comprising 30 credit six-week modules that are taught (and assessed) one at a time rather than simultaneously, allowing flexibility and multiple entry points. Courses are also created alongside professional bodies which certify that they are industry-relevant, and also provide a range of opportunities to connect students into work, such as internships and placements.⁴¹

The Scottish Government's 15-24 Learner Journey Review illustrates how a more cohesive and coordinated approach to skills can help young people progress into work and avoid dead ends. The review and subsequent policies from the government have challenged the view that there is only a single route to success and promoted a more 'balanced' approach which provides multiple entry and progression points. This has been built on three key features: better advice and guidance; more work-based learning supported by systems leadership and co-creation with employers; and efforts to shorten the journeys needed to progress through the post-15 education and skills system. Initiatives such as Foundation Apprenticeships—which combine classroom and work-based learning, are indicative of the approach increasingly taken in Scotland.⁴²

In England the government is also actively seeking to address dead ends through current technical education reforms, following key reviews (including Wolf and Sainsbury). The Post-16 skills plan for England provides a vision for a permeable skills system where technical and academic education routes are more integrated, and where the opportunities available to those pursuing vocational routes are high quality. The T Levels are a key part of this, in particular the 'transitional' and 'bridging' support. Complementary reviews, for example the reviews of qualifications at level 3 and below, as well as level 4 and 5 reviews (review of higher technical education), are also seeking to ensure quality, progression and transparency of pathways for young people taking vocational routes. This is especially important in addressing the dead end that prevents many young people advancing from level 2 to 3.

⁴⁰ See for example Independent Commission on Lifelong Learning (2019) Personal Education and Skills Accounts: Recommendations from the Independent Commission on Lifelong Learning.

⁴¹ University Alliance (2017) *Lifelong learning: ladder and lifeline*. [pdf] London: University Alliance. Available at: www. unialliance.ac.uk/wp-content/uploads/2017/02/UA-Lifelong-learning-spotlight-paper-web.pdf

⁴² Scottish Government (2018) *The 15-24 learner journey review*. [online] Edinburgh: Scottish Government. Available at: www.gov.scot/publications/15-24-learner-journey-review-9781788518741/ [Accessed 16 May 2019].

Why it isn't yet embedded in the UK skills systems

Major reviews of vocational and technical adulation—the 2011 Wolf Report and the 2016 Sainsbury Report of the Independent Panel on Technical Education in England, in particular—have identified the issue of dead end qualifications, the lack of a clear technical pathway and routes to progression; and minimal opportunities to move between technical/ vocational and academic pathways. The government's response—the Post-16 skills plan—articulates a clear ambition to address this in England by developing a high quality technical education offer (T Levels) as well as bridging provision to connect technical and academic routes to support young people and adult learners to pursue skilled employment. Higher quality apprenticeships are also a key part of this.

However, as yet there has been little clarity about what this bridging provision will look like, and few details about the year of 'flexible and transitional support' that will be offered to those that aren't ready to start T levels at 16. As it stands, a significant proportion of young people 'churn' between low level courses and fail to progress even once they reach adulthood; addressing the challenges they face will require significant attention and investment.⁴³ Similarly, while the value of apprenticeships is rising at Level 3, there are very few opportunities for progress from Level 2 to 3 apprenticeships. There are clear issues around bridging and transitional support, and more broadly around ensuring an inclusive skills system.

This is also reflected in careers advice and guidance. In England schools are now responsible for this, but are evidently struggling partly as a result of the complexity and incomprehensibility of current pathways. There has also been very low compliance with the Baker clause, which places a responsibility on schools to ensure young people become informed about technical education and apprenticeship opportunities. Part of the problem is the lack of a coordinated infrastructure for careers advice that uses counsellors trained in providing that sort of support - which is what happens in Switzerland.

Adult learning and retraining is also under considerable pressure as a result of funding cuts and a general lack of strategic investment in adult and lifelong learning in the UK. The differences between adult education and education for younger people is striking: only 2.5 percent of the £90bn spent annually on education goes to adult education and apprenticeships.⁴⁴ Part-time study adult learning is in decline and it is disproportionately taken up by wealthier and higher skilled people.⁴⁵ The National Retraining Scheme has been set up to address some of these challenges, especially for adults at risk of displacement.

⁴³ Department for Education (2019) *Review of post-16 qualifications at level 3 and below in England: the current system and the case for change.* [pdf] Department for Education. Available at: education.gov.uk

⁴⁴ Naik, R. et al. (2019) *Recommendations from the Independent Commission on Lifelong Learning*. [online] Lifelong Learning Commission. Available at: www.libdems.org.uk/lifelong-learning [Accessed 16 May 2019].

⁴⁵ Government Office for Science (2017) *Future of Skills & Lifelong Learning* [pdf] Government Office for Science. Available at: assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/727776/Foresight-future-of-skills-lifelong-learning_V8.pdf

House of Lords Economic Affairs Committee (2018) *Treating Students Fairly: The Economics of Post-School Education*. [pdf] House of Lords. Available at: publications.parliament.uk/pa/ld201719/ldselect/ldeconaf/139/139.pdf



3. High quality, high status

Successful skills systems demonstrate a commitment to delivering a high quality vocational learning offer, allied with a comprehensive approach to raising the profile and the status of vocational education and skills as valuable and desirable choices. Key to this is linking provision to real demand in the economy, and the use of platforms such as skills competitions to raise both quality and status.

Vocational learning in many parts of the world (including the UK) suffers from widely held views of it as a second rate option, lagging behind academic learning and higher education in both quality and status. Rightly or wrongly, this affects take-up by learners, investment by government and business, and the esteem in which vocational qualifications are held. This creates a vicious circle in which low esteem and perceived lower quality fuels lower investment, and so on. Public funding for adult learning in the UK has fallen by a third since 2010, inevitably forcing providers to focus on survival rather than being able to prioritise efforts to improve quality.

Evidence from around the world suggests that raising the status of vocational education and driving up its quality are mutually reinforcing. Trying to shift the attitudes of learners, parents and employers in isolation is unlikely to be an effective strategy for pursuing greater parity of esteem. VET's status has often suffered because of poor investment and a lack of certainty about its economic value. On the other hand, the social status of VET has come under pressure even in countries, such as Denmark (and to an extent Switzerland), with well-established systems of vocational education linked to demonstrable economic returns, underlining the importance of actively promoting VET. Often this is most challenging in countries that lack a clear account of what vocational education is for and how it fits into the wider skills system and economy.

Key features

1. Strong alignment to the economy. Several of our global case studies demonstrate one of the key features of this success factor: both quality and status are improved when vocational learning and skills are aligned to real demand within the economy, and are not simply short-term compensatory measures for individuals perceived to be at the margins of the economy. Shanghai's major reforms of the 2000s were strongly driven by the need for a skilled workforce to work in the emerging services and high value manufacturing sectors; they took the individuals made redundant by the closure of obsolete industries and retrained them for the future economy. By ensuring that vocational provision delivers in-demand skills valued by employers, learners are given the opportunity to improve their own careers and economic security.

It also ensures that skills policy is part of the bigger picture of economic growth and development, and plays an identifiable role, thereby justifying the need for investment in improvements in quality and status. Key to ensuring this link between vocational provision and the needs of the economy is employer involvement; understanding what employers really value, where their skills gaps are, and how they can they be encouraged and supported to invest time and resources in driving improvements in the system. Shanghai's work to strengthen the links between vocational providers and employers, through for example tutors and skilled staff spending time in each other's organisations, is one way to ensure the needs of the economy are being addressed.

- 2. Linked to this is are the benefits of marrying social inclusion with talent attraction. The dichotomy between high and low skills, vocational and academic learning, needs to be broken down. Vocational pathways, as demonstrated through our case studies, can be effective at all levels, from a step up at entry level to better and more secure employment, to highly skilled professional qualifications. In Russia, higher education establishments are increasingly getting involved in WorldSkills, demonstrating the broad appeal of vocational options when they are suitably promoted and of a high standard.
- 3. Explicit status building. Our case studies show that it is not enough to hope that the status of vocational learning will improve organically, even if the quality has been increased. Singapore's reforms had the explicit aim of raising both the quality and status of vocational learning, and a number of different methods were used to achieve this, including setting up the Institute of Technical Education as a world-class technical institution that aligned with societal norms about what constitutes quality education. In several of our case study areas VET has been used as a platform to build professional identity and status, and link it to the talent development strategies of employers.

A number of specific approaches can be used to build a comprehensive shift in the status of vocational skills. Firstly, policy parity, by which we mean the same attention paid to vocational learning and skills policy as is paid to, say, higher education policy. This might be through political attention and drive, through government and civil service resources directed towards it, or its overall status with policy-makers; is it seen as a critical or peripheral area of policy? An improved position on the policy agenda can then drive a concerted promotion and marketing strategy.

Hot spots of UK practice and opportunity

The Construction Gateway partnership between Wandsworth Council and Battersea Power Station, funded by the DfE and delivered by the Construction Industry Training Board (CITB), will develop quality skills training explicitly connected to economic development and regeneration in the area. By collaborating with existing institutions such as the Battersea Academy for Skills Excellence (BASE), the initiative will ensure local people are supported to upskill and have access to good jobs, while helping to tackle construction skills shortages.

Dudley College has revised its wage structure to attract industry experts, in order to get employers more actively involved in skills development. The national Taking Teaching Further programme (funded by the DfE) is also hoping to raise the profile of FE teaching among industry professionals and develop more collaborative capacity between colleges and industry. The first stage has involved providing financial support to 150 industry experts to become FE teachers, while the second round will support "innovative and scalable projects". While the budget of the programme is clearly very small, it may provide a platform and evidence base for future programmes.

There is a lot to learn from companies, such as Rolls Royce, and sectors such as construction and engineering, that have a tradition of providing high quality apprenticeships. Rolls Royce apprenticeships involve on and off-the-job training alongside classroom study, similar to Switzerland, Austria and Germany. Level 3 apprenticeships at the AMRC Training Centre in Sheffield also typically last for three years combine classroom and work-based learning. UK policymakers would benefit from applying the lessons from programmes and networks such as these that already have a track record of success. Successful UTCs were also mentioned as key sources of learning and opportunity.

Local industrial strategies and the opportunities presented by devolution

are also being used by local and sub-regional actors to try to develop more coherent and coordinated skills and economic development policies and institutions. For example, West Midlands LEPs and the combined authority are developing a local industrial strategy anchored around a vision of inclusive growth. Two of its key commitments include more and better quality jobs and a high quality and responsive regional skills system.

Stakeholders also mentioned that a range of major national initiatives could embed this success factor. For example, if they are given support, time and investment, T Levels—in particular the industry placements component—and the higher quality apprenticeships emerging through the Levy could drive quality and status within the skills system. The upheaval from Brexit is creating considerable economic uncertainty, but it may also provide an opportunity to attach greater focus on developing the skills of local people.

Why it isn't yet embedded in the UK skills systems

There is a lack of clarity within UK skills systems as to what is meant by high quality, to what aspects of the system it should apply, and who should decide on the most appropriate measures and how to quantify them.⁴⁶ What constitutes quality and success in higher education is not necessarily the same as further education and vocational learning FE colleges for example have great strengths in promoting social mobility and delivering to a more diverse group of learners than HE; they also have greater potential to respond quickly to changing skills needs within the labour market.⁴⁷ These different measures of quality are perhaps not sufficiently recognised culturally or by industry, but all kinds of success can and should be celebrated.

There are deep-seated opinions, preferences and expectations amongst young people, parents and teachers that HE is preferable to vocational learning, and that young people considered able should pursue the HE route. Unpicking these expectations and elevating the status of vocational learning is a long-term challenge. Alongside these cultural challenges, at a policy level excellence is more focused upon HE, with less regard given to how quality can be delivered at every level and across the full range of learning types and levels. Changing well-developed policy approaches to give equal standing to vocational learning and skills is another long process.

This dichotomy is illustrated by the different funding levels available for the different pathways. Further education institutions spend around £1000 / year teaching a 19+ student, with total spending falling around 45 percent between 2009-10 and 2017-18, whereas a university receives on average £28,200 to teach an undergraduate degree, equating to £9,400 / year. The introduction and subsequent increase in tuition fees means this sum has grown considerably since the mid-2000s.⁴⁸ Whilst a direct comparison is overly simplistic, the difference in the growth (or not) of funds available is notable, and the challenge for FE to provide high quality provision on this relatively small budget needs to be acknowledged.

The HE / vocational dichotomy is further underlined by the lack of permeability between the two pathways. Once one route is chosen it is not easy to move horizontally into the other, or to step across from one to another to progress to a higher level, as discussed in the No dead ends design principle, above. The two routes are thereby placed in competition, rather than as potential collaborators, limiting learners' choices.⁴⁹

⁴⁶ Keep, E. (2018) Op cit.

⁴⁷ Keohane, N, (2017) *Rising to the challenge: The Further Education and skills sector over the next decade*. [online] London: Social Market Foundation. Available at: www.smf.co.uk/publications/rising-challenge-education-skills-sector-nextdecade/ [Accessed 17 May 2019].

⁴⁸ Belfield, C., Farquharson, C., and Sibieta, L. (2018) *Annual Report on Education Spending in England*. [pdf] London: Institute for Fiscal Studies. Available at: www.ifs.org.uk/uploads/publications/comms/R150.pdf

⁴⁹ KennyBirch, (2018) *Working Better Together: Colleges collaborating to succeed*. [pdf] London: Localis. Available at: www.localis.org.uk/wp-content/uploads/2018/03/015_WorkingBetterTogether_AWK.pdf

The Post-16 skills plan and T Levels provide an opportunity to address these challenges, but there are uncertainties about the extent to which a coherent technical education pathway will be built, and how the bridging between technical and academic education will work in practice. More positively, Welsh policy is moving towards bringing FE and HE together under a single tertiary education system, with a single funding and regulatory body.⁵⁰

Employer buy-in and input are critical to improvements in both quality and status. To ensure teaching and curricula are up to date and fully relevant to employer needs, vocational providers need insight from employers, and not just as a one-off but on a consistent basis. A relationship based on co-production rather than simply as supplier and customer is likely to be far more fruitful and long-lasting (see Stakeholder-led governance).⁵¹

4. Vision setting and movement building

One of the recurrent features of the global case studies is a clear vision for change which sets a direction of travel for key institutions, and a shared understanding of goals and ambitions. Building a movement based on this shared vision can galvanise support, influence behaviours and inspire businesses and individuals to get involved in vocational learning and skills.

Developing a clear and compelling vision is a crucial step in bringing together the many and varied parts of often disparate systems, with actors all working towards their own objectives. In a time of great change and uncertainty, the ability to coalesce around a shared vision, and to engage new players in driving positive change, is critical. This can be achieved through a variety of methods, as seen in our case studies, including developing a strong brand identity as in Singapore; setting out principles and directives in law and government strategy as in Russia; and using skills competitions as a platform to engage and inspire employers and other key actors, as in Shanghai.

The challenges facing us today, such as advances in AI and automation, and rapid growth in atypical employment and in-work poverty, demand creativity and leadership, and new types of behaviour. We are unlikely to be able to address them through closed systems driven by institutional and bureaucratic concerns. It is more important than ever to be visionary about our skills system and the role that it plays, and to involve citizens, civil society and place and systems leaders in the process. Movements for change, rather than top-down reorganisations, will become increasingly important.

50 Keep, E. (2018) Op cit. 51 Ibid.



Key features

- 1. Mobilising place and anchor institutions. The first step is engaging and mobilising anchor institutions and places more broadly, both to participate in developing a vision and also to coalesce into a movement with a shared direction of travel. At a local level, existing key actors, such as colleges, can act as local leaders, raising the profile of their work, and engaging people and organisations to participate in developing a shared vision of their local skills system. In Singapore, SkillsFuture is having success in realigning skills systems to a changing economy in part by presenting itself as a movement rather than an initiative; and working through informal as well as formal institutions.
- 2. Influencing citizen, employer and stakeholder behaviour. New visions and movements are only likely to have a system-wide impact if they are able to influence the behaviour and decision-making of key actors, including citizens, employers and learning providers. In the case study areas, the value of innovations such as personal training accounts, and the use of skills competitions to raise awareness about future skills needs, is that they are disrupting traditional patterns of learning, skills development and work, and nudging learners and other key stakeholders in directions that enable them to respond better to the challenges of a fast-changing economy.
- 3. Citizen-led visioning. The story of VET in the UK is one of constant top-down re-organisation, tinkering and government-commissioned expert reviews. In many places across the world, including several of our case study areas, VET policy and governance is rooted in a social contract that is well understood by citizens and has a high degree of social consensus and legitimacy. Often there is an underlying philosophy. The evidence from international practice highlights the value of giving citizens a stake in influencing and shaping what the system looks like or should look like, beyond their role as 'consumers' of services. It may be possible to look to deliberative and participative platforms as a key part of any agenda for skills reform or transformation.

Hot spots of UK practice and opportunity

The Skills Commission inquiry on Creating a vision for FE and skills in England

is exploring what an overarching vision for the skills system in England can look like, and how it fits into key agendas such as industrial strategies and devolution. The inquiry aims to create a blueprint for how skills reforms can be coordinated to support an overarching vision. Key public debates, such as the Edge Foundation's work on Debating the first principle, also underscore the lack of a vocational education philosophy in the UK. There is potential for inquiries such as these to be complemented with more public-oriented deliberative initiatives, such as citizens' assemblies, to begin to develop a vision that provides greater coherence for policymakers and practitioners, but also for learners, workers and communities.

Devolution, area based reviews and local industrial strategies are providing opportunities to develop more place-based visions for skills. For example,

a number of LEPs and city regions are anchoring their approach to skills around wider aspirations for inclusive growth. Greater Manchester's Work and Skills strategy aims to develop a more integrated employment and skills eco-system that contributes to inclusive growth and productivity in the city-region. The experience of Scotland, Wales and Northern Ireland shows how places can develop coherent visions that respond to local economic and civic needs.

Colleges, local employers and other formal and informal learning organisations also play a key role as 'anchor institutions', contributing to the local economy and wider civic life. The Cities of Learning (CofL)programme and FESPG in West Midlands (cited above) are examples of how the leadership potential of such institutions can be leveraged to mobilise and engage learners, employers and workers in systems change.

Why it isn't yet embedded in the UK skills systems

UK vocational learning and skills policy is by and large nationally defined, top-down and disconnected from local needs. It also lacks an overarching vision or philosophy, developed collaboratively with the sector and those with an interest in its delivery. Although this is beginning to change with the devolution of the adult education budget to regions/combined authorities, the UK is still far more centralised than most other comparable countries. This creates a significant disconnect between the places where policy is made, and the places where is has an impact. The reach of central government to be able to mobilise any but the largest of national organisations is limited, as is its ability to engage individual citizens and learners in the development or delivery of a vision. Much of the UK's vocational learning and skills provision operates as a market-based system, with competition for funding and contracts, particularly in England, and providers striving to attract and retain learners and employers everywhere. This tends to work against the development of a shared vision or joint working. If a provider organisation's survival is reliant on winning contracts or funding, or attracting more learners than a competitor, the incentives to collaborate and unite behind a shared vision are limited. 'Partnership working' is often at a superficial level, with organisations still pursuing their own goals rather than developing a shared goal with others.

This combination of centrally-driven policy and market forces can lead to confusing and sometimes contradictory incentives for those operating within their scope. Far from delivering a unified vision, learning providers in particular find themselves operating in a messy landscape with both government and the market having significant influence.⁵² Allied to this is a misalignment between what funding is available for, what metrics are used to measure successful contracts or in Ofsted inspections, and what is needed locally by employers, the labour market and learners. The outcomes and behaviours incentivised by what is measured within systems are often not linked to or driven by local needs or strategies, and there is very limited scope for a local or regional vision to influence these measures, with the majority of levers of change not available at local or regional levels.

The paucity of meaningful levers below national government level also affects the deliverability of any over-arching vision. For any vision to make a difference it has to be deliverable, otherwise it will run out of steam and goodwill very quickly, so it is therefore important that there are levers at every level within the system to either directly or through influence make change happen. Because of the centralisation of policy and funding sources, these levers are not currently in place in UK systems everywhere they are needed.

The changing nature of work means that an individual's training and skills needs vary throughout their life, and the skills that employers need in their workforces are also continually changing. Building a consensus and a shared vision around a shifting landscape is a significant challenge. Building a vision and a system that is dynamic and responsive to changing demands, particularly one which isn't just a top-down directive, does not sit easily in the existing UK set-up.

In addition, there is currently no consistent approach to ensuring a collective learner voice is involved in decision making or agenda setting in the UK. This should be a critical element of developing a vision that resonates and works for everyone, and whilst various approaches do exist, there is too much variation in their scope and impact to be confident that their input to a broader vision would be meaningful and representative.

⁵² Keep, E (2018) Op cit.



5. Learn and innovate

The most effective skills policies and systems are able to pre-empt and respond to change and complexity because they have built-in, often institutionalised, capacity for learning, experimentation and innovation. Learning and innovation can take places at all levels within a system, at different scales, and for different purposes; effective skills systems are likely to support and capitalise on all these variations.

The learn and innovate success factor is focused on building capacity within a skills system to learn, innovate and anticipate and prepare for future challenges. Learning and innovation can take place at a variety of scales, levels and places within a skills system, and there are multiple types of innovation, including service, process, strategic and governance innovation. It can be driven from the top, for example central government, from the bottom, such as by frontline delivery staff, or from looking horizontally at best practice and learning from other organisations and places. Learning from good practice and policy from elsewhere promises much, and insights from abroad for example can both deliver a fresh perspective, and new practical ideas to drive improvement. However, models of policy or practice can rarely be simply picked up and dropped into a new environment, they need to be well understood and adapted to suit. Russia's comprehensive use of WorldSkills standards as benchmarks and learning from the best international practice on skills training is an example of where this has been effective.

This success factor is not just about identifying and testing new and innovative ideas, but also about learning from them and implementing change at a systemic level. All aspects of the innovation and learning approach require resources, tools and levers to enact change. Shanghai exemplifies this approach, with piloted innovations being rolled out systematically, backed up by significant investment, and innovation not just at service implementation level but also in governance, regulation and funding.

Key features

1. Institutionalised global benchmarking and learning. Benchmarking against the best performers internationally could be carried out comprehensively across all skills, addressing both teaching and standards of attainment, as has been done in Russia using WorldSkills standards. It could also apply at a much smaller scale, perhaps looking at a single sector, or one aspect of the governance of skills at a city level. Learning and innovation doesn't necessarily have to be about implementing completely new initiatives or approaches that have never been tried before, or sweeping away existing ways of working to start from scratch. They can be incremental, and can be as much about a mindset of openness and learning as about eye-catching, novel programmes.

The key is that learning and benchmarking is institutionalised; built into how organisations and systems work as a core component, not an added extra tacked on or used in an ad-hoc, unsystematic way. Wherever benchmarking takes place within the system, and at whatever scale, honest self-assessment is a crucial part of the process, to provide a baseline and to monitor progress with whatever innovation and change are implemented. In developing its SkillsFuture programme, Singapore looked at some of the world's best VET systems and used these as benchmarks on which to base its own approach. This was not a one-off exercise however; Singapore continues to systematically identify best practice from around the world, and adapt and integrate ideas into their own plans.

2. Future-proofing. The learn and innovate approach is dynamic, with future-proofing built into systems and organisations. Innovation and learning are not one-off processes, and a key part of the approach is to anticipate future needs through a deep understanding of existing businesses and sectors and their direction of travel, and also through keeping on top of the bigger picture of the changing world of work, economic conditions, technological changes and so on. Identifying these challenges, and exploring the solutions that might help to address them, comes in part from the learn and innovate mindset, but also the capacity and expertise to analyse trends and work with businesses to understand their trajectories.

Russia and Singapore clearly demonstrate the principle in their horizon-scanning and planning for the future, using skills competitions to raise interest in skills needed for emerging industries, and producing Industry Transformation Maps outlining the future direction of skills needs.

3. Testing, experimenting, piloting, scaling. The final key feature is the use of a phased and structured process to move from ideas, to testing, through evaluation and into roll-out and scaling up. Crucial to this is that the process is premised on the expectation that successful innovations and solutions will be applied systematically, rather than typically ending at the evaluation stage, with any further roll-out left to fate, as happens too often in the UK. Identifying ideas, testing and evaluating can deliver evidence of what works, but scaling up also relies on significant willingness to instigate change and take risks, and resources to do so. This approach is exemplified by the Shanghai case study, in which piloting is a routine method of policy development and system change, and the results of pilots are generally used to inform widespread system change, not just written up in an evaluation report.

Hot spots of practice and opportunity

Wales has used skills competitions as a strategic opportunity to promote and create greater enthusiasm for vocational education, as well as to learn from the

best global practices. This has included local competitions, support to would-be competitors in global competitions and initiatives explicitly aimed to increase participation in vocational education, leverage the leadership of high achievers in vocational education and target skills that are key to the Welsh economy. Wales is now the best performing region of the UK in international skills competitions.⁵³ Expert stakeholders suggested there is much the UK can learn from Wales, but also from countries such as Russia which have developed infrastructure to connect learning from competitions into the wider skills system, for example through centres of excellence. There is real potential for the UK to pursue something similar, for example creating feedback loops between the training methodology of experts in skills competitions with those that deliver or lead vocational education institutions in the UK.

The Cities of Learning programme is testing a new approach to lifelong learning through local collaborative partnerships and digital technology. Led by the RSA and

co-designed in partnership with cross-sector leaders in Plymouth, Brighton and Greater Manchester, CofL is a new approach for activating a grassroots, city-based, mass-engagement movement around learning and skills. It seeks to close gaps in opportunity and empower places to promote lifelong learning as core to their cultural and civic identity. The approach is based on catalysing city leadership and networks to develop more aligned skills ecosystems and ensure opportunities for learning and work are inclusive and widely shared. An infrastructure of learning and evaluation, as well as the development of bespoke models tailored to specific places but underpinned by national design principles, help to ensure the approach is locally responsive and adaptable, avoiding the temptation to look for 'universal answers' (see chapter 1). CofL and East London Vocational Education and Training (ELVET) illustrate how innovation can be supported through an approach to policy and systems development that is based on learning, evaluation and trial and error.

The Centre for Work-based Learning in Scotland exemplifies how new practice

and cultures can be cultivated through testing new approaches. The centre, set up by Skills Development Scotland, influences the 'policy, practice and perception' through a three-way approach. First, policies are developed based on high quality research and evidence. Second, 'proven methods' are developed, based on lessons from international experience. Third, there is a focus on using this emerging practice and wider engagement techniques to drive cultural change to promote the reputation and esteem of work-based learning.⁵⁴

⁵³ UCL institute of Education (n.d.) *FE and skills across the four countries of the UK*. [pdf] UCL institute of Education. Accessed at: www.edge.co.uk/sites/default/files/documents/fe_and_skills_across_the_four_countries_of_the_uk_final.pdf 54 Centre for Work-based Learning in Scotland (n.d.) *What we do*. [online] Available at: www.centreforworkbasedlearning. co.uk/what-we-do/#approach [Accessed 16 May 2019]

East London Vocational Education and Training: Innovation through Partnership is a programme that has sought to test and develop innovative approaches to ensuring the opportunities created by growth industries in East London are inclusive and accessible to local people. Led by the UCL Institute of Education (IOE) in partnership with the Association of Colleges (AoC) London, four innovation projects are being delivered by Barking and Dagenham College, New City College (Hackney), Newham College and New City College (Tower Hamlets), in partnership with education and training providers as well as other local anchors and social partners. Each project is testing different elements of what is described as High Progression and Skills Ecosystem (HPSEs) for East London: from supporting entry into creative industries and testing new apprenticeship models through to upskilling and demand-side employer engagement. Local partnerships help identify 'key problem terrains' and cocreate new solutions, the learning of which feeds into a programme-wide R&D which helps refine the methods and theoretical underpinnings.⁵⁵

Why this isn't yet embedded in UK skills systems

While there are many excellent examples of pilot projects, learning from policy and practice, and organisations and agencies with a learning mindset, the ideas of learning and innovation are not embedded in systems or organisations on a systematic basis. In a 2011 review of the skills system in England, an OECD team was "struck by a number of issues where data and analysis, particularly from international sources, could be used more fully to advance policy-making in England."⁵⁶

Experimentation and innovation do happen in the UK, but they tend to be episodic and fragmented, and driven not by a system-wide approach but by one-off initiatives, time-limited grants or individual institutions or areas committing resources to address a local issue.

Therefore, the results tend not to have wide-reaching impact: learning isn't effectively disseminated or picked up by others, or there may be a lack of willingness or capacity to scale up beyond pilot level.

Alongside this, the fragmentation of our skills systems means generating learning from pilots which can be picked up comprehensively, or rolling out change on a wide scale, is difficult. Addressing this fragmentation would require the right powers and levers to be devolved to institutions and places at the right scale, to avoid further fragmentation on a geographical basis. Fragmentation also means we risk duplication of effort, and the potential for different parts of our systems to operate in relative isolation, with no systematic means of sharing learning on a consistent basis.

There are also barriers to the embedding of learning and innovation at a political level. The timelines of funding cycles, politicians and civil servants are not conducive to significant or effective testing and learning.

⁵⁵ ELVET (n.d.) ELVET Programme. [online] Available at: www.elvetlondon.co.uk/ [Accessed 16 May 2019] 56 Gabor, H. et al. (2009) OECD Reviews of Vocational Education and Training. [e-book] OECD. Available at: https://bit. ly/2Yx08cQ

Funding for pilots tends to be at a small scale, and time-limited. A good pilot takes time to develop and run, with further time needed to evaluate and develop learnings. Therefore, any impacts are likely to be felt beyond an electoral cycle, and certainly beyond the tenure of a skills minister. This undermines both capacity and energy within UK systems to deliver innovation, and also diminishes skills innovation's place on the political agenda.

The power to make significant systemic change in UK systems is held by a relatively small number of people and institutions in specific places, very often linked to political imperatives and motivations, which are not conducive to testing and learning from new approaches, as described above. Because of the significantly centralised nature of UK skills policy and institutions, autonomy at a geographic or governance level aligned to variations in economic and social needs is limited. On a practical level, the need for reliable, long-term funding at a sufficient level to deliver good quality trials, to evaluate them properly, and then disseminate the learning in accessible and meaningful ways is not currently being met. If funding is not available to roll out changes successfully, the impact of innovation and learning will always be limited, and the opportunity to achieve systemic change limited.

We have lost capacity within UK systems to focus on learning and innovation, with the demise of UKCES, downsizing of regulatory bodies (from 5000 LSC staff to just over 1000 ESFA staff, who also have a bigger remit⁵⁷), major funding cuts to local government, and college budgets stretched. When we do look to learn from elsewhere, it tends to be with a narrow focus on a handful of countries such as Germany, meaning we miss out on potentially useful insights from other places.

What is measured, and therefore funded and valued, in UK systems does not necessarily support or encourage risk-taking. The outcomes and metrics by which an institution or system is judged to be successful tend not to incentivise innovation, but rather a steady state in order to minimise risk. The performance management and regulatory frameworks in which vocational providers operate have significant consequences for failure, tending towards punishment rather than encourage learning from mistakes, thereby discouraging a risk-taking, innovative culture. This is visible within organisations too, with teaching staff reporting constraints on their creativity and innovation stemming from the need to comply with reporting processes linked to inspection, and the anxiety provoked by the risk of a poor report. College leaders also acknowledge the dampening effect on experimentation of working within organisational cultures that are very focused on performance management.⁵⁸ When working within systems or organisations with a strong focus on measurement, compliance and performance management, finding a balance between pragmatism and experimentation can be difficult.59

⁵⁷ Keep, E (2018) Op cit.

⁵⁸ Thompson, C. (2018) Finding the glass slipper: The impact of leadership on innovation in further education. [pdf] FETL. Available at: etl.org.uk/wp-content/uploads/2018/08/2370_FETL_CarolThompson_AW.pdf 59 Ibid.

UKCES: UK Futures Programme

The UKCES was a well-resourced, high profile organisation that produced a great deal of research, and funded innovation projects on issues such as skills gaps, in-work progression, and employer investment in skills. Even with these resources behind it, many of the issues it tackled have not shifted significantly, during or since its operation. This is not to denigrate the work done by UKCES, but to highlight the gap between producing innovation, research and insight, and large-scale change actually being made. UKCSE itself did not have sufficient levers to make change happen.

For example, the UK Futures Programme ran from 2014-2016, with £4.4m invested in 32 projects by UKCES, tackling a range of issues from progression in the retail sector to developing skills for innovation in manufacturing.

A follow-up evaluation of the UK Futures Programme (Productivity Insights Network, 2019) found mixed success in the sustainability of positive outcomes from the projects involved. Whilst some managed to maintain activity beyond the funded period by finding additional sources of funding, others were wound down, without long lasting change taking place. The report notes that short-term trials don't allow for new ways of working to become properly embedded, and that proper long-term evaluation and dissemination of learning is critical for more systemic change to occur.

This case demonstrates the shortcomings in the piecemeal and short-term approach to innovation: although useful insights are developed, the long-term impact of such programmes is limited.

4. Taking this forward in the UK proposals from The RSA

This report has drawn on original global case study research to generate insights into how innovation can support improvement in complex skills systems. The experiences from the case study areas have helped us to develop a set of key success factors that can act as a stimulus for policy development and systems design and delivery.

Our initial health check of UK skills systems against these key factors — supported by expert input — identified a range of hot spots of innovation and good practice that already exist in the UK and its FE sector (see previous chapter). These very important examples show that there is a strong policy and practice foundation and asset base to build on. Yet the analysis also suggested that some of these key features haven't been embedded as systematically as they could be. This isn't necessarily down to poor individual policies or leadership, but more so the significant challenges associated with achieving and sustaining change in complex systems, especially those — like in the UK, particularly England — characterised by a high degree of marketisation, informal governance and voluntarism.

In this final chapter we outline a set of strategic opportunities for embedding the key success factors and overcoming some of the enduring barriers to system-wide innovation in UK skills. Crucially, these proposals build on what exists already; what has precedence in the UK; and what, in fundamental respects, aligns with (but seeks to strengthen) the general direction of travel of progressive skills policy and practice, from local devolution and regional partnerships to employer co-investment and the growing alignment of skills and economic and industrial strategies.

A whole system or social ecosystems approach

It is important to emphasise that our proposals are rooted in an 'ecological' understanding of the conditions, relationships, institutions, interactions and behaviours that operate at different levels of our skills systems. Under this account, the outcomes we see are not merely the result of government policy and the exercise of rational choice by individual learners, providers and market actors. Neither are they restricted to the sphere of education and training alone. Rather, they are influenced by a complex web of interdependencies between a multitude of actors at individual, community, local, regional, national and global levels. In their authoritative account of 'social ecosystems' for learning, Ann Hodgson and Ken Spours describe such ecosystems as place-based social formations that focus on "the connected worlds of working, living and learning."⁶⁰ They identify a number of levels within a social ecosystem:

- Micro level, comprising individual learners and their relationship to family, friends and teachers.
- Meso level, made up of the individual professionals, organisations, enterprises and institutions.
- Local system level, constituting networks or clusters of institutions, providers, enterprises and social partners (including the local authority), as well as local demographic, economic and cultural factors.
- **Sub-regional system level**, which now comprises the boundaries of LEPs, combined authorities and other levels of sub-regional coordination.
- Macro level, including the effects of national policy as well as international trends (such as globalisation and technological change).

Place, including how it is shaped by local and regional formal and informal networks, is at the centre of a social ecosystem. It constitutes a "complex dynamic of economic, social, political, cultural and institutional factors" that play out in a locality. This ranges from the structure of the local labour market, local traditions and the economic and social geography, all the way through to the capacity and leadership of local government, the actions of employers and the institutional and cultural configurations of education and training providers.⁶¹ Actors at local and regional levels play a key mediating role, influencing how national and global macro factors are expressed locally. Yet their actions and behaviour can also be highly susceptible to the national policy environment and the 'signalling' from policy levers, which can influence, for example, whether they collaborate or compete or the priority they give to broad social outcomes over volume of outputs.

This understanding of social ecosystems can be deepened with the RSA's account of how they are shaped by different sources of power and influence. The RSA has adapted a framework based on anthropologist Mary Douglas' cultural theory, which recognises that any change needs to take account of the different sources of power in any social setting.

⁶⁰ Hodgson, A. and Spours, K. (2018) A social ecosystem model: Conceptualising and connecting working, living and learning in London's New East. The East London Vocational Education and Training: Innovation Through Partnership Programme (ELVET). Research Briefing No. 3, March 2018.

Hodsgon, A. and Spours, K. (2015) An ecological analysis of the dynamics of localities: a 14+ low opportunity progression equilibrium in action. Journal of Education and Work 28(1), 24-43. 61 Ibid.

These are the power of the individual, driven by incentives to act; the power of the group, driven by solidarity based on shared values and norms; and the power of the hierarchy, driven by the policy and rules of those in authority.⁶² In a skills context, this means recognising the inter-play between policy and formal institutions; the informal networks and shared social norms that exist within a place; and the actions of individuals, be they learners, workers, professionals or policymakers.

What this means for systems innovation in skills

One of the key implications is the central importance of place, at a local and sub-regional level, as the anchor point for innovation. Indeed, as the OECD notes, the degree of regional variation in skills levels and economic outcomes within countries supports the argument for more place-based skills policies. It concludes that "learning and innovation ecosystems should be seen as local and regional."⁶³ This is especially the case in the UK. In an analysis of the vast regional productivity differences in Britain, Philip McCann notes that the social and institutional characteristics of places, including the inhibitors and drivers of productivity, vary so much from place to place that it makes the design and effectiveness of national policy incredibly difficult, especially in the context of the UK's highly centralised form of governance.⁶⁴ The emphasis that the Industrial Strategy in England puts on place is a reflection of this.

The second implication is that innovation isn't the sole preserve of formal institutions and hierarchies, or hard policy levers. Rather, it is also facilitated by 'solidaristic' networks of collaboration, trust, learning and shared value between various institutions and actors (including anchor institutions such as colleges), as well as the ingenuity of individual 'public entrepreneurs', such as college principals, that are able to spot opportunities to effect positive change even in difficult circumstances. This is captured by the RSA's 'think like a system, act like an entrepreneur' framework.⁶⁵

Finally, innovation ecosystems are deeply influenced by the national policy context. In an ideal situation, as we saw in some of the case study areas, central government acts as a strategic coordinator and standard setter, ensuring a degree of long-term stability while also creating a permissive environment for local autonomy and experimentation. In less enabling scenarios, national policy, funding and accountability structures limit the formation of effective local innovation ecosystems, for example by fostering a culture of risk-avoidance.

⁶² Burbidge, I. (2017) Outdated public services must empower people to achieve change, RSA journal [online] Available at: medium.com/rsa-journal/outdated-public-services-must-empower-people-to-achieve-change-70d7c6a3f3f0

⁶³ Chapter 1. Innovation, education and learning: An ecosystems approach. In: OECD 2017. Schools at the Crossroads of Innovation in Cities and Regions. OECD. pp. 11-37.

⁶⁴ McCann, P. (n.d.) Op cit.

⁶⁵ Conway, R. et al. (2018) *Move fast and fix things*. [pdf] London, RSA Lab. Available at: www.thersa.org/globalassets/pdfs/reports/move-fast-and-fix-things.pdf

Strategic proposals for policy and practice

We propose two key strategic opportunities that the UK could pursue to more systematically embed the key success factors identified in the previous chapter and empower place-based ecosystems of innovation. We also highlight how they relate to the key success factors identified in the previous chapter, and what role the FE sector and skills competitions can play within them.

The first proposal is the development of a more open and decentralised learning and innovation infrastructure for skills in the UK, anchored in place and supported by local and global insights. This would seek to overcome the current landscape of generally sporadic, ad hoc or centrally planned pilot initiatives and reforms (see previous chapter). We would argue that the overarching policy objective for skills and economic development should be wide-ranging 'devolution by default' (rather than by deal, as is currently the case) of major funding and policy levers to places that have or are able to develop robust governance through, for example, combined authorities, and are able to produce comprehensive 'whole system reform' plans.

As an important first step this involves a coordinated process of decentralisation. Innovation would be supported at three key levels and involve not only local and national policymakers, but also leaders in FE and skills.

- A place (local and regional) level through building a consolidated infrastructure for locally-led skills systems. This would use the governance infrastructure already in place, such as LEPs, combined authorities and regional entities within the devolved nations, to establish entire places as 'whole-system innovation zones' that are afforded significant autonomy and license to innovate, and are carefully exempted (with appropriate safeguards) from centralised funding, accountability and regulatory structures. This would create a permissive environment for developing and spreading innovative practice at an appropriate scale and geography, at a system-wide level (ie beyond the limited powers that, for example, English combined authorities currently possess over adult education). Given the scale of local and FE funding cuts, capacity building and additional funding would be necessary to support this.
- A national level where national governments would help to strategically coordinate and support innovation processes, and ensure that learning was shared and applied. Central government would help to break down barriers to innovation and create 'safe/ fail' environments for experimentation, while also playing a role in maintaining quality standards and ensuring the public good. Where initiatives are especially disruptive, it could support the development of controlled environments for experimentation, similar for example to the regulatory 'sandbox' approach being used to test fintech

66 Ibid.

innovations while safeguarding consumers.⁶⁶

• A global level where learning from the best international practices is used as an active tool for policy and systems development, facilitated by an enhanced role for skills competitions and organisations such as WorldSkills UK. This is already happening in places like Wales, but it could go even further. For example, policymakers and practitioners could create a stronger interface between global skills standards and learning and assessment; professional development of educators; and the development of standards, curricula and pedagogy, especially for highly relevant and emerging areas such as work-based learning and apprenticeships.

A strengthened innovation infrastructure would be especially valuable in responding to the rapid changes in technology and the global economy, and the imperative for greater lifelong learning, re-training and progression for those on low incomes. We would recommend in particular the active development of personal training accounts aligned closely to local labour market contexts, industrial strategies and the forthcoming National Retraining Scheme. This could potentially be partly funded through a reformed Apprenticeship Levy. This would learn from past initiatives (including those that failed due to fraud, such as Individual Learning Accounts) as well as schemes that are currently taking place in Scotland and Wales, along with global examples including Singapore and France. In a period in which adult participation in learning is in decline and training disproportionately benefits those that are already highly qualified, initiatives such as personal training accounts can support more inclusive skills development. The Independent Commission on Lifelong Learning has recently proposed a high-investment model for England, which involves government making payments of £3,000 at three especially important points in people's lives: 25, 40 and 55 years. The account can be topped up with individual's own contributions as well as contributions from employers, and further government support can be provided in the event of events such as unemployment, long-term redundancy or to support those in low pay.

Why it's important

As outlined in the beginning of the chapter, creating place-based ecosystems for skills is vital for addressing the productivity challenges that exist in the UK, as well as preparing for the future of work. Empowering places to innovate and experiment can be a key tool for the effective development of skills policies and systems, as highlighted by our case studies. There is also significant learning that can be extracted from global practices, which is currently under-utilised in the UK. As the nature of learning and work is reshaped by global economic and technological shifts, finding ways to stimulate innovation by systematically learning from the best international practices can help us to better prepare for emerging and future challenges.

How it's different to what we have now

Skills policy and reform tends to happen in an ad hoc and centrally planned way in the UK, and pilots or experiments tend to focus on specific projects or programmes. Devolution to cities and sub-regions has given local areas more influence over certain levers, but not whole systems. This is in stark contrast to countries such as Switzerland and China, where institutionalised innovation infrastructure enables municipalities to have considerable discretion over entire systems through decentralised processes of experimentation. Place-based experimentation zones would build on the momentum provided by devolution but allow sub-regions far more autonomy (backed by additional resource and capacity) over their skills and work ecosystems. The learning from this could then provide the basis for policy development elsewhere in the country. The rationale for decentralised experimentation in China and Switzerland is that the degree of variation between different parts of those countries makes uniform national policies untenable – and this applies to the UK too.

How it can support the key success factors:

- Stakeholder-led governance. Local innovation ecosystems would be co-designed by a range of actors, social partners and sectors, while also being based on subsidiarity and local autonomy.
- No dead ends. Place-based systems would enable greater alignment, transparency and visibility of the pathways between learning and work, while also focusing resources on approaches that are most likely to support local people.
- **High quality, high status.** Sharing and integrating high quality global and national practices and standards could help to elevate and embed excellence in TVET and adult learning in the UK.
- Vision setting and movement building. Place-based ecosystems would empower local actors and anchor institutions, such as colleges, to take the lead in supporting local movements for learning, living and work.
- Learn and innovate. A consolidated, place-based infrastructure for learning and innovation would help to create cultures of learning, and create the right environments for innovative policies to be tested, developed and scaled.

The role of the FE sector and skills competitions

The FE sector and skills competitions would have a central role to play. Colleges would both provide systems leadership, through their prominent role as anchor institutions in local ecosystems, and act as testbeds for new types of learning and training. Skills competitions and WorldSkills UK would be a key mechanism through which the best international practices (and national practices between the four nations) become a tool for embedding excellence in skills systems in the UK and ensuring that those systems are adaptive in the face of future challenges. The second proposal is to strengthen central government capacity for strategic coordination and leadership through the creation of a Future Skills Council (FSC) that is established by statute and is accountable to Parliament rather than the government of the day. This would be partly modelled on two successful existing non-departmental public bodies (NDPB): The Low Pay Commission (LPC) and the Office of Budget Responsibility (OBR), both of which play a major advisory role on low pay policy (including the setting of the minimum wage) and fiscal policy, respectively. The FSC would be based on a social partnership structure bringing together representatives from industry, education and skills providers, unions, and respected experts and veteran leaders of skills. Importantly, the FSC would also have representatives from local and subregional government to ensure a place-based outlook and feedback loops between central and local government. The FSC would:

- Like the LPC have a specific core remit with a strong policy impact, focusing on an issue that has a high degree of political consensus but challenges around how to do it well and systematically. For example, this may be advising on the right model and balance of employer co-investment in skills and training.
- Have a wider secondary remit based on providing skills and industrial policy advice (along the lines of OBR for fiscal policy), safeguarding key design principles, and engaging with a broad range of citizens and stakeholders to contribute to the development of an overarching national vision or mission for skills.

Why it's important

Skills systems, especially in England, sometimes struggle because of policy churn and a lack of stability and coordination at the centre. Institutional memory becomes difficult to lock in, and ministerial reshuffles and political cycles tend to bring a lot of chopping and changing. The lack of an overarching mission and vision for skills, especially one clearly understood by citizens and businesses, add to these challenges. The FSC could help to confront these issues by providing the basis for long-term policy and leadership that survives political and budgetary cycles.

How it's different to what we have now

The now closed UKCES was also a NDPB that deployed a social partnership structure. While the UKCES provided high-quality advice, intelligence and support for pilots to encourage employer engagement and ownership of skills, it was not established by statute and it did not have the same policy standing and influence as the LPC or OBR. The FSC would engage with but is distinct from the Social Mobility Commission, whose remit touches on education and skills but does not focus on the specifics of policy, design, funding and governance of skills systems.

How it can support the key success factors:

- Stakeholder-led governance. The FSC could help to strengthen and simplify skills policy governance by embedding a social partnership approach; supporting active employer engagement and co-investment; and ensure national coordination happens alongside and in support of rather than in place of the development of local and regional skills ecosystems.
- No dead ends. The FSC would help to promote greater transparency and understanding of how skills systems work, while also highlighting the strategic importance of lifelong learning.
- High quality, high status. The policy prominence of TVET and adult learning would be strengthened by the status and remit of the FSC at the heart of skills and industrial policy, while its core remit would create greater alignment between skills systems and economic and employer demand.
- Vision setting and movement building. The FSC, through extensive engagement and public profile, would help to facilitate the development of a national vision for skills, helping to move Britain closer to a social contract for skills that citizens, businesses and other key actors can get behind.
- Learn and innovate. Through its extensive engagement and a remit that extends beyond political cycles, the FSC could help to ensure greater institutional memory and capacity for learning.

The role of the FE sector and skills competitions

The FE sector would have a prominent role within the FSC, both in terms of representation in its structure and membership, but also in terms of exercising leadership in the many avenues for direct engagement, such as supporting skills visioning and colleges acting as intermediaries between local skills ecosystems and national policy. Skills competitions and organisations such as WorldSkills UK would be at the heart of the interface between policy and practice, uncovering and highlighting excellence that exists within the UK, what's worked best globally, and how this can support a vision and movement for skills.

CASE STUDY

The Future Skills Council in more detail

Overview

The FSC would effectively be the skills equivalent of the Low Pay Commission: independent, respected and surviving beyond electoral cycles to provide long-term stability. It would be based on the same social partnership principles as the LPC and have a similarly specific core remit and policy clout (unlike, for example, the now-defunct UKCES). The LPC has been as successful and politically influential as it has because of its social partnership structure; its tight remit and focus; and the fact that its key question hasn't necessarily been *what should be done but rather how it might be done best*. This would be rooted in a central mission of promoting productivity, inclusive growth and social wellbeing through our skills systems.

Structure

We propose that, similar to the LPC and the Social Mobility Commission, the Future Skills Council would be a non-departmental public body (NDPB) that is established through statute and is accountable to Parliament rather than the government of the day. Rather than being another centralising body, the Commission would also have a clear place-based outlook, reflected in its membership.

The Commissioners would be made up of an independent chair and cross-party politicians, as well as representatives from:

- Local and sub-regional government.
- Industry and employers, including SMEs.
- Education and training institutions.
- Unions.
- Recognised and respected veterans of skills systems leadership —the so-called 'Elders' referred to in a recent publication by FETL.⁶⁷
- Experts and academics.
- The third sector.

⁶⁷ Silver, R. (2019) An Independent Voice for the Sector: The Further Education 'Elders'. [online] FETL. Available at: fetl. org.uk/publications/an-independent-voice-for-the-sector-the-further-eduction-elders/ [Accessed 17 May 2019].

Role and responsibilities

The Future Skills Council would draw inspiration from the LPC by having a core remit that was specific. It would focus on an issue that has a high degree of political consensus but has been difficult to respond to in an effective way. For example, it may be to develop, propose and refine the right model of co-investment in skills and training in the UK, including employer contributions, and public and individual investment.

In addition to this core remit, the Council could also have an expanded role to inform skills policy, help to articulate and advocate for a mission and vision-led skills system and monitor the progress of key stakeholders, including local and national government, industry, education and skills institutions, unions and learners.

- An independent policy advice and analysis role could enable it to influence skills and industrial policy in the same way that the Office of Budget Responsibility (OBR) informs fiscal policy. This would help to lock in institutional memory, strengthen political consensus and minimise the risk that ministerial reshuffles create constant churn and tinkering.
- Through extensive engagement, including potentially through deliberative methods such as citizens' panels, the Council could help to develop a more mission and vision-led skills system with a high degree of public transparency and legitimacy. This could help form the bedrock of a social contract for skills. It would build on existing initiatives such as the Skills Commission's inquiry into a vision for skills in England.
- The Council could help to promote and safeguard key design principles of the system (such as those proposed in this report) by monitoring and assessing the performance, opportunities and barriers of critical parts of the system, with the intention of building the capacity and motivation of key stakeholders to support effective skills development.

To ensure alignment and avoid duplication, the Council would (as necessary) collaborate with other relevant bodies and institutions, including the Social Mobility Commission, the Skills Commission, and those leading policy related to devolution and industrial strategy.

CASE STUDY

What a new innovation infrastructure might look like in practice: A vignette of a future policy announcement

Government announces radical programme of policy experimentation to tackle UK's productivity crisis (20.03.2021)

The government today announced plans for establishing '10 Places of Innovation' across the country in an effort to tackle the UK's skills and productivity challenges.

The 10 places will be sub-regions of the UK. They will be provided with significant autonomy over major skills and economic policies over a period of at least a decade, and will be exempted from certain accountability, funding and political controls from the centre. Ministers say the plans go much further than the relatively modest powers afforded by city devolution.

This is designed to give local areas the flexibility they need to meet local challenges through innovation and experimentation. For example, some may choose to transform funding and incentive structures, relieving pressure on colleges to hit volume-based output targets and allow them to focus more on their social missions and economic potential.

The extensive learning from the experimentation zones will be shared across the UK and be used actively as a tool for developing, refining and improving policy. Each place will also receive special support from WorldSkills UK's Productivity Lab, which works with national and global experts to benchmark the UK's skills systems and find innovative ways to improve them through the application of learning from the best international practices. There are discussions for regional centres of global learning to be established in each of the 10 places.

The Places of Innovation proposal has been championed by the Future Skills Council, a body that advises government on skills and industrial policy. The announcement comes at a time when adult skills has seen a significant increase in funding across the UK, including substantially more investment from employers. Local and national leaders want this new era of investment to be an opportunity to transform skills and economic development in Britain so that it can surpass its global peers.

Should the new model for policy experimentation prove successful, it will be extended across the country and become a key tool for policy development. The devolved administrations of Scotland, Wales and Northern Ireland will also be involved. The RSA (Royal Society for the encouragement of Arts, Manufactures and Commerce) believes that everyone should have the freedom and power to turn their ideas into reality. Through our ideas, research and 29,000-strong Fellowship, we seek to realise a society where creative power is distributed, where concentrations of power are confronted, and where creative values are nurtured.



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ISBN 978-1-911532-43-9