



RSA

Action and Research Centre

**Possibility
Thinking:
Reimagining the
Future of Further
Education and
Skills**

*Edited by Mark
Londesborough*

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Contents

About the authors	2
Acknowledgements	4
Foreword - <i>Dame Ruth Silver</i>	5
Introduction - What if the further education and skills sector got a little more optimistic? - <i>Mark Londesborough</i>	7
1. What if the further education and skills sector became a genuinely self-improving system with the trust and capacity to determine its own future? - <i>Phillipa Cordingley and Paul Crisp</i>	14
2. What if the development of learners' creative capacities were put at the heart of all apprenticeships? - <i>Pauline Tambling CBE</i>	19
3. What if the further education and skills sector realised the full potential of vocational pedagogy? - <i>Bill Lucas</i>	24
4. What if construction training got out of the college and popped up on site? - <i>Rowan Conway and Oliver Broadbent</i>	29
5. What if further education and skills led the way in integrating artificial intelligence into learning environments? - <i>Sir Michael Barber</i>	35
6. What if further education colleges led a 'Cities of Learning' movement in the UK? - <i>Anthony Painter</i>	41
7. What if the decisions of both learners and leaders in further education and skills were based on hard data about what really works? - <i>Charlotte Alldritt</i>	44
8. What if further education colleges went for bold transformation instead of incremental change? - <i>Paul Little</i>	49
Afterword - <i>Martin Doel</i>	54

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Foreword

Dame Ruth Silver

In setting up the Further Education Trust for Leadership (FETL), the resolve of the board was to establish not an *organisation* but what might be termed an “*organ of possibility*”. The idea was to support people already working in the sector, whether at colleges, independent training providers, third-sector learning providers or in industry, to think about the things they wanted to think about in pursuit of intelligent development. We invited people to reflect on whatever they were curious about in further education (FE) and skills, knowing that this would give us, and our colleagues and collaborators, critical insight into the state of the system. The preoccupations of those working in the sector are not trivial. They matter and deserve to be taken seriously and explored. By stimulating, feeding and creating opportunities for thinking in and by the sector, and by exploring new dimensions and enabling fresh insight, sometimes from beyond the sector, our aim was to make it stronger, more self-assured and better prepared to tackle the challenges ahead.

After three years of experimentation, FETL is on the cusp of change. While we continue to turn a listening ear to the preoccupations and curiosities of the sector – they are, after all, the things that fuel our work – FETL will look increasingly to harvest what we have learned from the sector, through our grants and Fellowships and our events, as well as by less formal means, to commission new creative and collaborative spaces for thinking. These spaces, identified by FETL’s board, on the basis of reflection on what has gone before, as critical sites for further learning, are at the heart of our second phase of operation. We want to live the kind of leadership we would like to see across the sector – leadership characterised by creativity, trust, enterprise and agency – and encourage generative collaboration with relevant partners, some within the sector, some on the fringes of it, and others still some distance away from it. This publication, the result of FETL’s partnership with the RSA, represents the first substantial fruit of this approach.

Possibility Thinking is a collection of essays which look forward to radical possibilities as to how the sector might move over the next two decades, among other things through the further development and exploitation of artificial intelligence, a growing focus on vocational pedagogy or greater attention to creative capacities in apprenticeships. While grounded firmly in present reality – the current challenges facing the sector are the taking-off point for a number of the contributors – the eight essays are unashamedly bold in looking to the future. The essays have been debated at three leadership summits, which I chaired, in Glasgow, Manchester and London, and we hope their publication will lead to further, wider debate, within and outwith the FE and skills sector. Securing that diversity of opinion, being both open-minded and inclusive, is a critical part of the process. The ultimate aim is for this

project to support leaders in FE and skills in becoming creative agents of policy and professional change, both in their responses to current challenges and in their longer-term planning.

Some of the contributions cover themes familiar to readers from our sector, although often they come from another, less familiar place. Some focus on matters which are emerging new into our world. Others still concern areas that are not from our world at all, such as artificial intelligence, which I find particularly exciting. I am also excited to see further education identified as an important driver of wider change, for example through the Cities of Learning movement, discussed by Anthony Painter, and to find authors, such as Bill Lucas, prepared to take their thinking, in his case on pedagogy, a generation further. While many FETL Fellows have engaged with key issues such as risk, creativity and inclusion in their research, the essays take this thinking further, creating new connections and opening up new territory in which subsequent generations of thinking can form.

This tendency in the essays reflects a broader generativity within the sector, as new relationships and thinking emerge, and the system's independent ability to effect change in itself grows. This is what we, in this work and in the work that will follow it, want to stimulate and encourage. It is telling that a number of papers highlight the need for further education and skills to be 'bold and daring', self-confident and collaborative in its thinking and for sector leaders to act as 'agitators for change' rather than its frequently anguished object. Localism and skills devolution and the growing role of technology in learning, even the area review process, for all its faults, represent new opportunities for the further development of this agenda. As Pauline Tambling notes, versatility, curiosity, creativity and a willingness to continue learning are now essential expectations in the changing world of work, and this applies as much to leaders in further education as it does to our students. It is important that the key themes of these essays – highly practical themes such as risk, inclusion, creativity, interiority, ethics, governance and austerity – are not only talked about but *thought* about. Only by doing so will we learn to do what we do better.

In FETL's predecessor publication in this growing series, *Remembered Thinking*, I identified "loyalty to the future" as the phrase that, for me, best locates the sector. It is in the nature of further education to change and adapt, to scan emergent agendas and contexts in order to move forward. While it is important that we continue to interrogate the past, it should not stand in the way of our making a future. Too many of us within the sector have failed to be loyal to the future, unprepared to play a full and active role in shaping change and building the future. However, as Paul Little, principal of Glasgow College describes, a positive attitude to change in college leadership can have a transformative effect on FE's position in local education ecologies. I want to see further education firmly on the front foot, not only prepared to change, as we have always been, but exercising agency in driving that change forward. It is to that end, ultimately, that this "incitement to thought" aspires.

Dame Ruth Silver is the Founding President of FETL. She served as principal of Lewisham College for 17 years until 2009 and became chair of the Learning and Skills Improvement Service in 2010. She is co-chair of the Skills Commission.

Introduction - What if the further education and skills sector got a little more optimistic?

Mark Londesborough

The immediate future represents (yet another) existential turning-point for the FE and skills sector. Recent funding cuts, area based reviews (ABRs), 3m apprenticeships, an inspectorate unconvinced by improvements¹ and compulsory education-to-19 are precipitating a bewildering array of questions about the configuration and purpose of further education and skills training. Whilst the sector has a history of adaptability and responsiveness to policy and structural change, the cumulative result has been confusion for practitioners and the public.² This particular wave of change, however, provides an opportunity for the sector to reclaim a sense of agency and self-determination, vital for any sustained improvement. For the sector to take full advantage of this moment will require a shift in self-concept, imaginative, assertive and creative leadership at all levels and an optimistic outlook that imagines the possibilities, as well as that can respond to the certainties. No tall order, then?

The RSA believes that cultivating everyone's creative capacities throughout life, working particularly with people and communities who lack the opportunities, power and resources to realise their aspirations and put their ideas into practice, is crucial for an adaptive, inclusive society, and a successful education system. The FE and skills sector's relationships with both employers and communities, its blend of educational and social cohesion functions and above all its self-concept as the "thinking-doers"³ of the education system are all contiguous with the RSA's social justice ethos and core belief that everyone should have the freedom and power to turn their ideas into reality.

The RSA's work in Creative Learning and Development seeks to empower creative learners, educators and education systems. This publication builds on recent work, including with the British Council in India on the UK skills system, our inquiry into education in Suffolk (RSA, 2013a), and our growing

1. Ofsted (2015) *The Annual Report of Her Majesty's Chief Inspector of Education, Children's Services and Skills 2014/15*. [online] Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/483347/Ofsted_annual_report_education_and_skills.pdf

2. Hodgson, A. ed (2015) *The Coming of Age for FE?* IoE Press.

3. Silver, R. (2015) *Remembered Thinking*. Further Education Trust for Leadership.

family of academies in the West Midlands. Our work on the City Growth Commission prefigured the ABRs and the devolution of adult skills budgets to city-regions and stronger systems thinking on skills led by local enterprise partnerships (LEPs). Across this work, several common themes have emerged, including a call for stronger systems based on partnership and collaboration, renewed emphasis on teachers' professional identity and on teaching for creativity. In this new era, the FE and skills system has the possibility of repositioning itself at the forefront of this agenda and at the heart of the communities it serves. Simultaneously, there is a chance to redefine the sector as a dynamic, entrepreneurial, innovative force for city/regional development, learner engagement and civic pride.

Many publications covering the FE and skills sector begin with a now familiar refrain: the sector is misunderstood by policy makers, the press or the public, is the victim of policy changes that reflect that misunderstanding and which further serve to prevent it from having the impact that it might have and that the post-incorporation policy tombola has engendered a sense of learned helplessness and an atmosphere of public servitude, rather than public service. In this context, optimism is something of a faux pas; with many practitioners, leaders and commentators feeling like they have been here and seen it all before. The government's challenge to the sector to become more entrepreneurial can sound like a threat, rather than a provocation.⁴

Optimism is a choice. It depends on seeing challenges as enabling, rather than disabling; it requires courage. Optimism and courage are in the sector's nature as the champions of the second chance and where they persist, it is because of the tenacity and resilience of practitioners. The essays in this collection identify how practitioners in the sector might interpret many of the new challenges they face as cause for optimism. The new compacts devolving city/regional skills policy are already enabling closer partnership working and more productive collaboration between city authorities, local employers and FE and other training providers.⁵ Mergers (as Paul Little's essay in this compilation attests) can provide opportunities to negotiate stronger deals with employers, local government and smaller specialist providers; to create more integrated, less fragmented thinking in FE and skills provision within localities. A more integrated sector provides the context and the impetus for a revitalised discourse around vocational pedagogy in FE and skills that could influence other parts of the education system, via improved articulation pathways to HE and stronger relationships with schools. Understanding and communicating (whether through marketing or better use of student data) both successes and shortcomings could pave the route to both sectoral improvement and transformed public value, which will only be enhanced as the sector becomes more visible, better connected.

4. In his letter to the Skills Funding Agency for 2016-17, Nick Boles MP, Minister of State for Skills wrote: "It will be for businesses to make decisions about where the apprentices they employ are trained. It will be for individuals taking out loans to decide which provider offers a course that is worth investing in... In short, we are putting more power in the hands of service users, instead of service providers."

5. See also: Clayton, N. and McGough, L. (2015) *City deals and skills: How have City and Local Growth Deals supported the development of employment and skills policies that reflect local demand?* UKCES/Centre for Cities. [online] Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/441672/15-07-02-City-deals-and-skills.pdf

About this collection

These essays are deliberately optimistic and resist what FETL President Dame Ruth Silver has characterised as an atmosphere of “public servitude, rather than public service”. Each responds to a ‘what if’ question, with authors being invited to respond with deliberate idealism about the future possibilities. The collection has not been designed with the intention of providing a single narrative, but rather to open up new trains of thought, to offer provocations and challenges, and it covers divergent themes and ideas. We have focused on what the sector can do for itself, mindful of the policy context, but occasionally identifying ways that policy might enable, rather than constrain, sectoral innovation and public value. Authors have been chosen to represent a range of perspectives. A deliberate choice was made to bring in ideas, challenges and provocations from outside the English FE system, but we have also included college leaders who demonstrate the transformational potential of possibility thinking.

Philippa Cordingley and Paul Crisp propose a plan of action to improve sectoral self-concept from the current position they characterise as an awkward combination of victimhood and sales-driven public engagement by providers. Three areas needing change are identified:

- Providers’ ‘marketing glossiness’ should be replaced with public engagement that communicates both strengths, shortcomings and a deep commitment to understanding and implementing what works.
- Senior leaders must engage with and commit to enhancing vocational teaching and learning and recognise the dual professionalism of tutors in integrated continuous professional development and learning (CPDL) opportunities.
- Collaboration with, and learning from, other providers are essential for establishing a culture of continuous improvement.

Professor Bill Lucas provides a rationale for expanding our expectations of vocational education beyond the basics of routine expertise and functional literacies, and equipping tutors and teachers with a better range of vocational pedagogies. Making explicit an agreed set of ‘unambiguously aspirational’ vocational and character education outcomes and pedagogies in school and college curricula from primary level upwards will improve student achievement, retention and progression, and the esteem in which vocational learning is held.

Rowan Conway and Oliver Broadbent provide a case study of flexible, affordable and effective innovation in partnership working between employers and learning providers. The pop-up training hub model pioneered at the London Olympic park shows how closer collaboration in local infrastructure projects can work for the benefit of learners and their communities, beyond the life of the project.

Pauline Tambling continues the thinking about learners’ creative capacities, outlining how, in meeting the increasing demands for a more creative workforce, apprenticeships need to prepare learners to adapt to and drive change. Tambling advocates for real-world challenges that are designed to incorporate

skill development and progression and that help develop creative capacities and peer networks. She updates the traditional idea of the apprentice piece marking the end of an apprenticeship and draws our attention to the positive side of the ‘live briefs’ approach, so woefully misused on TV’s *The Apprentice*.

Sir Michael Barber takes us into the not-too-distant future, where FE teachers, learners, employers and systems have been enabled and empowered by artificial intelligence (AI). For Barber, AI will lead to improved learner engagement and responsiveness; enhanced strategies for workplace simulations and opportunities for tutors to shed some of their administrative burden. Cumulatively this all helps put pedagogies and the role of the tutor (not the machine) at the heart of innovation in FE and skills. Understanding the challenges for implementation to be more about money and methods than ethical concerns, he is optimistic that the sector will want to find opportunities to invest in disciplined innovation to support improved efficiency, effectiveness and engagement. Barber also calls for the Department of Business Innovation and Skills (BIS) to fund laboratories and research and development (R&D) schemes that bring together educators and technologists to ensure that new technologies meet real needs.

Anthony Painter imagines FE in the driving seat of accredited, city/region-led learning programmes that combine formal and informal, vocational and general, digital and real-time learning to engage the learners least likely to. He advocates for colleges to seize the opportunity of devolution and regionalisation to become agitators for change and enhanced cross-sectoral collaboration in their localities, rather than ‘providers’ in line with the latest government priorities.

Scotland’s FE colleges have already experienced the regionalisation and mergers that their English counterparts will likely have to manage in the coming years. **Paul Little’s** experience of leading the City of Glasgow College is emblematic of how transforming the attitude of college leadership can turn this to a college’s advantage, transforming FE’s position in local education ecologies. His vision for college leadership focuses on investment for innovation, the highest expectations for the most deprived students and the Industry Academy model of collaboration with employers to meet their needs and support learners’ achievements.

Charlotte Alldritt outlines how linked data from a range of national and local databases could drive a new model of quality and accountability in FE that goes beyond the narrow focus of current success measures. That new model would be built on improvements to learner choice (as the impact of courses and providers on employment and progression becomes clearer) and more informed, strategic decision-making in local areas that is responsive to local labour market intelligence. Progress will depend on the collection of comparable data charting progress from pre-school to 19 years-old and beyond, and the creation of dynamic, engaging tools to make it readily accessible for learners, providers and other professionals.

The RSA's perspective

Optimism is at the heart of the RSA's mission to develop a universal 'power to create': the capacities, opportunities and motivation to turn one's ideas into reality. Britain's withdrawal from the EU will require innovative, creative thinking from all sectors, but in the wake of a referendum where the strongest voice was that of those who feel otherwise disenfranchised and excluded from economic growth, and where divisiveness is creeping in at every crevice, the FE and skills sector must interpret this as a call to its moral purpose to ensure that education and training serves to build and support communities to cohere and to thrive.

If we are to have an FE and skills system which embodies the power to create in its own structure and modes of practice and which helps empower the creativity of its learners and their communities, three interconnected and overlapping areas need to receive the focus of our attentions:

- 1. The removal of policy barriers to innovation** at institutional, (sub-) regional and system levels. Devolution deals open the possibility for local areas to test out different models, but they are held back by lingering centralising tendencies in government. The apprenticeship levy is an example of how a mechanism with the potential to support employer and provider innovation in delivering outcomes for learners and localities, will likely be missed in meeting the arbitrary national target of 3m apprenticeship starts.
- 2. Greater appreciation of the sector's connection to and integration with place** and its potential to liberate the creative potential of localities through regeneration, training for meaningful work and partnerships for local economic growth. Local skills systems need to develop as anchor institutions connecting communities to place. In so doing it will be helping to heal some of the social divides that have become more apparent and divisive in recent times.
- 3. Increased support for a cadre of creative leaders** who see their role as leaders of communities as well as institutions, driving a new sectoral self-concept and public understanding built on innovation, in particular in pedagogy and partnership working. This renewed emphasis on leadership should be truly systematised, with the development of tutors' own capacities for innovation at its heart.

Recommendations

The authors of the essays in this collection give us a list of specific, actionable recommendations for policy and practice, all of which speak to these overarching objectives and which could lay the foundations for radical longer changes to the sector. Included here alongside those from the authors are recommendations inspired by the authors and their essays developed collaboratively with RSA Fellows working in the FE and skills sector, who convened at three summit events in Glasgow, Manchester and London in April 2016.

- 1. The Education and Training Foundation** should develop a new programme for entrepreneurial leadership in FE that will help establish a culture of transformational change and support the development

- of a triple-professionalism amongst teaching staff.
2. The college applications process should be synchronised, thorough UCAS, so that colleges can get the most up-to-date, detailed and comparable data on students' socio-economic background and status, routes into college and prior attainment.
 3. The RSA should pilot the development of Cities of Learning programmes in the UK, to grow the idea of FE and skills as a social movement. Its aims would be growth in the commitment to and enthusiasm for lifelong learning, in particular for the 'precariat': those whose are in unstable, part time/zero hours contract work, who might struggle with the motivation, and the forward planning required, to fit learning into their complex, unpredictable working patterns.

Philippa Cordingley and Paul Crisp

4. Sector providers should be helmed by 'leaders of learning' (regardless of their individual professional backgrounds) focused principally and relentlessly on improving the quality of teaching, learning and assessment in its vocational context.
5. The sector and individual providers within it, should focus on becoming learning organisations; transparent about shortcomings and the steps being taken to improve quality.
6. Sector organisations should sponsor regional and local mutual improvement collaborations, creating and applying evidence about effective teaching, learning and leadership to their own practices. These should connect to teaching school alliances, to build a solid ecosystem of school and college improvement, improve the visibility of vocational and technical pathways in schools and help to inform students' choices for post-16 study.

Michael Barber

7. BIS should fund InnovateUK to establish a series of Challenge Prizes to move the best Artificial Intelligence in Education (AI in Ed) ideas from prototype to products trialled and tested in real FE and skills contexts.
8. BIS should create a series of AI in Ed labs – sites of co-design between educators, learning scientists and technologists – that would ensure that new technologies meet real needs.

Bill Lucas

9. A set of unambiguously aspirational outcomes for vocational education should be agreed, and included in school and college curricula from primary level upwards.
10. Pedagogy for the cultivation of capabilities and character should be made explicit and embedded in the teaching of individual subjects and courses.

Anthony Painter

- 11. Colleges and other local providers should use their knowledge of engaging the most vulnerable learners to inform the development of accessible digital platforms.
- 12. Colleges should open up out-of-hours access to their physical estate to allow for a wider range of learner experiences.
- 13. Providers should develop the use of open digital badging, working with employers and higher education institutions (HEIs) to agree on ways to accredit and make it easy to represent in job/university applications the valuable skills and attributes that might otherwise go unnoticed.

Pauline Tambling

- 14. Inter-disciplinary, collaborative real-world 'live briefs' should be made a feature of both apprenticeship standards and in WorldSkills competitions.
- 15. Apprenticeship standards should revive the tradition of the 'apprentice piece', a creative output marking the end of an apprenticeship. This could be developed as a 'maker' equivalent to the Extended Project Qualification (EPQ) using the definition of maker as someone who applies technology using their own ingenuity to create, fix or modify something. The RSA could work with AQA to align this qualification with the apprenticeship standards.

Mark Londesborough is a programme manager in the RSA's Creative Learning and Development team.

1. What if the further education and skills sector became a genuinely self-improving system with the trust and capacity to determine its own future?

Philippa Cordingley and Paul Crisp

Introduction

The further education and skills (FES) sector in England continues to prove itself flexible and adaptive to the many and changing demands made of it. Its position at the overlap between formal schooling, vocational education, plus, in some cases, higher level academic study, has left it exposed to competing models of quality assurance and, in turn, attenuated models of quality improvement. This paper explores and imagines three “what if” responses to quality improvement which together could create a strong platform for establishing FE as a more widely recognised self-improving system. Building self-improvement inevitably requires clarity about where improvements are needed and can make most difference.

We need a ‘trigger alert’ here – performance in the system is of course normally distributed: some providers excel, some struggle and the majority do neither. A self-sustaining approach to quality improvement needs to transform that profile so the rest approach the best. So for brevity and readability in what follows, we will be making assertions at system level in the confident knowledge they do not apply to all providers all the time.

The internal impact of external shininess

The FE and skills sector’s niche in the education ecosystem has the providers attempting to reconcile the very different expectations of employers (effectively commercial service purchasers), public sector regulators/funders and

students. To satisfy the quality requirements of the former, providers adopted procedural compliance style QA systems of the ISO 9000¹ variety which accredit self-evaluation based on detailed, documented adherence to process. The current system regulators, however, place little value on this and prefer to rely on a model of periodic external inspection by ‘experts’ (ie Ofsted). Both approaches factor in learner outcomes even though these are too complex to make sense of in aggregate; the form in which they are assessed/measured for accountability purposes. A significant number of FES providers vehemently dispute the relevance of the Ofsted approach and the expertise of its inspectors; a challenge which has become more strident as the different flavours of the inspection framework have converged on the school-focused variant.²

Colleges and providers feel strongly that they operate in a hotly contested competitive environment and have evolved polished professional marketing strategies to deal with it. The purpose of the marketing message is to communicate a story of success and any public admission of a flaw is seen as a sign of weakness competitors will exploit. Naturally, compliance is policed and more open exploration is discouraged. For example, a particular research and development project involving a dozen colleges led by the 157 Group, RSA and CUREE included a mid-point seminar bringing together the local co-ordinators to review and share progress for some formative feedback. Despite the restricted audience and formative purpose, many of the local co-ordinators had to get senior management approval for the specific terms in which they reported their project to their peers.

Understandable as this approach may be, it has a substantial downside. This glossy marketing disposition becomes more than just a public stance; it affects the internal dynamic of the sector, engendering a widespread difficulty in acknowledging and exploring challenges and areas for improvement. It ceases to be safe for providers and most of the practitioners within them to recognise and probe weakness. This wounds the sector; a system which is unable to disclose and discuss problems is unable to address them. A self-improving system has to recognise that there is something to improve and take the opportunity to understand it in depth. Similarly, practitioners have to be able critically to review their personal and collective teaching, learning and assessment efforts to identify areas for development and to propose or seek advice on how they can be improved. To do that they need to work in a system that values such review and analysis.

What if the sector replaced its marketing glossiness with a more confident and assertive openness about its weaknesses and what it's doing to address them? What if it seized these as opportunities to deepen practice and strengthen the system publicly? Making public the acknowledgment and exploration of weaknesses has many virtues. Inviting in external critique smacks of confidence and makes it easier to hear and act on challenges. Testing and disturbing the status quo by welcoming the reviews of outsiders helps us all to move forward. Greater openness also, perhaps paradoxically helps us earn and secure the trust of the wider community. It is the refusal to stagnate or be seen as complacent, not a set of polished results, that helps

1. ISO (2009, 2011, 2015) ISO 9000 – Quality management. [online] Available at: http://www.iso.org/iso/home/standards/management-standards/iso_9000.htm

2. For instance, this commentary in *FE Week*: Hatton, P. (2016) Chief Inspector should look closer to home for poor performance. *FE Week*, [online] 25 January. Available at: <http://feweek.co.uk/2016/01/25/chief-inspector-should-look-closer-to-home-for-poor-performance/>

exceptional providers and indeed whole sectors be seen as sufficiently self-improving to escape from or move beyond inspectorial models of quality assurance and improvement.

The leadership of learning

Even though most FE providers (and many other training organisations) have become, in effect, not-for-profit businesses, they would, if challenged, assert that their business continues to be the provision of education/training opportunities (and/or the enhancement of their learners' life chances). But there are tensions that pull in opposite directions. Over the 25 years that the sector has existed in roughly its current form, the number of providers has reduced; mostly through merger and consolidation. Providers, particularly colleges, are larger and are in practice conglomerates with diverse and heterogeneous portfolios. At the same time, the top executive team has tended to reduce in number, to become more professionally focused on the business dimensions of the enterprise and to become increasingly remote from the teaching, learning and assessment activities which are the heart of the business.

Meanwhile, in the divisions/faculties/departments of the organisation, teachers/trainers are grappling with the twin demands of being good teachers and of being current and knowledgeable about their subject/vocation. These two strands are equally important (as noted in, for instance, the Commission on Adult Vocational Teaching and Learning [CAVTL] report *It's about work...*) but have become separated in many providers. We found, for instance in our pilot study conducted with the 157 Group³ that:

“... vocational and pedagogic domains are rarely brought effectively together in college CPDL support. Vocationally related CPDL seems to be held in higher regard by many practitioners and its delivery is often embedded in local (ie faculty) systems. Teaching and learning development, by contrast, is often a ‘corporate’ initiative, centrally delivered. Too many of the participants (and, it has to be said, some of their leaders) are willing to settle for a directive approach focused on behaviours which staff experience as ‘tips and tricks’ superficiality.”

What if leadership at every level in the sector was intently focused on enhancing quality and depth in vocational learning and achievement? The first thing they would reach for is more and better evidence about what makes a difference. Right now leaders, practitioners and everyone in between suffer from a lack of evidence about effective teaching and learning practice in the sector. The formal published research on further education is slight (certainly in comparison to the school and higher education systems) and has tended to focus on the problem rather than the solution; on the labour market economics interests of government departments. The expanding body of more substantial and in-depth evidence about developing quality in teaching and learning exists in the higher education and school sectors and the appetite for using it is growing exponentially with support from social media. The promise of an extension to its remit in the March 2016 education white paper

3. Crisp, P. and Gannon, A. (2012) *Raising standards of teaching and learning through effective professional development*. Coventry: CUREE and London: 157 Group. [online] Available at: <http://www.157group.co.uk/sites/default/files/documents/skeinfeoverviewpublic.pdf>

notwithstanding, there is as yet no Education Endowment Foundation⁴ for further education.

The sector has proved itself adept in its use of quantitative data for driving performance review. A change of leadership focus might enable it to extend this important set of skills and systems into developing and applying much deeper understanding to build consistency and coherence around high quality teaching, learning, curricula and assessment. Such a self-improving system would have leaders knowledgeable about these four pillars of quality in their organisation and engaging with and modelling professional learning as a driver for quality improvement at every level.⁵ Those staff would have the resources and the skills to collect and analyse evidence of different kinds about the interactions between their own practices and their learners' success and the opportunity to use that evidence formatively (rather than judgementally in high stakes evaluations). They and their leaders would have easy access to good quality, relevant research on effective teaching and learning strategies presented via useful tools and resources (some of which would be sourced via a post-16 Education Endowment Foundation). Above all, professional development and learning would mobilise deep content expertise, contextualised with specific teaching and learning approaches and insights for the needs of employers, learners and the development of a vibrant and ever improving workforce.

Assertiveness not victimhood – learning from others

It is a common characteristic of educators in every sector to think of their situation as unique. It is also clear that the financial pressures on the further education and skills sector leave those in other sectors paling into insignificance. It is similarly true that the stakeholders are more complex and diverse than those for other sectors. But if the sector wants to gain control of its destiny through self-sustaining improvement, it would be foolish to ignore how others are addressing this. A key element of effective system leadership is the capacity rapidly to spot the similarities between core business developments (ie teaching and learning) in a wide variety of contexts. The Activate Learning Group in Oxfordshire, for instance, used its network with employers, schools and public authorities to promote a shared vision based on a consistent and coherent model of teaching and learning.⁶ Schools in England have been collaborating in 'teaching school alliances' to co-ordinate an offer of school-to-school support, leadership and practitioner development (including formal middle and senior leadership qualifications) and teacher training. The next stage of development, happening now, is the creation of regionally (and sub-regionally) collaborating networks of teaching schools. This in turn was an application to education of the teaching hospital concept

4. See the Education Endowment Foundation website at: <https://educationendowmentfoundation.org.uk/>

5. The importance of which was highlighted by Viviane Robinson and colleagues in her systematic review summarised here: Robinson, V., Hohepa, M. and Lloyd, C. (2009) *School leadership and student outcomes: Identifying what works and why. Summary of the Best Evidence Synthesis* (BES). CUREE Research Summary. [online] Available at: <http://www.curee-paccts.com/files/publication/1260453707/Robinson%20Summary%20Extended%20Version.pdf>

6. Cordingley, P., Crisp, P., Bell, M. and Crisp, B. (2015) *Leading Local Education and Training Report*. RSA, CUREE, The Education and Training Foundation. [online] Available at: [http://www.curee-paccts.com/files/publication/\[site-timestamp\]/Local-leadership-of-education-%20final-report-release.pdf](http://www.curee-paccts.com/files/publication/[site-timestamp]/Local-leadership-of-education-%20final-report-release.pdf)

in health provision, which was designed to integrate the generation of research knowledge about health care interventions with the application of that knowledge to higher vocational skills and practice, an approach which would transfer quite sympathetically to the FE context

The oft-acclaimed responsiveness of FE and skills sector providers is a double-edged sword with too many in the system sounding and sometimes behaving like victims. Behind the attempted projection of a polished vision of the sector is a brittleness and lack of confidence further reinforced by the difficulty providers have in working in genuine collaboration. Schools, let us be clear, are frequently also in competition but they seem to be able to find some places to work together. Commercial organisations also shift between competition and collaboration – with trade associations often acting as the brokers. HEIs, by contrast, have contrived to act in concert both at a policy level and in a variety of very practical ways of which the shared digital services provided via Jisc⁷ are obvious examples. Many teaching school alliances have as ‘strategic partners’ other schools, private and third sector providers and HEIs. For the FE and skills sector to be and to be acknowledged as a self-improving system, it needs to create the mechanisms for local, regional and national collaboration around an improvement agenda.

What if the sector took the initiative to acknowledge that improvement is necessary and continuous? It would embed in its culture and structures an expectation that its leaders are leaders of learning who model and facilitate an engagement with evidence, including from formal research – and the application of that evidence via collaborative regional and national structures. Sector leadership would benefit from learning the lessons from some of the more rigorous research on the impact of leadership⁸ which showed that “promoting and participating in teacher learning and development” had twice the impact (effect size) as the next most effective activity – “planning, coordinating and evaluating teaching and the curriculum”.

FE’s fortunes have waxed and waned over the decades and the sector’s perceived lack of political salience (compared with, say, schools or universities) can encourage a feeling of being the poor cousins. But fortunes change, and the sector will, in due course, be recognised again as the most efficient means of generating the quantity of skilled people the country needs – but is currently apparently unwilling to pay for. Self-help and self-regulation were proffered by one government but then snatched away by a different one now nearly a decade ago. But what was then an innovation is now the zeitgeist. The sector and its leaders need to dig in for the long haul and begin investing now in developing for themselves the culture, the systems and the institutions that will underpin a sustainable self-improving system.

7. See the Jisc website at: <https://www.jisc.ac.uk/>

8. Notably the systematic review by Viviane Robinson et al (2009) op cit.

2. What if the development of learners' creative capacities were put at the heart of all apprenticeships?

Pauline Tambling CBE

Expectations of work are changing. It is very rare now for workers to stay in one company for a whole career. Workers chop and change. Permanent employment is being replaced by short-term contracts and dependency on freelancers. On current trends, there will be more freelancers in the UK than those working in the public sector by 2020.¹ Young people entering the job market now will not be in a 'career for life' and will have a series of jobs over a career. They may become 'career jugglers', part of the 'slash' generation whereby they have a number of different roles which together make up a weekly income: work that pays the bills supplemented by work that provides more job satisfaction. They might describe themselves as administrator/artist, account manager/website developer or carpenter/DJ for example.

These changing work patterns present a challenge for a further education and skills sector used to providing vocational learning pathways and qualifications that emphasise specialisation, rather than versatility. Perhaps in order to meet this challenge, the sector needs to look not to what learners are doing in college or work placements, but to what they are doing elsewhere. Alongside the knowledge, skills and competencies that young people develop in school or college, most also pursue a personal learning interest and often it's a creative one. In their leisure time young people consume more and more music and media, they may be producing and sharing the content they generate, but may not engage with either at school or college. Free time devoted to these leisure activities may translate to informal earning as DJs, photographers, or from sales on Etsy, for example. I believe that this phenomenon may be key to how creativity could be integrated into apprenticeships.

1. O'Leary, D. (2014) *Going it alone*. Demos.

The changing world of work

As someone who works in the creative industries I often quote the employment figures for the creative sector which is the fastest growing in the UK, with 1.8m jobs. The UK creative industries have doubled in the last 10 years and have proven resilient through recession. But there is, perhaps, a more interesting statistic about what we call the ‘creative economy’. By this we mean the ‘creative’ jobs in the UK economy as a whole. This would include innovators in technology companies, digital teams in retail or marketeers in manufacturing for example. It might also include an individual setting up an online craft company or a small events company. In 2013 the creative economy represented 2,616,000 jobs and grew by 44.8 percent from 1997.²

In this fast-changing world of work, however, we have to go wider and consider the importance of creativity in all jobs. Research by Frey and Osborne in the US³ suggests that as much as 47 percent of total employment in the US is at risk due to automation. No longer just an issue for low-paid workers in the manufacturing sector, digitalisation is also impacting on professional roles like accountancy and management along with retail and customer services, as more and more processes go online. For the swelling ranks of freelance or self-employed workers, ‘making a job’ – setting up a business, for example – is as important as ‘finding a job’ and only the most adaptable survive. In this context, the attributes of creativity – curiosity, problem solving, collaboration, risk-taking, thinking ‘outside the box’ – are important across the board.

All businesses need to be forward-facing and fresh thinking and increasingly we’re understanding the value of creativity in jobs where it hasn’t always been considered a priority. Research for Creative and Cultural Skills and Skills for Care,⁴ for example, outlines the benefit of the arts and creativity to people in care settings in the context of the severe staffing shortages in this sector. Applying creativity to the role of care providers so that service provision addresses the whole person, not just their physical needs, can enhance both service delivery to clients and patients, and the job satisfaction of care workers.

Most further education and skills providers offer their students industry-based opportunities through work experience and ‘live briefs’ but what of creativity? As the Institute for the Future’s *Future Work Skills 2020* has argued:

The ideal worker of the next decade is ‘T-shaped’ – they bring a deep understanding of at least one field, but have the capacity to converse in the language of a broader range of disciplines. This requires a sense of curiosity and a willingness to go on learning far beyond the years of formal education. As extended lifespans promote multiple careers and exposure to more industries and disciplines, it will be particularly important for workers to

2. Department for Culture, Media and Sport (DCMS) (2015) Creative Industries Economic Estimates – January 2015 Statistical Release.

3. Frey, C.B. and Osborne, M.A. (2013) *The Future of Employment: How susceptible are jobs to computerisation?* Oxford: University of Oxford.

4. Consilium (2013) *What do we know about the role of arts in the delivery of social care? Briefing Paper.* Leeds: Skills for Care.

develop this T-shaped quality.⁵

This ‘T-shaped-ness’ could be called ‘creative thinking’ and its importance is not confined to graduates. It’s essential for all workers. Young people in apprenticeships are learning a deep understanding in a technical area but they also need the attributes that will keep them questioning how things are done throughout their career.

Creativity within apprenticeships

Apprenticeships are in the news. Not only has the government set a target to achieve 3m apprenticeship ‘starts’ by 2020 it has also set in place major reform of how apprenticeships are structured, assessed and funded. The current ‘frameworks’ remain in place for the foreseeable future, gradually to be replaced through the Trailblazer process that will see new apprenticeship ‘standards’ designed by employer groups. I’m in no doubt that stronger employer engagement provides an opportunity to strengthen apprenticeships and the possibility of achieving the long-hoped for ‘parity of esteem’ between vocational, technical education and academic routes. But let’s face it, it has never been easy for colleges to engage with most businesses: it’s always easier to work with the big ones. Now that the government is sending a loud message to employers that it’s important to engage with apprenticeships the door is open to enterprising colleges to make that relationship work.

The most popular apprenticeships are also the most well-established – like engineering, electrics, plumbing and hairdressing – but some of the new industries like design, IT and accounting are trending now. Some of these occupations offer the potential to ‘re-brand’ apprenticeships and put them in the spotlight, but they don’t *all* offer integrated opportunities to develop the creative capacities apprentices need to adapt to the new, ever-changing employment landscape.

So, how might employers and learning providers show a joint commitment to developing apprentices’ creative capacities? Two opportunities present themselves:

- I. Apprenticeship standards should include opportunities to work collaboratively with other apprentices. One of the big issues with apprentices is that they tend to be alone in the workplace without the sense of a peer-group that a school or university student might have. Making it a requirement that apprentices from different companies take part in activities together could help them build networks of peers, as well as develop their creative capacities. Most apprenticeship frameworks and standards have a business element so enterprise and entrepreneurship are obvious areas within which to locate these activities, framed as ‘real-world’ tasks. I hesitate to use the BBC’s *The Apprentice* as a model here but getting groups of engineering or construction apprentices to tackle real-world business problems in teams (without the cameras of course) might be a start.

5. Davies, A., Fidler, D. and Gorbis, M. (2011) *Future Work Skills 2020*. Institute for the Future for University of Phoenix Research Institute. [online] Available at: <http://www.iftf.org/futureworkskills/>

Key to such team-working tasks would be the ability to work autonomously, to tackle problems and find solutions and to de-brief each task to clarify lessons learned. Much as any other attribute, creativity needs to be practised, honed and improved. Live briefs and project work run the risk of relying on ‘winging it’ without the requisite skills development and progression, so it’s important that learners are able to log the ‘on the job’ learning and de-brief with tutors to identify specific skills gaps. Such learning gaps can be addressed in a planned and tracked way between tasks.

2. Apprenticeships should revisit the tradition of the ‘apprentice piece’. Some of the crafts like goldsmithing, silversmithing and hand engraving have centuries-old traditions of apprentices working alongside a ‘master’. Traditionally, at the end of their apprenticeship, each apprentice created an ‘apprentice piece’ in order to demonstrate their skill level to other masters. If the piece met the required standard, the apprentice was ‘freed’ from their indenture. Today, as well as these traditional roles, there are also hybrid traditional/contemporary crafts like artist-blacksmith where apprenticeship still culminates in the creation of a piece of art or a fine piece of furniture.

The apprentice piece needn’t be confined to craft-based apprenticeships, however. Extending the principle to require all apprentices to create a final piece in a medium of their own choosing could provide the mechanism to validate those creative outlets that all too often escape the attention of educators and to encourage learners to connect their (private) passions with their working lives. There could be innovative ways of encouraging apprentice pieces in new media, music, upcycling or making that are not strictly connected to the specific job role but illustrate breadth of interest and creativity, and demonstrate abilities outside the occupation to which they are apprenticed.

Recognition of independent creative activity could well be blended in through programmes like Arts Award (Trinity College London) which recognises young people’s arts activity and could equally recognise their creative enterprise or endeavours too. This could sit alongside an apprenticeship to recognise that the apprentice has a hinterland beyond the direct area of study or skill. The presentation or exhibition of the apprentice pieces could also form the foundation of graduation events to celebrate achievement and to mark progression onto the next stage of a career – both functions currently not provided for.

So what next?

Over the last few decades of New Public Management approaches to regulating the education and skills system, a default position has emerged whereby debates about raising academic standards fail to address the employment context in which young people are growing up. The need for a

re-emphasis of creativity is less about how to weave a creative curriculum into an increasingly formulaic national curriculum in schools, and more about recognising that the 21st century requires fast-thinking, risk-taking, collaborative individuals who can respond to a world that changes dramatically all the time, not decade by decade. We need all our young people to be creative, and to practise being creative. We seem to be moving backwards in school education with creative subjects being squeezed out through initiatives like the Ebacc but we have never explicitly tried to embed creativity within vocational education. Perhaps with apprenticeship reform, a target of 3m 'starts' and a plan through the Apprenticeship Levy to raise £3bn from big employers there's an opportunity to embed creativity now.

What would success look like?

My experience of meeting apprentices is that many are super-talented, confident, assertive individuals who have come to the view that school is not for them. The ongoing push in schools for more metrics and a tighter focus on academic learning, has had the unfortunate effect of pushing them out to the margins. Apprenticeships that go beyond the technical specialism and offer a genuine alternative to school or taught courses are one answer to this potential loss of talent, particularly if there are options to progress into higher level apprenticeships.

Employers may think they know exactly what they need in terms of technical skills but the Office of National Statistics' latest economic output and productivity release reveals that output per hour in the UK is 18 percentage points below the average in the G7 group of industrial nations.⁶ Increasingly more and more employers are realising the need for flexible all-rounders with a positive attitude and a willingness to work hard. They don't want 'cogs in the machine' – they are looking for enterprising, communicative individuals who are going to help their business thrive. If we can empower individuals and improve productivity, that would be a prize worth striving for.

6. Office for National Statistics (2015) Statistical Bulletin: International Comparisons of Productivity – First Estimates 2014. [online] Available at: <http://www.ons.gov.uk/economy/economicoutputandproductivity/productivitymeasures/bulletins/internationalcomparisonsofproductivityfirstestimates/2015-09-18>

3. What if the further education and skills sector realised the full potential of vocational pedagogy?

Bill Lucas

In all the recent government documents about vocational education my favourite quotation is: “Learners must demand high quality pedagogy which will necessitate that stronger links are built between employers, teachers and teaching”.¹ I imagine thousands of apprentices rising up from their labours to march on the Department for Business, Innovation and Skills in London shouting “Pedagogy! We want better pedagogy!”

In your dreams! For in the UK, despite my and my colleagues’ best endeavours,² ‘pedagogy’³ is a word that is rarely used by those working in FE and skills. Instead conversation all too easily turns to funding formulae, new kinds of institutions, reformed qualification systems, different apprenticeship specifications and the like. All of these have value but none is as essential as the high quality teaching and learning methods which sit at the heart of all excellent vocational education. For it is pedagogy which is the beating heart of the vocational body politic.

Let’s dream on a while.

Of course before we can think about vocational pedagogy we have to think hard about what we want it for, what outcomes we desire. It is here that many thinkers about vocational education fall down. For vocational education can too easily be defined as if it is essentially about the acquisition of the competences or skills wanted by employers. Such a definition is too narrow and too unambitious. Whether we are talking about apprenticeships or vocational

1. BIS and Skills Funding Agency (2014) *Skills Funding Statement 2013-2016*. London: Department for Business, Innovation & Skills.

2. For example - Lucas, B., Claxton, G. and Spencer, E. (2012) *How to teach vocational education: a theory of vocational pedagogy*. London: City and Guilds.

3. Vocational pedagogy is the science, art, craft and gumption of teaching for employment and for employability. Pedagogy also fundamentally includes the decisions which are taken in the creation of the broader learning culture in which the teaching takes place and the values which inform all interactions.

education more broadly we need to think big about what our desired outcomes are. There are, I believe six:

1. Routine expertise – a set of necessary skills developed through practice in a range of familiar settings and honed through feedback.
2. Resourcefulness – being able to deal with the unexpected, the non-routine; something that can be cultivated through practice in a range of contexts, by simulation and role play and through contact with many others.
3. Craftsmanship – an ethic of excellence, a sense of pride in a job well done, acquired through mentoring by outstanding role models and supported via cultures in which it is never acceptable to do work that is second best.
4. Functional literacies – numeracy, literacy, information and communications technology (ICT) and graphical capability, often requiring the expertise of many others in any workplace or skills setting.
5. Business-like attitudes – a recognition that someone is paying for the product or service and all of the attendant skills of self-presentation and self-organisation to deliver these in a timely and respectful way.
6. Wider skills for growth – all those invaluable and soft and non-cognitive skills – self-belief, empathy, self-control, perseverance, collaboration and creativity, acquired by developing strategies and tactics in the context of learning in colleges, with training providers or workplaces.

All too often we focus on the first and the fourth of these and omit the rest. Vocational education is consequently diminished, a poor second to general education. But if we can agree on a set of unambiguously aspirational outcomes then we start to ask and answer some better questions which will, in turn, enable us to select the teaching and learning methods which are likely to work best.

I am not alone in making this kind of case. In different contexts and over a number of years arguments for one or more of these six outcomes have been made by many researchers including Guy Claxton,⁴ Alison Fuller and Lorna Unwin,⁵ Angela Duckworth and Martin Seligman,⁶ Ron Berger,⁷ David Perkins⁸ and Lois Hetland.⁹

We need to ask about the nature of the work being prepared for, about the age and experience of the learners and about the demands of any specific courses or qualifications. We need to understand the contexts for learning, the spaces and resources available and the levels of teaching experience and capability on hand.

4. Claxton, G. (2013) *School as an Epistemic Apprenticeship: The Case of Building Learning Power*. London: British Psychological Society.

5. Fuller, A. and Unwin, L. (2008) *Towards Expansive Apprenticeships: A commentary by the teaching and learning research programme*. London: TLRP/ESRC.

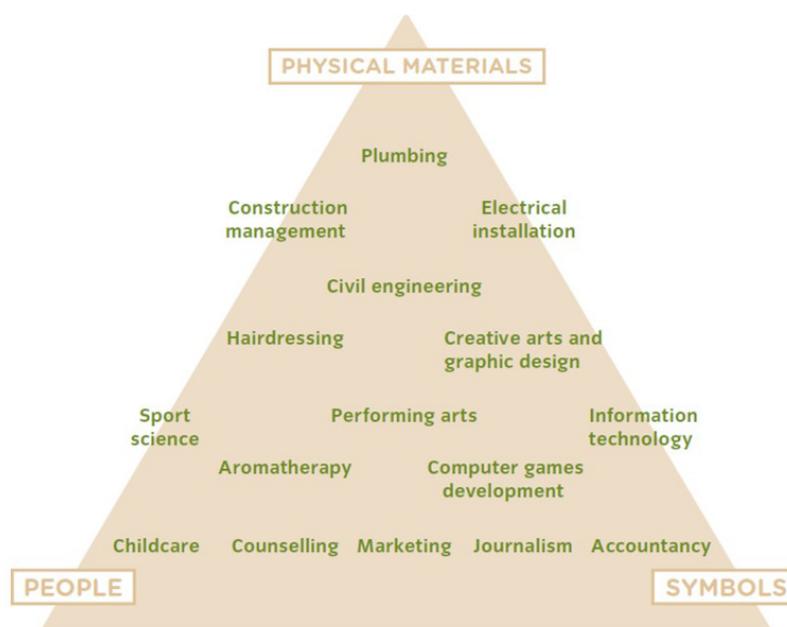
6. Duckworth, A. and Seligman, M. (2005) Self-Discipline Outdoes IQ in Predicting Academic Performance of Adolescents. *Psychological Science*, 16(12), pp.939-944.

7. Berger, R. (2003) *An Ethic of Excellence: Building a culture of craftsmanship with students*. Portsmouth, NH: Heinemann Educational Books.

8. Perkins, D. (2009) *Making Learning Whole: How seven principles of teaching can transform education*. San Francisco: Jossey-Bass.

9. Hetland, L., Winner, E., Veenema, S. and Sheridan, K. (2007) *Studio Thinking: The real benefits of visual arts education*: New York: Teachers College Press.

Let's look at just one of these variables, the nature of the work and the 'materials' it requires. At the Centre for Real-World Learning my colleagues and I suggest that, broadly speaking, people work with physical materials (like a plumber and pliers or boilers), with people (like someone undertaking childcare dealing with children and their parents) or with symbols (like an accountant manipulating numbers).¹⁰ In many cases we are working simultaneously across all three. Engineers are a good example of this.



I am not seeking to make an overly precise distinction between different materials just pointing out that, with vocational education, it helps to understand these things at a more granular level. So, in terms of learning to work with physical materials, expert instruction with feedback, imitation, and trial-and-error will be useful methods. When working with, for example, elderly people in a care home the notion of trial and error is not so smart; role play, simulation and close observation may be more useful. And when dealing with symbols – words, numbers and images – spread sheets, virtual environments and worked examples may unlock the learning.

Assuming similarly careful scrutiny has been undertaken of learners, teachers and context, then a veritable cornucopia of possible teaching and learning methods present themselves. Here I have grouped them into nine broad categories:¹¹

1. Learning from experts – By watching and imitating and by listening, transcribing and remembering.
2. Practising – Through trial and error, experimentation or discovery and deliberate practice.

10. The figure is taken from Lucas, B., Claxton, G. and Spencer, E. (2012) op cit, p.36.

11. Here I am drawing from Lucas, B. and Hanson, J. (2015) *Remaking Apprenticeships: powerful learning for work and life*. London: City and Guilds.

3. Hands-on – By making, by modelling, by drafting and by sketching.
4. Feedback for learning – Using assessment for learning approaches, through conversation, by reflecting and by teaching and helping others.
5. One-to-one – By being coached and by being mentored and by helping others.
6. Real-world learning – By real-world problem solving, through personal or collaborative enquiry and by thinking critically and producing knowledge.
7. Against the clock – By competing, through simulation and role play and through games.
8. Online – Through virtual environments and, seamlessly, blending virtual with face to face.
9. Anytime – On the fly, making use of the unexpected.¹²

If the UK realised the full potential of vocational pedagogy, then all those who teach – advisers, coaches, guides, instructors, lecturers, mentors, trainers, tutors, and so on – would be able to select the best blend of methods, matched for specific learners in the specific contexts in which they found themselves. In turn, this would help develop learners/workers who were skilled, resourceful, craftsmanlike, literate and numerate, customer-oriented and highly capable individuals.

The world would be our vocational oyster and there would be many beneficial outcomes. Here I express this line of thought as a theory of change, working backwards from the idea of being a global leader in vocational pedagogy.¹³

If:

- We are more ambitious about what we want vocational education to achieve, and
- Teachers are better able to select learning methods which will achieve our desired outcomes

then:

- More students in vocational education will achieve better outcomes, and
- More students will make FE a destination of choice, sometimes progressing through it to HE, and
- The esteem with which vocational education and the FE and skills sector is held will rise dramatically

so that:

- Both business competitiveness and social mobility will be enhanced, and

¹². It is not possible here to do justice to the wealth of scholarship which exists regarding each of these nine groups of methods but the references in our report (2012) into vocational pedagogy will enable readers to find out more

¹³. See, for example, Center for Theory of Change at: <http://www.theoryofchange.org>

- Learners will be more capable, more employable and better citizens

so that:

- More teachers want to work in the sector, and the sector becomes, better funded, and
- More and thriving research centres in FE and skills will be created to share best practices

so that:

- The UK truly is a global leader in vocational pedagogy.

Many will want to say:

- But what about funding?
- And examinations?
- And Ofsted?
- And organisational structures?
- And parity of esteem between ‘vocational’ and ‘academic’ education?

To which I reply that these have indeed been the kinds of questions we have been grappling with a long while. But in this flight of possibility thinking it is vocational pedagogy on which I have chosen to focus as an under-recognised force for change.

Of course it's too late to leave this kind of thinking to choices made at ages 14 to 19 at school or college or even to skilled curriculum designers in the FE and skills sector. We need to start in primary education with an explicit list of capabilities as well as the subjects which make up any curriculum. In this way as well as developing good spellers we can boost children's perseverance at the same time. Or, while learning about the Tudors we can be cultivating empathy for the many ordinary people who did not live in palaces.

Pedagogy for the cultivation of capabilities and character needs to be explicit and embedded in the teaching of individual subjects. Guy Claxton and I have written extensively about how this might be achieved.¹⁴ Most recently in *Educating Ruby: what our children really need to learn*,¹⁵ we suggest that there are seven core capabilities which every child needs to learn that will form the bedrock of their life as a powerful learner. They are confidence, curiosity, collaboration, communication, creativity, commitment and craftsmanship. Our 7Cs are so named for ease of remembering. But each can trace its roots to a strong research basis and for each I could take you to promising practices in schools and colleges.

Do educators, politicians and researchers in the UK really see the power of vocational pedagogy today? Only in my dreams to date. But I can see just how we might work together to bring it about and it will not be a moment too soon.

14. See, for example, Claxton, G., Chambers, M., Powell, G. and Lucas, B. (2012) *The Learning Powered School*. Bristol: TLO Ltd; and Claxton, G. and Lucas, B. (2013) *What kind of teaching for what kind of learning?* London: SSAT.

15. Claxton, G. and Lucas, B. (2015) *Educating Ruby: what our children really need to learn*. Carmarthen: Crown House Publishing. [online] Available at: <http://www.educatingruby.org/>

4. What if construction training got out of the college and popped up on site?

Rowan Conway and Oliver Broadbent

Construction plays a particularly important role in the nation's story of itself – when we are building, we are growing. The sector acts as a bellwether for the economy as a whole, and as rapid technological and demographic shifts transform working practices across sectors, construction is also feeling the push of disruptive innovation. Demand for climate change resilient buildings, new methods of construction and a drive for efficiency are in turn fuelling demand for an agile workforce and innovation in skills development needs to keep pace.

Technical innovation now determines the skills that construction sites need and traditional, college-based training risks leaving students with too narrow a skillset to thrive in the contemporary context. The shift to outcomes focused accountability measures for colleges provides an opportunity to move away from supply side preoccupations with the volume of qualifications achieved, towards something more meaningful. The real measure of progress in the future will be in how efficiently the skills system can solve the demand problem, providing easy access to new construction skills when and where they are needed, while maintaining its sense of commitment to local communities. In this essay, we call for an evolution of the relationship between employer and learning provider and a model of providing training on location. The London Olympics provides a case study for how major building projects can embed skills training onto construction sites in a way that supports networks between employers, contractors and colleges and allows for investment in local talent that can pay dividends beyond the life of the project.

The impact of innovation on site

In the UK it is the job of the Construction Industry Training Board (CITB) to ensure the construction industry has the pipeline of talent it needs. In recent years it has developed an approach to providing skills which is increasingly focused on greater engagement with employers. The old system operated on a 'predict and provide' basis, informed by labour market intelligence, but the scale, complexity and relatively slow response time of the provision system

mean that this model is no longer fit for purpose.

According to the UK Commission for Employment and Skills (UKCES) report *The Future of Work: Jobs and skills in 2030*,¹ new skills in resource efficiency, offsite construction, onsite assembly, and new technologies (such as energy and materials) are increasingly in demand – which require adaptable as well as skilled workers who can learn on the job. In an attempt to meet this challenge, the CITB and UKCES have been working with employers to encourage strategic relationships with FE colleges and training providers, through the Employer Ownership of Skills (EOS) initiative. This has resulted in some effective strategic alliances such as the relationship between EDF and Bridgwater College in Somerset,² where the energy provider invested £2m in the local college to supply skills for the Hinkley Point nuclear new build programme.³ However, it is not every private sector partner that can invest so heavily in FE – especially when investment in construction skills can include the high cost of plant machinery and land for training, from which it may be hard to identify any return on investment.

So what will it take to enable a new kind of project-specific skills development that allows for cost effective implementation, faster uptake and a more adaptable workforce?

Learning from the London Olympics

The London 2012 Olympic Park project set a benchmark for new industry standards in construction skills development. At the outset, the Olympic Delivery Authority (ODA) undertook a site-specific skills analysis to identify needs and consider how skills could be provided in order to develop talent from the local area. Through consultation with contractors and local colleges, the organisation determined that the best way to do this was to become its own construction skills provider, gaining National Skills Academy for Construction (NSAFC) status and providing training on site. The result was a training hub known as ‘Digger School’, a facility that gave people practical training in the use of dumper trucks, 360° and 180° machines and other heavy plant machinery.

This was a demand-led training model, which meant training was practical and focused on the project at hand. Specific targets and requirements were developed at project level and Employment Skills Plans came directly from the contractor. While the ODA did set a numeric target for 2,000 training interventions, site demand for skills was so high that the programme had delivered nearly twice as many by 2011.

Accessing local talent

The close proximity of the hub to local communities meant that it was easy for contractors to engage local candidates to fill vacancies. Having skills development on site also had tangible benefits for building a resilient workforce:

1. UKCES (2014) *The Future of Work: Jobs and skills in 2030*. [online] Available at: <https://www.gov.uk/government/publications/jobs-and-skills-in-2030> (Accessed: 9 May 2016).

2. Bridgwater College (2012) Bridgwater college and EDF energy create new training opportunities. [online] Available at: <http://www.bridgwater.ac.uk/news-article.php?id=1264> (Accessed: 9 May 2016).

3. Western Morning News (2012) £2m funding is foundation for SW 'engineering legacy'. *Western Morning News*, [online] 22 May. Available at: <http://www.westernmorningnews.co.uk/pound-2m-funding-foundation-SW-engineering-legacy/story-16151915-detail/story.html> [Accessed 10 May 2016].

the build project took place during an economic downturn that affected the majority of contractors, causing some to freeze recruitment and training. If they had each been solely responsible for skills, this could have had a negative knock-on effect for the ODA and the project, but the hub provided the flexibility to refocus on adaptability and up-skilling of the existing workforce.

Simple things like a project database played an important role in strengthening the local workforce. Given the nature and speed of a build programme, tradespeople are often required for short periods of time. Casual workers tend to find work on a ‘who you know’ basis which, if workers are not sufficiently networked, excludes them from job opportunities. By creating an employment database, London 2012 contractors had access to a pool of job-ready candidates, who had been inducted onto the Park and had a site access pass, thus eliminating the need to repeat basic and time-consuming processes.

Possibility thinking – Pop up construction skills

Few development projects are of the same scale as the Olympic project. However, the training hub model illustrates the value of locating training where the demand is – helping to get people with the right skills onto site at the right time. It shows an alternative to college based education systems that provide technical skills training, but may unwittingly reinforce siloed 20th century practices by not exposing learners to the varied conditions found on live construction sites. The worst case scenario is that new employees arrive on site technically qualified, but unable to adapt their skills to the needs of the project at hand.

On modern construction sites, pop up environments have the potential to transform project efficacy – building local supply chains, upskilling staff quickly, minimising the need for specialist contractors, and reducing avoidable errors. With an on-site hub you can be much more adaptable to site needs, designing training that suits the site rather than being limited to FE college equipment. For example, on a project using modern methods of construction, problems tend to arise when products or systems are brought in from a specialist supplier and subsequently erected and installed by a contractor who has not been advised by the manufacturer. With an on-site training hub, manufacturers can access the workforce directly to train the erection team in the assembly of products to the right level of expertise, without the need to bring in a whole team of specialist contractors. This kind of direct access should reduce both waste and avoidable error on site, which in a recent study was cited as costing the construction industry over £15bn per annum.⁴

Ed McCann, Royal Academy of Engineering Visiting Professor of Innovation at University College London and Strathclyde University, sees this kind of flexible education provision as the way forward for both contractors and skills providers. He sees four key drivers for change:

- 1. Speed.** The use of sites as learning environments means that colleges and other providers can respond quickly to emergent employer need.
- 2. Geography.** Providing a representative workforce geographically is a priority for contractors looking to demonstrate corporate

4. Get It Right Initiative (2015) *Get It Right Initiative: A Strategy for Change*. [online] Available at: <http://www.getitright.uk.com/> (Accessed: 10 May 2016)

citizenship. Locating a hub on site is a visible and proactive local response from the employer, rather than a passive one that leaves skills provision to an off-site FE college.

3. **Risk.** Flexible hubs minimise the investment costs for FE colleges as the land value is taken out of the equation by being on the construction site. This also avoids investment in fixed infrastructure that becomes obsolete over time. Provision can be designed for a range of scales of development – from single site to multi-site regeneration projects, without high outlay.
4. **Efficiency.** By rooting skills development on-site, there should be an impact on minimising error on site. This might happen via practice and prototyping through immersive training experiences prior to real construction, or ensuring that staff develop site-specific processes and associated skills for particular materials.

Inspiring learning

Creating memorable learner experiences in skills teaching is fundamental to harnessing the necessary learner motivation. It is not just the fact that a skills hub is located on site that matters – many existing construction sites will have some kind of portacabin on site dedicated to training and administration – a pop up hub should be a bold and visible statement, one that showcases skills development and demonstrates the commitment to learning. Hubs could be located as the public access space to the site, with a viewing platform for the public to get a sense of the action on site, such as the ViewTube at London 2012, pictured below:



The benefits of this approach stretch beyond the immediate skills needs of employers and contractors and provide opportunities to engage with learners at all levels and with communities, to communicate the local benefits arising from the development.

The Big Rig is a flexible format developed by educational consultancy Think Up for delivering practical construction training on location. In addition to providing a platform for training needed on the construction project in hand, the Big Rig is well suited to delivering practical, situated activities for learners at an early stage of training, in University Technical Colleges (UTCs),

or even in school, helping to promote the idea of careers in construction. Its three-dimensional scaffolding structure provides a robust, realistic environment within which students can design and assemble building structures and systems. Learners work with real materials and processes to produce real outputs, in real contexts. This helps create a sense of jeopardy – the possibility of failure – that eventually creates stronger feelings of success on completion. The possibilities are many; from taking on the role of structural engineers, tasked with building a large-scale paper bridge, to creating a deconstructed house with rooms that feature all the main services and perform to different environmental standards.



Engaging the community

A pop up hub could also provide a space during construction that enables public access into the site beyond the viewing platform – engaging the local community in site activity and encouraging local people to access a range of learning opportunities. An example of where this is done creatively is on the Kings Cross redevelopment site where the charity Global Generation hosts a multi-purpose hub called the Skip Garden. This hub encompasses a food growing project, café and workshop space for training on the site. The project began as a community relations exercise, but has grown into a neutral space where site workers and the public can interact. Efforts like this connect into the locality and encourage the community to understand and support development, as well as showcase the possibility of careers in construction. And if food growing can be demonstrated in the middle of a construction site alongside how to use plant machinery and modern methods of construction, why not maker spaces and digital fabrication machinery?



On-site training hubs provide a flexible model for construction skills provision that responds to employer need and supports engagement with local learning providers and learners. They provide an opportunity for colleges and other independent providers to position themselves as innovative partners with industry, helping to achieve greater efficiency at the same time as working for the benefit of local learners and communities. But, perhaps most tantalisingly, they remind us that ‘possibility thinking’ and transformative change in the FE and skills sector needn’t require huge infrastructural investment.

5. What if further education and skills led the way in integrating artificial intelligence into learning environments?

Sir Michael Barber

In 1930, John Maynard Keynes asked what the future held for our grandchildren. He famously predicted a world where technology has exempted us from onerous work, resulting in the central question of how to use our freed-up time wisely and well. Two generations later, in 2015, a clever journalist found a relative of Keynes and asked him how this prediction was going – unfortunately, the relative was used to working over a hundred hours a week.¹

Despite this, the evidence is now mounting that Keynes' essential prediction was right, even if his time-frame wasn't. We are now beginning to understand the implications of an economy re-shaped by smart technologies, enormous data sets and the ability of digital technologies to scale at tiny marginal cost. For instance, the persuasive effects of automation are used to explain the existing data on employment patterns,² wage stagnation and employment.³ Separately, it is predicted that about 47 percent of US jobs are at risk from automation in the next decade or two.⁴

To date there has been little serious debate about the implications of these profound trends on learning. However, one is already clear – education faces a productivity problem that is only going to get worse.

On the outcome side we need learners who have a wider-set of skills, acquired faster and at higher-levels of achievement, than any system has managed to date. This is simply the only way that we can equip – and

1. Kestenbaum, D. (2015) *Keynes Predicted We Would Be Working 15-Hour Weeks, Why Was He So Wrong?* NPR [website], 13 August, heard on 'All Things Considered'. Available at: <http://www.npr.org/2015/08/13/432122637/keynes-predicted-we-would-be-working-15-hour-weeks-why-was-he-so-wrong>

2. Autor, D. and Dorn, D. (2013) The Growth of Low-Skill Service Jobs and the Polarization of the US Labor Market. *American Economic Review*, 103(5), pp.1553-1597.

3. Ford, M. (2015) *Rise of the Robots: Technology and the Threat of Mass Unemployment*. Oneworld Publications.

4. Frey, C.B. and Osborne, M. (2013) *The Future of Employment: How susceptible are jobs to computerisation?* Oxford: Oxford Martin School, University of Oxford. [online] Available at: http://www.oxfordmartin.ox.ac.uk/downloads/academic/The_Future_of_Employment.pdf

re-equip – learners with what they need if they are to live and work alongside machines. It would be bizarre if FE was not a part of our response to this new innovation imperative: the civil servant who advised Vince Cable, then business secretary, to abolish FE colleges “because no-one would notice” clearly didn’t have a sense of strategy, or at least not one focused on what is important.

On the input side, it’s safe to assume that we will need to do all this without any significant uplift in funding, which means we are on a hunt for resources from somewhere else. Where might they come from?

One answer is provided by an important new report that my team at Pearson recently published. Called *Intelligence Unleashed. An argument for AI in Education*,⁵ it sets out the rich seam of new resources to be found in the thoughtful application of AI to support learning. In this vision, FE and skills training would become much less about buildings and much more like an app store of personalised, relevant, timely and efficient lifelong learning. AI driven ‘learning companions’ would be available to advise learners on the next most appropriate learning opportunity; they will understand when the learner might be at risk of forgetting something, or letting a skill get ‘rusty,’ and will prompt the learner appropriately. Learners will be able to develop high-level skills like empathy, or concrete skills like nursing procedures, in authentic-seeming virtual learning environments – again, with intelligent support to guide them.

Vocational learning will become much more collaborative as students debate and elaborate each other’s ideas in on-line environments. As the Internet of Things (IoT) allows the digital world to interact with the physical, learners will receive useful feedback as they develop craft skills, or learn how to diagnose and fix a mechanical system. Learning will also become much more flexible as these AI driven tools are provided from the cloud and made available on mobile devices to provide relevant, just-in-time, learning. This will make it easier for disabled students, adult learners who are needing to re-equip for their next career, or maybe simply those with lower confidence levels, to access a re-engineered learning society that is much less place-based and scheduled, and much more application programming interface (API) driven.

The role of the FE lecturer/tutor will be liberated from the burdensome tasks of administration, many of which will now be carried out by the lecturer’s own AI driven assistants. This will free their time to focus on the role of providing the creativity, empathy and ingenuity that only humans can. Probably the job title ‘lecturer’ will become obsolete, to be replaced with something more like ‘learning orchestrator’ to reflect their role in harnessing and coordinating all the learning resources – human and digital – now available to them.

Life for employers who are providing apprenticeships will be easier too, as they are able to call upon AI driven learning experiences that complement and provide the prerequisites for project-based and on the job learning. For example, the US navy has developed a digital tutor programme for their IT programme that has been shown to be much more effective than traditional classroom-based learning. Importantly, this wasn’t centred around mere rote

5. See <https://www.pearson.com/content/dam/corporate/global/pearson-dot-com/files/innovation/Intelligence-Unleashed-Publication.pdf>

learning, but in developing – and applying – complex problem solving skills to real-life contexts. It's easy to see how this could be used in apprenticeship programmes focused on areas such as engineering, or coding, or creating visual effects for TV.

Many of the capabilities involved in this vision are still at the prototype stage, a degree away from the enticing consumer-grade technologies that we will eventually need. So to help my argument (and in case this all sounds like science fiction) let me set out three ways in which existing AI technologies could be usefully deployed to tackle real challenges in the here-and-now.

AI to help struggling maths learners

It's a fact that deserves to be on the front page of every newspaper on GCSE results day: last year over 160,000⁶ 15-to-16-year-olds did not get a grade C or above in maths. For these students their chances of successfully rectifying this situation are dauntingly less than one-in-ten.⁷ The vast majority of students who continue their maths GCSE learning do so in FE colleges, which, as a whole, they enter with lower-GCSE scores than their peers who continue their maths learning in a sixth-form setting.⁸

In other words, FE colleges are expected to do most of the heavy lifting of helping the most in-need students acquire the maths skills that are required to effectively participate in society and work.

Given the direness of this picture, it strikes me as simply immoral not to ask how well-designed AI can help here. After all, providing adaptive, personalised support to maths learning is in many ways a low-hanging fruit for AI – maths is a well-defined domain, readily amenable to the modelling that then allows clever algorithms to apply their reasoning. Right now we have tools that can:

- Allow the learning content to be adjusted to what a student already knows, and can do.
- Provide the right hints and tips at just the right time, so usefully 'scaffolding' a student in their learning.
- Help students reflect on how their learning is going, so helping them keep it on track themselves.

There is always a risk that reviewing the existing evidence of impact disguises the potential that lies in more experimentation – which is one reason why I argue for the term 'evidence informed policy making' rather than 'evidence based' – but these well-established technologies are already showing impact sizes comparable to what we'd expect from human tutoring.⁹ That's impact

6. Department for Education (2016) National Statistics: Revised GCSE and equivalent results in England: 2014 to 2015. SFR 01/2016 Table S1. [online] Available at: <https://www.gov.uk/government/statistics/revised-gcse-and-equivalent-results-in-england-2014-to-2015>

7. Ward, H. (2014) Thousands of post-16 students fail to gain a C at GCSE maths and English. *TES*, 11 September. [online] Available at: <https://www.tes.com/news/school-news/breaking-news/thousands-post-16-students-fail-gain-a-c-gcse-maths-and-english>

8. Porter, N. (2015) *Crossing the Line: Improving success rates among students retaking English and maths GCSEs*. London: Policy Exchange. [online] Available at: <http://www.policyexchange.org.uk/publications/category/item/crossing-the-line-improving-success-rates-among-students-retaking-english-and-maths-gcse>

9. Kulik, J. (2015) Effectiveness of Intelligent Tutoring Systems: A Meta-Analytic Review. *Review of Educational Research*, 17 April. [online] Available at: <http://rer.sagepub.com/content/early/2015/04/17/0034654315581420.abstract>

worth having, especially as there are two reasons to be confident that we can achieve even more.

First, because the real prize is making available the positive impact of one-to-one tutoring to every student, in every subject (something simply financially unfeasible without the technology).

Second, because as AI gets better at building its models we'll be able to represent a wider set of attributes – how a student feels, for example – that will help us provide targeted support, at just the right time, in response to all the factors that influence learning. Imagine how helpful this could be to those students who experience the often paralysing issue of 'maths anxiety'.

AI to help make great team members

It's reasonable to assume that the jobs of the future will in many ways make similar demands to those that exist today: for example, students who can think and reason not just alone, but as part of a team. So called collaborative learning is where students work together to solve a puzzle or a problem, and it needs to be a much greater part of a student's learning experience if we are to meet the need for more high-end collaboration skills.

But making collaborative learning effective is often a tough ask. Many learners will need extra social support to collaborate well (or at all). It is often difficult to identify where that support should be best targeted, and there is always a risk that collaboration becomes chatter, lacking the features of ideas rationally critiqued, built upon and extended.

Technology can provide the online environment where collaboration takes place, but the addition of AI would also provide the intelligent support to allow that environment to be more than a repository of isolated ideas and contributions.

For example, based on models of effective collaboration AI can provide teachers with just-in-time insights that allow them to know where they need to offer extra support, encouragement or direction. Or AI could provide avatars who are themselves part of the collaboration, introducing novel ideas or sparking helpful controversy.

AI to help us develop the very human skills that will remain in demand

As routine cognitive tasks are increasingly automated it is the qualities that make us distinctively human – empathy, storytelling, connecting – that will be in ever greater demand. For example, Geoff Colvin¹⁰ suggests that graduates of the future might be better off studying literature – and so developing skills such as reading social nuance, and understanding someone else's perspective – than studying STEM subjects.

There are many practical implications already. For example, as shopping on the high street becomes more about the experience than the goods bought, retailers will be looking to hire people with the social acumen to be trusted advisers and recommenders. Or, as the demands of an ageing society create ever greater demand for the caring professions, the focus will be on supporting care professionals to offer ever more warmth and understanding – for example, to patients with Alzheimer's where the symptoms of the disease

¹⁰. Colvin, G. (2015) *Humans Are Underrated: What High Achievers Know That Brilliant Machines Never Will*. Portfolio.

often get in the way of a human connection.

It seems strange to say, but technology has a role to play in helping FE and skills students of the future tap into their ‘humanness’. For instance, by creating authentic-seeming virtual or augmented reality learning environments where, supported by intelligent and well-designed AI, students can safely practice social interactions and experience emotionally demanding situations.

There’s a compelling list of examples that support this proposition. For example, technology is already helping trainee teachers develop their classroom management skills,¹¹ victims of bullying develop effective coping strategies,¹² language learners understand social and cultural norms,¹³ and the US military to train squads on their way to Iraq.¹⁴

No part of this vision will happen without the right guidance and support. The FE and skills sector is fortunate that the Department for Business, Innovation and Skills already has available many of the mechanisms for making this a reality. For example, it could ask InnovateUK to design and fund a series of Challenge Prizes that incentivises the best AI in Ed ideas to move from the prototype stage to products trialled and tested in real FE and employment-based learning contexts.

Or it could create a series of AI in Ed labs – sites of co-design between educators, learning scientists and technologists – that would ensure that these new technologies meet real needs and account for the untidy reality of most learning environments (and human lives). With an annual spend of £3.7bn of public money on FE and skills, making available some of that to prompt and support disciplined innovation should not be a tough ask, especially if it results in learning that is a step-change in efficiency, engagement and effectiveness. And, as a neat side effect, we could also secure for the UK a head start in the next generation of EdTech entrepreneurship, creating a wave of innovation that would leap over the Khan academy manqués that too often feature in pitching sessions.

Together, all this offers the FE and skills sector an opportunity to be placed at the centre of efforts to create a re-designed and fit-for-purpose learning society. That is, one that supports learners to develop the skills and capacities that allow them to access their first job, or the next career path, in a timely and cost effective way, and with a scale and a breadth that no country has managed yet.

In this vision, FE and skills would be at the centre of a new wave of entrepreneurial learning innovation, part of a participatory design process that involves working alongside the most talented researchers and technologists in an iterative process that, over time, will create a learning society that allows us to proportionately respond to the implications of more and more existing jobs being carried out by machines. This would also be a perfect riposte to that civil servant!¹⁵

11. See simSchool Teacher Training Platform at: <http://www.simschool.org/>

12. See FearNot! an interactive drama video game available on SourceForge, an Open Source community resource, at: <https://sourceforge.net/projects/fearnot/>

13. Lewis Johnson, W. and Valente, A. (2009) Tactical Language and Culture Training Systems: Using AI to Teach Foreign Languages and Cultures. *AI Magazine*, Summer. [online] Available at: <http://www.aaai.org/ojs/index.php/aimagazine/article/view/2240>

14. See DARWARS entry on Wikipedia: <https://en.wikipedia.org/wiki/DARWARS>

15. Parts of this paper are based on a longer argument set-out in a new report from Pearson and the UCL Knowledge Lab on the topic of Artificial Intelligence and Learning. Available here: <https://www.pearson.com/content/dam/corporate/global/pearson-dot-com/files/innovation/Intelligence-Unleashed-Publication.pdf>

6. What if further education colleges led a ‘Cities of Learning’ movement in the UK?

Anthony Painter

The sustained embattlement of the FE sector over the past few years has severely damaged its self-confidence. As if a resource crunch of hitherto unimaginable proportions was not enough, it wades Her Majesty’s Chief Inspector to dismiss (clumsily) the sector as ‘failing’.¹ Within this melee, it is next to impossible to articulate a clear message of value for further education in the context of national goals of social mobility, inclusivity, productivity, and meeting the needs of the future workforce and employers.

Instead of drifting quietly into the night, however, the next few years must become a time when the sector gets off the back foot. The direction of travel from the government has been to invest in innovation *around* colleges – in UTCs for example – but not sufficiently in FE directly. The lens applied by the chief inspector is a schools lens. What has been identified as FE’s greatest weakness should instead become its strength. Colleges cannot simply become a second go at school. They have to offer something very different. Some of the changes that we are seeing to the skills landscape may provide that opportunity for a fresh definition. In this essay, I’ll look to recent developments in the US that harness digital technologies and the untapped learning resources in cities for an example of how FE colleges might lead their own, localised transformation.

Taking advantage of the changing context for FE and skills

There are three contextual factors that could provide some opportunity for re-focus and re-definition: **devolution, consolidation and connection**. A number of city (and non-city) deals are now in place to devolve the adult skills budget to regional and sub-regional authorities. These sub-regional authorities, expected to increase in number over the next few years, place colleges in closer proximity to funding which has to provide hope for more consistency. Stability of investment, including multi-year deals wherever possible, could

1. Wilshaw, M. (2016) *Ambitions for education*. [Speech]. 18 January, CentreForum, London. [online] Available at: <https://www.gov.uk/government/speeches/ambitions-for-education-sir-michael-wilshaw>

help with providing a more solid footing on which to consider the nature of provision going forward. This is something colleges will need to articulate firmly. Devolution can also offer new networks and political energy around the skills agenda. It is for colleges to show persuasive leadership to make this promise a reality.

Area reviews have caused controversy but the inevitable **consolidations** they precipitate might also provide opportunities. Larger colleges do not have to be more impersonal – local identity and provision will always be important. Mergers may, in time, free up resources as scale economies are realised, enabling investment in innovative forms of spreading learning and progression. If the area reviews get it right, then FE and skills infrastructure will be better mapped onto regional and sub-regional economic needs. There could be less duplication, greater quality and clearer pathways to achievement at higher levels.

Finally, the Apprenticeship Levy creates an opportunity for new **connections** with business. If there is insufficient innovation in apprenticeship product development then business may well conclude that it should create its own training supply chain. That would be an enormous missed opportunity for colleges. Assuming that the levy is not used as cover for a further major cut to the adult skills budget, then it could become a vehicle for a closer relationship between business, further and, indeed, higher education.

To present devolution, area reviews (consolidation), and the Apprenticeship Levy (connection) as opportunities rather than threats may seem like putting a gloss on things. However, the bigger risk will come not from hopeful optimism but from institutional conservatism in the face of this changing landscape. Unless it fundamentally rethinks its proposition, FE will continue to be portrayed as under-performing and alternative vehicles for the country's skills needs will be sought out if conservatism is the widespread strategic approach by colleges. With greater imagination, a different approach could meet the needs of learners, employers and our cities and regions in our age that is increasingly characterised by the spread of digital technology. The rest of the essay is devoted to outlining what such innovation could look like.

Digital learner engagement, rooted in the real world of our cities and regions

In *The New Digital Learning Age* report for the RSA, Louise Bamfield and I concluded that a very different approach was needed to link interest- and passion-driven informal learning (that includes the growth of online learning channels such as YouTube, Khan Academy and Udacity) to more formal forms of learning and accreditation. We concluded that while current online learning systems catered well for the 11 percent of the population (in a survey conducted by Populus) who are experiencing the digital revolution as 'confident creatives', it was failing to meet the self-identified needs of the majority. Key to more equitable outcomes will be the engagement of those who are 'held back' (20 percent of the population) and the less identified needs of 'safety firsters' (30 percent of the population). 'Held back' consider themselves to be creative but feel they lack support and access to finance and skills. 'Safety firsters' are not particularly engaged with learning which in itself poses risks in the context of a changing landscape of work. In this context, what would a better system look like to meet a wider set of needs than those of the 'confident creatives'?

There have been many digital-led initiatives to widen and deepen learning. There have also been a series of place-led initiatives and efforts at developing area-based curricula. In our review of new approaches to expanding learning and promoting greater and more inclusive social mobility, one initiative, emerging in the US, seemed to enhance the potential of both by combining these strategies: the ‘City Of Learning’. This project was launched as a pilot in 2013 by the mayor of Chicago, Rahm Emanuel, to strengthen the city’s identity as a setting for learning by galvanising its institutions, organisations and communities.

Cities of Learning – and there are now 12 – have sought to interface with existing institutions such as community colleges, schools, universities, museums, libraries and youth clubs, supporting engagement and extending their potential for impact on learner outcomes. Learners connect to the City of Learning (now termed ‘LRNG Cities’) through a curated digital platform that provides access to learning experiences on and offline, and combining those experiences to identify pathways of learning called ‘playlists’. Once all the activities on a playlist are complete and learning has been demonstrated (and verified) then learners earn a digital open badge, an inter-operable recognition of learning that is increasingly being used in education and in business (as of mid-2015, 2m open badges had been issued).

The key design features of Cities of Learning are leadership at city level (which could also be a non-city sub-region or county in the UK context), a strong network of education, commercial and political support around the initiative, and an open, curated and accessible, city-wide digital platform linking to and providing learning opportunities. It works with, through and is driven by institutions such as colleges rather than competing with or seeking to replace them. Its focus is to develop learning experiences from passion/interest to more formal learning (helping to bring on board those safety firsters and held back learners) with the open badge serving as a pathway to further learning experiences. Essentially, Cities of Learning aim to connect an entire city as a network of learning. To take one city as an example, Dallas has 34,743 student accounts registered, 70 percent of students served were economically disadvantaged and more than 200 partner organisations and institutions worked together to create a powerful learning network.

Could FE lead a ‘city of learning’-type initiative in a UK city or region?

A scheme to help engage disaffected learners that ushers a re-evaluation of the connections between learning and localities, that helps connect employers, learners and civic institutions, sits well with the sector’s history. If the sector sees itself as enabled, rather than constrained by the context of the changing landscape described above, FE certainly has the potential to show the requisite leadership of such a scheme. The opportunities here are four-fold:

1. Devolved governance creates a new setting through which colleges can become agitators for change rather than simply ‘providers’ delivering on the latest government priorities. But they will have to be able to articulate a convincing story of change around how to engage learners through concerted city/regional action and more open, engaging platforms for learning. FE’s knowledge of and commitment to the least engaged learners might inform the design of digital infrastructure. In the ‘real’ world, colleges could allow

others access to their estate out of core hours to provide an extended range of learning experiences.

2. Consolidation could free up resource for colleges to be part of a 'city of learning' style digital platform. They could be partners in the curation and promotion of city-wide learning opportunities.
3. FE content could form a core component of open learning 'pathways' in a given place with tutors encouraged to think beyond the classroom alone. There is also an opportunity to scale engagement across multiple locations and a much wider set of partners and communities.
4. Finally, the traineeship and apprenticeship frameworks and their expansion could provide a further spur to innovation. Colleges have the potential to embed open badges in learning activities. These activities are not simply about skills though these are, of course, important; they are also about characteristics and capabilities such as resilience, initiative, teamwork, and persuasiveness. By embedding these skills and capabilities in established programmes of work, the value can be articulated to employers. If colleges become expert in adapting badge frameworks to competencies and capabilities then their relationship with employers (and universities) could be deepened further. Colleges might even start to help companies adapt their frameworks beyond apprenticeships to badges as a wider way of capturing learning.

FE is a sector that has been battered and bruised by decades of centralist policy changes that have been a distraction from its key function in localities. Right now, the ideas outlined here may well seem impossible or overly hopeful of positive outcomes from this next wave of change. But there does, at last, seem to be some way to cast eyes towards a future beyond the next day; even if it would be churlish to suggest that turning the sector's gaze towards the longer-term will be simple. In order to make that transition, however, the sector needs to create opportunities to re-establish itself in the public mind as an essential driver of a city/region's dynamism and innovation. More open, place-based, mobilising learning initiatives such as Cities of Learning provide one such opportunity for thinking about the sector's value afresh. They are at least worthy of further reflection.

7. What if the decisions of both learners and leaders in further education and skills were based on hard data about what really works?

Charlotte Alldritt

“...we should tell citizens the truth.” **Professor Alison Wolf, Review of Vocational Education (March 2011)**

March 2011 represented a watershed moment in education policy history, one which saw Michael Gove – then secretary of state for education – forced to acknowledge that: “Between a quarter and a third of young people between the ages of 16-19 are, right now, either doing nothing at all or pursuing courses which offer no route to higher levels of education or the prospect of meaningful employment.” This astonishing statement, an indictment of our nation as a leading global economy, was based on the independent findings of Professor Alison Wolf in her review of pre-19 vocational education in England.

In several parts of the country, adult skills provision is now under local scrutiny via area based reviews, which are likely to conclude that skills provision is, in many cases, failing to provide effective routes for people to train, retrain and progress within their local labour markets via further education institutions. Given the persistent strain of financial pressures, change and uncertainty in the sector, it is hardly surprising. Between 2010 and 2015 FE colleges saw budget cuts of a third.¹ Last July, the National Audit Office

1. Plowden, H. (2015) Further education is an easy target for cuts because the chattering classes don't care. *The New Statesman*, 18 March, [online] Available at: <http://www.newstatesman.com/politics/2015/03/further-education-easy-target-cuts-because-chattering-classes-don-t-care>

(NAO) forecast one in four colleges would be bankrupt within the year.² More recent fiscal statements have granted schools and colleges something of a financial reprieve, including protection of cash funding in real terms (rather than a further cut of up to 25 percent expected by colleges), but the situation, is in many cases, desperate.

However, money has never managed to fix deeper problems underlying poor quality of vocational education and training within much of the FE sector. Even in the heady days of the Leitch Review of Skills (2006), unprecedented increases in expenditure were not enough even to start to drive the balance of intermediate skills from Level 2 to Level 3 (GCSE equivalent). Between 1997-98 and 2008-09, government expenditure on FE and adult and community learning increased by over 130 percent (in nominal terms), a greater increase than any other type of education investment.³ Fast forward to the Wolf Review in 2011, the introduction of the first FE commissioner in 2013 and the NAO's financial health warning in 2015 and it is clear that the sector continues to fall between the cracks of government departments, policy agendas and funding streams, with its limited leadership caught in the tension between responding to learner demands and servicing local labour market needs.

In all these rounds of policy and funding reforms, none has allowed the FE sector to understand – based on accurate and timely data and information – its outcomes fully. Lack of information at an institutional and systemic level has hampered the efforts of the sector to drive up quality and ensure its long-term financial sustainability.

As the NAO warned last year: “The FE sector is experiencing rapidly declining financial health, but lacks a clear process to inform decisions about local further education provision. With the number of colleges in financial difficulty expected to continue to rise, decisions about the long-term viability of individual colleges at local level should be informed by a robust assessment of likely local needs and capacity to meet those needs.” ABRs create an opportunity for FE governors to work with the local authority and LEAs to consider how local needs can be met at city- or county-regional level, but here too the question remains as to what data they will use to ensure a comprehensive analysis of the current and likely quality and capacity of existing FE institutions. Accurate and timely data and information is vital, particularly of individual course and learning provider outcomes. Only then will providers, regulators and commissioners be able to address the system's long-term challenges.

Are FE colleges, work-based learning providers or apprenticeship schemes offering the quality of education and training people need? Have efforts to engage employers, including via direct relationships, industry associations, Sector Skills Councils or LEAs, enhanced the capacity for providers to deliver an effective range of courses? How ‘transferable’ have skills acquired in FE proved to be? We don't know. As a result, decades have passed with

2. Gardner, R. (2015) Autumn Statement: Government to protect schools and college sixth-forms from future cuts. *The Independent*, [online] 25 November. Available at: <http://www.independent.co.uk/news/education/education-news/autumn-statement-government-to-protect-school-and-college-sixth-forms-from-future-cuts-a6748786.html>

3. RSA analysis based on Department for Children, Schools and Families (DCSF) data (2009) cited in Lupton, R. and Obolenskaya, P. ‘Labour's Record on Education: Policy, Spending and Outcomes 1997-2010’. CASE/LSE Social Policy in a Cold Climate Working Paper 3, July 2013, [online] Available at: <http://sticerd.lse.ac.uk/dps/case/spcc/wp03.pdf>

institutions either continuing to operate in largely similar ways under increasing pressures, or trying to innovate at the margins of a funding model in which low-level, classroom-based classes are cheapest to offer and generate as solid a stream of income as possible.

For learners of all ages, are these courses resulting in the level of employability and training they expected? Do years of continued study within FE, without financial support comparable to higher education (although the recent March 2016 budget has made provision for supporting Level 3 – Level 6 in any education institution), lead to commensurate opportunities for earning a higher income? We don't know. As a result, demand for courses and institutions – important life decisions for individuals – might be no more than a gamble, based on hearsay and hunch.

A new model is needed. Data and information must be at its heart.

In her 2011 Review, Professor Alison Wolf argued for three principles to guide a process of reform. These principles included: a more simple institutional and qualifications structure, clearer routes to education and employment progression from academic and vocational study, and greater provision of accurate and useful information for individual learners:

“For young people, which vocational course, qualification or institution they choose really can be life-determining. In recent years, both academic and vocational education in England have been bedevilled by well-meaning attempts to pretend that everything is worth the same as everything else. Students and families all know this is nonsense. But they are not all equally well placed to know the likely consequences of particular choices, or which courses and institutions are of high quality. Making that information available to everybody is the government's responsibility. Too often, it, and its agencies, have failed at this task.” **The Wolf Report**⁴

Government has made inroads on making data and information available, with open data and transparency introduced as a key theme of the Conservative-led coalition in 2010-2015 (resulting in an open data white paper and departmental open data strategies in 2012;⁵ departmental and/or subject area transparency boards [eg Social Mobility Transparency Board]; support of the ESRC Administrative Data Taskforce and initial efforts to draft a single data sharing bill). Since the last election, pushes for greater transparency in public services have been caught up by the inherent complexities of the communications bill, led by the home secretary and introduced to enhance counterterrorism measures. Political, legislative, technical and ethical issues present significant barriers to efficient linkage and sharing of data in public services.

Nevertheless, legal gateways are being established on a case-by-case basis to allow for more secure linked data. Notable examples include increased

4. Wolf, A. (2011) *Review of Vocational Education – The Wolf Report*. [online] Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/180504/DFE-00031-2011.pdf

5. See, for example, HM Government (2012) *Open Data White Paper 'Unleashing the Potential'*. London: TSO (The Stationery Office). [online] Available at: <https://www.gov.uk/government/publications/open-data-white-paper-unleashing-the-potential>

third party access to open data from the National Pupil Database (NPD), as well as linked NPD, Individual Learner Records and higher education statistics via the Department for Education. Similarly, education researchers also look forward to open publication of anonymised open Individual Learner and NPD data linked with Her Majesty's Revenue and Customs P60 information, which, for the first time, will allow comparison of FE courses, qualifications and institutions and the impact they have on patterns of earnings. Linkage of these data will not answer all questions, but it will be a significant step towards data-driven quality improvement, creating a new model for quality and accountability in FE and skills.

This new model is built on two reinforcing pillars that, together, could see a marked shake-out in the sector:

1. **More informed choices of learners** who are able to understand the likely impact of someone with their prior attainment at school going on to take particular courses in particular FE providers across the breadth of institution types and local geographies.
2. **More informed, strategic decision making** on the part of providers, regulators and, in combined authorities with devolution deals, commissioners of further education and skills training in their local areas.

Both of these pillars depend on timely access to linked, anonymised data that allows deep analysis of the impact of courses and providers at an individual and local system level. Linked Individual Learner Records with the NPD and Higher Education Statistics Agency (HESA) data will provide a good platform for benchmarking colleges. To this we should add data that supports (almost) real-time management decision-making for students, college leaders and regulators, including links to student support information, more comprehensive local labour market and business intelligence (eg small firms or upstart-ups) as well as links to Department for Work and Pensions benefits data, giving a wider picture of employability and earnings.

What's more, the data needs to be readily accessible for learners, providers and other professionals; not just a series of static tables (which, as we have seen in secondary education, are ripe for gaming) but as dynamic, engaging and informative tools for quality improvement, accountability and choice. For several years the RSA's Open Public Services Network has been experimenting with ways to present outcomes data, particularly in education and healthcare. This has resulted in the publication of new data (eg subject level GCSE results) or data in a new open format (eg Ofsted ratings), as well as the development of dynamic, customisable online tools for people to ask their own questions of the data.⁶

Finally, the collection and analysis of vocational education and training data in FE needs to be supported by comprehensive data collection elsewhere in the education and skills sector. Without the opportunity to link early years, primary and secondary level data up to 16 years, analysis of post-16 and post-19 education only tells part of the story. The Department for Education's

6. For more information on the RSA's Open Public Services Network (OPSN), see: www.thersa.org.uk/opsn.

performance tables have made strides in enabling ready access to school level data, particularly about academies where data (particularly financial) has previously been lacking. However, to be more useful for young people and parents in choosing schools, subjects or other educational, training and career options, comparable data is needed across the whole system. Understanding potential ‘pathways’ and the likely effect of particular decisions based on an individual’s expected grades or prior attainment would transform the quality of advice and guidance available to young people. The Careers and Enterprise Company, for example, could bring these data together in a single, easy to use site with support from traditional and social media to enhance outreach and engagement.

For the last few years the potential for data and technology to realise significant public policy benefits has been much promised. Too often, it has proved empty rhetoric, or has led to costly blunders. The sector does not need to look too far back to recall the failure of Individual Learner Accounts in the late 1990s, for example. Yet data projects need not be expensive or become embroiled with administrative complexity; much of the data is already collected, if not published. The next step is to link these data where possible and seek to make aggregate, anonymised information open, accessible and useful, informing and improving education and skills decision-making across the whole system.

Ten years on from the Leitch Review, will the FE and skills sector start to live up to its potential? Will learners be more demanding of their providers, helping to raise standards and ensure better outcomes? As the political tide turns to devolution as a means to local growth and public service reform, colleges could play a crucial part in shaping their places and prosperity. Data, information and transparency should be the bedrock upon which this opportunity is built.

8. What if further education colleges went for bold transformation instead of incremental change?

Paul Little

“Change is the law of life. And those who look only to the past or present are certain to miss the future” **John F. Kennedy**

In September 2010 the college landscape in Scotland was transformed dramatically when the first of a new breed of super colleges, the City of Glasgow College, was successfully established from the pathfinder multi-college merger of three specialist colleges: Central College Glasgow, Glasgow Metropolitan College and Glasgow College of Nautical Studies.

The UK's third largest city became home to a renaissance in college education. The City of Glasgow College, originally occupying 11 legacy city sites, secured an unprecedented £200m in private sector financing and 25 years of funding support from the Scottish government to create what is probably Europe's largest college campus. We number 40,000 students, including nearly 5,000 international students, 1,200 core staff, and 2,500 learning programmes, with world class ambitions. The Scottish college sector, largely insulated from the constant reform of its English counterpart, has successfully reinvented itself into a series of regional colleges with three multi-college regions, reduced the number of colleges from 43 to 26, managed an unprecedented loss of nearly a third of its recurrent funding, the reprioritisation of its curriculum to 16- to 24-year-olds and reclassification to bring colleges clearly into the public sector.

In redefining a new era of Scottish college education and perhaps UK tertiary education, City of Glasgow College is not only unique in the sheer scale of its flagship campus, some 10 times the size of any of the city's hallowed football pitches, but also in the boldness of its strategic intent. It seeks ultimately to guarantee employability and prosperity for its diverse student cohort of some 130 different nationalities, given its partnerships with some 1,500 large and small employers. Scotland has a proud and ancient tradition of academic excellence boasting some of the oldest universities in the UK, yet its colleges have remained largely unseen and uncelebrated,

despite their own rich 200-year tradition dating back to some of the earliest UK mechanics' institutes and useful places of learning for the *common weal*.

We should be celebrating our adaptive and resilient college institutions to help bring about a reevaluation of the term 'college'. Diminishing respect has been exacerbated by the academic drift from the 1960s, the increasing politicisation of social mobility and a media dominated by university educated graduates, but perhaps the tide is turning in the UK. We are entering a 'new normal' era of globalised geopolitical, financial and societal volatility, uncertainty, complexity and ambiguity (VUCA to borrow the military acronym that's made the transition to the mainstream), with the consequence that over this next 50 years, skilling, up-skilling and re-skilling with the latest technology will be more vital than ever. The once-in-a-lifetime opportunity we were given through merger inspired us to rethink the traditional FE business model. Preferring to take the long view, unshackled from a fixation on the urgent, we have planned a super college that is future-proofed for the next 50 years, through a combination of meticulous design, and increasing global partnership and collaboration. Ours is indeed an ambitious educational adventure secured despite the greatest recession in our memory.

Inspiration, excellence and innovation

Dame Ruth Silver notes in her forward to *A Blueprint for Fairness: The Final Report of the Commission on Widening Access*¹ (2016) that: "Access is a whole system problem and it will require system wide change to solve it." It's ironic that some 20 years on from the Dearing Report and the associated Garrick Report in Scotland, the same recommendations for colleges to promote access through degree programmes and articulation routes into universities are still being made. Previous periods of college renaissance in Scotland have led to degree-awarding central colleges becoming universities (Abertay, Glasgow Caledonian, Napier, Paisley [now the University of the West of Scotland] and Robert Gordon) or seen the HE capacity of college consortia consolidated into the single entity that is the University of the Highlands and Islands.

City of Glasgow College, however, remains steadfast in its desire to remain a college even though 60 percent of its funded provision remains at higher education level. While widening access to higher education is an increasingly important dimension of educational policy for securing social mobility and social justice, we feel better placed to respond to this need by remaining as a college. We have a history of attracting some of the most disadvantaged learners in our community and in enrolling or articulating students on HE courses. As impossible as it may appear at first, City of Glasgow College is now, according to Scottish government statistics (December 2015), the third most popular destination for school leavers in Scotland going into HE, while 24 percent of our students live in the most deprived 10 percent of postcodes.

It is frustrating at times when our politicians or policy makers stand up and say that we have world-class higher education in Scotland, yet they rarely mention a large chunk of this that is actually delivered in colleges, and our crucial access role. Creating a super college has drawn the attention of leading civic, political, industrial and media figures to the full continuum of the Scottish tertiary sector, recognising it as multi-layered, personalised

1. The report can be downloaded here: <http://www.gov.scot/Resource/0049/00496619.pdf>

and globally connected and not a one size fits all solution. Professor Anton Muscatelli, vice chancellor of Glasgow University, said at a recent City of Glasgow College graduation ceremony:

“The development of the City and Riverside campuses is an achievement to be very proud of. It’s not just good for the college sector and a timely statement of ambition and intent; it’s good for the city of Glasgow and for the future generations who look to develop themselves through education.”

Our education and skills training offering is structured fundamentally around individual students’ needs, aptitudes and aspirations. We are developing our ‘career college’ or Industry Academy approach that offers a demand- and employer-led vocational curriculum alongside a core academic curriculum, underpinned by seamless student support. We secure industry involvement in the design, development and delivery of the curriculum, encouraging employers to support students’ development of core and technical skills as well as the values and behaviours they are looking for in their employees. We work in real-time partnership with industry and commerce to give our students career-enhancing insights, industry standard project briefs and tailored professional placements. This approach gives our students a competitive edge in getting and keeping a job and improve their prospects for getting an even better job.²

Building relationships with industry in this way requires investment in technology at a scale that has only been made possible by the scale of the college post-merger alongside a pro-risk attitude. As an example, we have invested in a new £70m purpose-built maritime education and training campus (Riverside), home to 2,000 marine and engineering cadets and senior officers on Red Ensigns programmes. We invested significantly in state-of-the-art bridge- and engine simulation technology, some five years ahead of anything available in industry and we uniquely have the UK's first 360-degree simulator and working ship’s engine, operational 24/7.

Our commitment to innovation and investment in the capital resource of the college extends across our £228m campus, facilitating a disruptive renaissance in tertiary education to meet the changing demands of our students and of industry. Leaving outdated Victorian and post-industrial buildings in Glasgow’s metropolitan centre for a new, more coherent campus brings huge new efficiencies and many other, less tangible benefits. Curriculum adjacencies spark off new synergies; centralised scheduling and space optimisation have allowed for ‘new possibilities’ to emerge: roof gardens provide city-centre green space which will be cultivated by our students; our Creative Industry Tower enables the integration of different curriculum pathways. The 5,000 visitors we have welcomed since we opened phase one of our new super campus barely five months ago, enter an intelligent building, technologically rich with a thin client capacity to enable all students to bring their own devices.

2. 84 percent of students progressed into a job or to full time further study in 2014/15.

No leadership without learning

At City of Glasgow College I want inspiration, excellence and innovation to be our new norm. I often say to my senior managers that their job is not to manage the inevitable, but to achieve the improbable. Our commitment to excellence extends beyond narrow frameworks for accountability. Together as a purposeful staff team – ‘Team City’ – we have taken a below average college and made it one of the highest ranking colleges in the Scottish sector for student attainment. Our Project Search training programme for young adults with learning challenges and/or autism helped 75 percent of participants to secure employment, with the remaining number taking part in a three-year support system with a job coach. We encourage our students to enter skills competitions such as WorldSkills to give them the best national and international benchmarks for their particular standard of technical or professional proficiency and we are now the number one college in the UK for WorldSkills and seek to be the best in Europe through the European Excellence Award.

We have certainly not allowed the traditionalists, the policy makers or ideologues, or our geography to determine our own or our students’ destiny. We have instead developed our skill of prescience and actively looked at what might happen in the future as a basis for creating our own opportunity. Since merger, the college has had glowing endorsement from a wide range of regulators and quality assessors. The most recent inspection report from Education Scotland highlights our positive corporate culture, our determined focus on student engagement and attainment and our excellent student support services.

Transformational change

Each of the three legacy colleges which merged to form City of Glasgow College served their students and Glasgow well for many years. But the reality facing us all is that the demands of students and lecturers alike in the 21st century have changed beyond all recognition since the 1960s, when these colleges with their 11 buildings across six sites first became part of the city landscape.

Mergers are very complex programmes of cultural change, far easier to conceive than they are to deliver. The grand plans hatched in boardrooms must ultimately win hearts and minds. Mergers are certainly not a one size fits all quick-fix solution, rather a best fit solution arrived at after weighing up present and future organisational challenges. Successful mergers require a compelling vision, exceptional leadership and infinite resilience.

Within a college context, if deciding whether merger or other significant structural changes are the best option, it is always essential to start with the students and have clearly defined and articulated educational benefits, otherwise don’t bother. The benefits and advances that students are seeing at City of Glasgow College could not have been realised by the legacy institutions remaining on their own or indeed in the buildings in which each was housed.

Our success was never inevitable, we worked extremely hard to make it happen. Firmly committed to the possibility of the college as a world-class institution in outlook, performance and approach, we dared to be different, we dared to lead, we dared to innovate to redefine, to be a catalyst for transformational rather than incremental change. We committed to being a beacon of technical and professional excellence for the UK and beyond. All are welcome to visit our next generation college to experience the new

possible, for what we have achieved collectively is not just for us, for Glasgow or even for Scotland. We want others in the rest of the UK to realise their own new possibilities.

“... It’s a sort of splendid torch I have hold of for the moment and I want to make it burn as brightly as possible before handing it on to future generations.” **George Bernard Shaw**

Afterword

Martin Doel

Lifting your head up from the immediate and pausing to consider future possibilities is at once difficult and essential for any organisation that aspires to be high performing. Setting the particular and specific within the wider context, seeing patterns in the present which represent pointers to the future, and breaking out of simple action and reaction cycles are all essential components of successful leadership. Achieving this mindset, either individually, or collaboratively, has been the mark of truly transformational leaders and leadership from antiquity, through the Enlightenment to the present day.

In their attempt to achieve this strategic perspective, the compilers and contributors to this collection of essays have employed an approach that is beguilingly simple, but remarkably effective. It is simply to ask the ‘What if?’ question. Asking ‘What if?’ immediately engages the imagination and opens up possibilities that may be obscured in the helter skelter of everyday activity; whether it be area reviews of skills, new apprenticeship standards, preparing for an Ofsted inspection, or dealing with the ever-present need to reconcile income with expenditure in a time of public spending cuts. But asking the question and positing alternate futures is only the first – albeit critical – step. If this first step is not then reconciled with present reality, possibility thinking has the real probability of being merely wishful thinking. After seeing an alternative future, we must work out a route from where we are now. Inevitably, we will ask how busy and embattled practitioners will be able to fuse the possibilities presented here into a coherent whole.

Part of the answer will be to maintain a sense of purpose, commonly-held values and self-identity that can stretch across our organisations and networks. As the doyen of military thinkers Carl Von Clausewitz (and one of my favourite organisational strategists), stressed: strategic goals are only reached through the skillful combination of individual actions; it is through connecting and aggregating individual engagements that overall goals are realised. Paul Little’s account of the repositioning of City of Glasgow College to the centre of local education and employer industrial ecologies reveals that, just as writing the most moving piece of prose depends upon a mastery of underlying grammar, so transformational leadership depends upon having mastered the incremental, if change is to succeed.

Critically, however, Clausewitz also argued that certain enduring realities would always pertain, not the least of which was a quality he called *friction* – dialectical complexity and non-linearity, meaning that nothing turns out precisely as intended. So the other part of the answer will be to acknowledge that the future rarely turns out as we imagined it.

None of the future visions in these essays will turn out precisely as

imagined, but their intention is primarily to lift our gaze above the day to day. Sir Michael Barber provides a fascinating glimpse of what technology can offer in terms of personalised learning and just-in-time training, but such is the advance of technology that there will no doubt be more developments even as we accommodate those already in sight. Moreover, as Bill Lucas explores, reconnecting with the fundamentals of vocational teaching and learning requires new emphasis on watching others at work and helping out colleagues and classmates, as well as embracing new technologies. The future depends as much upon building on the past as envisioning an alternative.

The same is true of Anthony Painter's thinking regarding city level leadership. The present move toward greater devolution of powers, including those over skills will most likely be within an overall framework set at the national level. There have been several oscillations between the local and central in the last 50 years and the move to local dispensation will not be absolute; reflected, for example, in the wish of national employers to have consistent apprenticeship standards and funding across their sites in different cities.

The potential of 'big' data to transform student choice and inform system development is well captured in Charlotte Alldritt's essay. Charting the path to fully informed choices and decision making by using the range of data now available is the very epitome of a complex problem. Data must be analysed and presented in a way that is intelligible and that avoids information overload and greater confusion. There are echoes here of Philippa Cordingley and Paul Crisp's calls for a more transparent, warts-and-all approach to marketing and communications and a breaking of the siege mentality of the sector. Both invite us to know ourselves better, to be honest about both our strengths and what needs improving. Both imply that if we are to make sense of this time of intense change, the responsibility lies with us to ensure that we avoid a Hobbesian 'all against all' competitive market and that competition and collaboration are used for the benefit of students and their communities.

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